



**Advanced Clean Power Technologies
Program Opportunity Notice (PON) 2569
Up to \$10.25 Million Available for Two Rounds**

**Proposals Due: August 29, 2012 by 5:00 PM Eastern Time*, Round 1
June 13, 2013 by 5:00 PM Eastern Time*, Round 2**

NYSERDA seeks proposals to develop and demonstrate innovative renewable and other advanced clean power technologies, develop and demonstrate technologies that improve performance, or address and overcome specific barriers thwarting increased adoption of Eligible Technologies (see more detailed descriptions of Project Categories and Eligible Technologies in Sections II and III). All, or none, of the available funds may be allocated. A summary of category descriptions follows:

Funding: Two solicitation rounds are scheduled and total available funding is \$10,250,000. All, or none, of the available funds may be awarded in any round.

Category 'A' - Demonstration Feasibility Assessments, Technology Facilitation Projects, or PV BOS Soft Cost Projects: (a) Engineering studies that assess the feasibility and effectiveness of demonstrating new or under-utilized Eligible Technologies at a specific New York site, or (b) Technology facilitation projects that reduce barriers facing commercialization or use of Eligible Technologies, or (c) PV Balance-of-System (BOS) soft cost projects that will reduce the cost of PV systems by addressing and reducing specific 'soft' cost elements of PV systems. Maximum NYSERDA funding for this Category is \$100,000 per project. Cost share of at least 25% of the total project is required.

Category 'B' – Early-Stage Product Development: Early-stage product development of Eligible Technologies. Maximum NYSERDA funding for this Category is \$200,000 per project. Cost share of at least 50% of the total project is required.

Category 'C' - Product Development: Development of Eligible Technologies that lead to the commercialization of products manufactured in New York State. Maximum NYSERDA funding for this category is \$1,000,000 per project; these projects must be phased with no phase exceeding \$500,000 of NYSERDA funding. Based on availability of funds, NYSERDA may elect to fund only Phase 1 of a proposal. Cost share of at least 50% of the total project and each phase is required.

Category 'D' - Demonstration Projects: Innovative demonstrations of Eligible Technologies that are past the “proof-of-concept” stage, demonstrate application opportunities, and lead to increased use of the technology in New York State. Maximum NYSERDA funding for this category is \$750,000 per project. Cost share of at least 50% of the total project is required.

Proposal Submission: Proposers must submit ten (10) print copies and one (1) electronic media copy (CD) of the proposal in **Microsoft Word format** (appendices may be in PDF format) with a completed and signed Proposal Checklist attached to the front of each copy, one of which must contain an original signature. Proposals must be clearly labeled and submitted to:

**Roseanne Viscusi, PON 2569
NYS Energy Research and Development Authority
17 Columbia Circle
Albany, NY 12203-6399**

If you have technical questions concerning this solicitation, contact the individuals listed below by e-mail or by phoning (518) 862-1090 and selecting the appropriate extension:

Jennifer Harvey
Sr. Project Manager
ext. 3264 jlh@nyserda.org

Barry Liebowitz
Sr. Project Manager
ext. 3248 bnl@nyserda.org

Richard Drake
Program Manager
ext. 3258 rld@nyserda.org

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

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

*Late proposals and proposals lacking the appropriate completed and signed Proposal Checklist will be returned. It is the proposer's responsibility to ensure that all pages have been included in the proposal. Faxed or e-mailed proposals will not be accepted. 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.nyserderda.ny.gov.

I. INTRODUCTION

NYSERDA seeks proposals to develop and demonstrate innovative renewable and other advanced clean power technologies, develop and demonstrate technologies that improve performance, or address and overcome specific barriers thwarting increased adoption of Eligible Technologies (see more detailed descriptions of Project Categories and Eligible Technologies in Sections II and III). This solicitation is focused on advancing and developing promising technologies and products that could lead to the successful commercialization of products manufactured in New York State, and increasing markets for these products through strategic demonstration projects and dissemination of results.

Anticipated benefits include the introduction of new products that provide end users with additional options for competitive electric supply and improved performance while having superior environmental attributes, as well as benefits that help to achieve NYSERDA's economic development goals including creation or retention of near-term and sustainable jobs in New York, lower energy cost and reduced life-cycle cost through decreased energy use and reduced need for new central station construction.

Information on NYSERDA and its programs can be found at www.NYSERDA.ny.gov.

This solicitation is funded by New York **Energy \$mart**SM program, which is paid for by a System Benefits Charge (SBC) on the electricity transmitted and distributed by the State's investor-owned utilities. The New York **Energy \$mart**SM program is being implemented in those utility territories.

II. PROJECT CATEGORIES

This solicitation includes four categories of projects. **The proposers must indicate under which category they are proposing.** Proposers should give careful consideration to which category they choose to propose under, as inappropriate choices negatively affect project selection results. Proposers are encouraged to contact one of the people listed as contacts for technical questions on the cover page of this solicitation to clarify project categories. The three project categories are described below:

Category A: Demonstration Feasibility Assessments, Technology Facilitation Projects or PV Balance-of-System (BOS) Soft Cost Projects (up to \$100,000 of NYSERDA funding per project with a proposer cost share at or above 25% of the total project cost.)

There are three types of projects under Category A:

- **Demonstration Feasibility Assessment:** Engineering studies that assess the feasibility and effectiveness of demonstrating new or under-utilized Eligible Technologies (See Section III for Eligible Technologies) at a New York site. Studies are expected to ultimately lead to a project proposal under Category D: "Demonstration Projects" and are intended to support project development activity such as site assessment and technical feasibility, economic analysis, permitting and interconnection, conceptual design, and preliminary data analysis plan. The Eligible Technology should be past the "proof-of-concept" stage but not yet commercially-ready or certified.
- **Technology Facilitation Projects:** Projects that will reduce barriers facing the commercialization or the use of an Eligible Technology (See Section III for Eligible Technologies). Proposals for technology facilitation projects should present a compelling case that the project is likely to result in reduction of the barriers addressed in the near-term.

- **PV Balance-of-System (BOS) Soft Cost Projects:** Projects that will reduce the cost of PV systems by addressing and reducing specific ‘soft’ cost elements of PV systems. Examples of ‘soft’ costs include customer acquisition and business costs, financing and contracting costs, system design and engineering costs, permitting, interconnection and inspection costs, installation labor costs, operations and maintenance costs, or other non-hardware costs that contribute to the cost of an installed PV system. Hardware PV projects should be proposed in Category B, C, or D as appropriate.

Category B: Early-Stage Product Development (up to \$200,000 of NYSERDA funding per project with a proposer cost share at or above 50% of the total project cost.)

Eligible projects for Category B include:

- Early-stage innovative product or technology development to assess the technical and market feasibility of a product concept based on an Eligible Technology (See Section III for Eligible Technologies) that would be manufactured in New York State. The technology should be beyond basic research and the proposal focus on developing or improving a specific product.

Category C: Product Development (up to \$1,000,000 of NYSERDA funding per project; these projects must be phased with no phase exceeding \$500,000 of NYSERDA funding; NYSERDA may elect to fund only Phase 1 of a proposal based on availability of funds; cost share of at least 50% of the total project and each phase is required.)

Eligible projects for Category C include:

- Development and commercialization of products based on an Eligible Technology (See Section III for Eligible Technologies) that will be manufactured in New York State. Note that bench-scale testing and field verification or testing may be included in Category B projects. Technical and economic feasibility of the technology should have been demonstrated prior to submitting a Category B proposal. If they haven’t, consider proposing in Category A.

Category D: Demonstration Projects (up to \$750,000 of NYSERDA funding per project with a proposer cost share at or above 50% of the total project cost.)

Eligible Projects for Category D include:

- Demonstrations of Eligible Technologies (See Section III for Eligible Technologies) that are past the “proof-of-concept” stage, but that are not yet commercially-ready or certified. Projects in this category **should not** include technology or product development tasks. If technology or product development tasks are necessary, consider proposing in Category C. Projects in Category D should demonstrate innovative new products, or demonstrate products in innovative applications. Proposals in Category D should have a committed demonstration site. Proposals in this category should clearly identify how this project will bring the product closer to commercial readiness and how such demonstration will lead to increased use of the product in New York State. Projects that demonstrate products that will be manufactured in New York State are preferred.

III. ELIGIBLE TECHNOLOGIES (ALL PROJECTS: CATEGORIES A, B, C, AND D)

Technologies eligible under this solicitation include innovative renewable-electric and other advanced clean power technologies for grid-connected applications, storage technologies for sub-utility-scale stationary applications, or technologies that improve grid power quality and reliability. Subsystems and components of these technologies, as well as improved innovative manufacturing methods for these technologies are included. Potential technologies include, but are not limited to:

- (1) Fuel cells and related components and subsystems.

- (2) Innovative electric energy storage technologies for sub-utility-scale applications including but not limited to batteries, flywheels, ultra-capacitors, flow batteries, and superconducting magnetic energy storage.
- (3) Solar electric technologies, including innovative photovoltaic and solar thermal-electric systems, components of these systems, and products that incorporate photovoltaics.
- (4) PV balance-of-system (BOS) technologies soft costs (Category A) (e.g. customer acquisition and business costs, financing and contracting costs, system design and engineering costs, permitting, interconnection and inspection costs, installation labor costs, and operations and maintenance costs), and hardware costs (Category B, C, or D as appropriate) (e.g. electrical and non-electrical components).
- (5) Wind power technologies including innovative wind energy-conversion devices, components, and products that support wind-energy systems and power plants.
- (6) Hydro power technologies, including innovative products that increase generating capacity or improve environmental performance.
- (7) Power conditioning equipment that enhances reliability or power quality, or enables integration of renewable power generation or sub-utility-scale storage technologies.
- (8) Innovative technologies for upgrading performance of new or existing power generation equipment;
- (9) Systems and equipment innovations for improving distribution system performance and reliability.
- (10) Waste heat to electricity technologies.
- (11) Biomass and biogas to electricity technologies.
- (12) Innovative control systems benefitting clean or renewable power systems such as remote or on-site monitoring and diagnostic systems, intelligent remote or on-site control systems to provide command and communication with power systems equipment, or control systems technologies to promote safe, reliable integration of renewable energy sources and sub-utility-scale electric energy storage technologies.

IV. PROGRAM REQUIREMENTS (ALL PROJECTS: CATEGORIES A, B, C, AND D)

Projects selected for funding must:

- (1) Address an eligible innovative renewable or other advanced clean power technology, storage technology for sub-utility-scale stationary applications, or technology that improves performance. Demand side management and peak load reduction technologies that do not produce or store electricity or are not integrated with a clean or renewable energy power technology are NOT eligible.
- (2) Provide direct and quantifiable energy, environmental, and economic benefits to New York State should the proposed project and necessary follow-on projects (if applicable) be successful. Benefits could include emissions reductions, job creation, product manufacturing and sales, increased reliability, high fuel-use efficiency, and reduced power costs. Since this solicitation is funded by New York Energy \$martSM, which is paid for by a System Benefits Charge (SBC) on the electricity transmitted and distributed by the State's investor-owned utilities, projects must have benefits in the service territories of the State's investor-owned utilities.

- (3) Include a project budget using the attached Contract Pricing Proposal Form (CPPF) showing total project cost and proposer cost-share. Include a cost-sharing breakdown by project task in the Statement of Work.
- (4) Provide sharing of success by agreeing to pay recoupment to NYSERDA for any new technology or product development project requesting NYSERDA funding over \$100,000 upon product commercialization if applicable (see terms and conditions in Attachment F of attached Sample Agreement).
- (5) Demonstrate that the proposer and/or team of proposers are well qualified to carry out the submitted project proposal.
- (6) For Technology Facilitation Projects and PV BOS Soft Cost Projects, provide a strong rationale as to how the project will overcome barriers impeding the implementation or adoption of a renewable or advanced clean power technology.
- (7) For Early-Stage Product Development or Product Development projects, emphasize development and/or application of marketable products for near-term commercialization rather than basic research, identify the components and/or processes of the technology to be addressed, and provide a preliminary commercialization and marketing strategy, and discuss the potential for manufacturing in New York State.
- (8) For Demonstration Feasibility Assessments and Demonstration Projects, clearly identify how this project will bring the product closer to commercial readiness and how such demonstration will lead to increased use of the product in New York State.
- (9) Demonstration Projects must have committed New York demonstration site(s).

Limitations – Proposals for projects receiving or anticipating to receive Renewable Portfolio Standard (RPS) funding are ineligible for funding under this solicitation. Both power generation and energy storage projects must produce electricity.

Other Considerations

– In addition, note that:

- A proposal may be considered non-responsive if it fails to comply with the requirements of this solicitation.
- Prior to an award being made, potential contractors may be required to demonstrate: access to financial resources sufficient to perform the proposed work, technical experience and adequate facilities (or the ability to access them), a good performance record, and the ability to qualify for an award under applicable laws and regulations.
- Applicants may be contacted during the evaluation process to clarify information contained in the proposal.

V. PROGRAM REQUIREMENTS FOR CATEGORY D DEMONSTRATION PROJECTS ONLY

Category D projects selected for funding **must**:

- (1) Be commissioned within 12 months of contract award.
- (2) Address safety issues, including public safety, that are applicable to the demonstration project.
- (3) Comply with all applicable building, fire, electrical, and interconnection codes, standards, and requirements.
- (4) Provide equipment sensors, instrumentation, and a complete data acquisition system for remote monitoring and reporting as specified below.

- (5) Demonstrate the technology viability and monitor the performance, characteristics, and benefits for a period adequate to meet project goals. If the period is under 18 months, the proposer must discuss why the proposed time is adequate. Unless the proposer demonstrates a compelling reason otherwise, at least 365 operating days of data will be required.
- (6) Present an economic analysis of the proposed technology demonstration including an estimated cost/benefit ratio, and a plan to measure the actual cost/benefit ratio during the demonstration.

Data Acquisition System (DAS) Requirements for Category D Demonstration Projects Only

It is the intent of NYSERDA to provide system level operation and performance information, including economic performance information, to the general public on each of the demonstration projects funded under this solicitation. In order to meet this objective, each demonstration project must provide sufficient instrumentation and data transmittal, and analytical capabilities to allow the collection and analysis of technical and economic performance data.

The demonstration project proposal should include a Data Acquisition System (DAS) for the purpose of providing system operating data to be used for evaluation and generation of reports on the overall performance of the technology being demonstrated. Data acquisition sampling rates must be adequate to characterize the benefits and the value proposition of the proposed application. For example, sampling rates for applications designed to enhance power quality or system stability would be much higher than sampling rates for peak shaving or arbitrage applications. In the event that the demonstration system performs multiple activities, the DAS must provide for the collection of data for all activities. All raw and summary data collected at the project sites must be archived and protected from loss on permanent media.

Benefits Data Tracking and Reporting for Category D Demonstration Projects Only

Data sufficient to demonstrate the economic benefits defined in the proposal must be measured, collected, analyzed, and recorded. For applications that claim multiple benefits, the proposed data and analysis scheme must adequately support the claimed benefit for each of the benefits specified in the proposal.

Reporting Requirements For Category D Demonstration Projects Only

The proposal must identify the project team member who will be responsible for the preparation and delivery of periodic written project reports. System operational summary information must be generated regularly and included in progress reports. At a minimum, the system operational summary information must include the following:

- Raw data.
- System performance summary.
- Summary of system reliability and failure rates.
- A written summary of the economic benefit derived for the time period.
- A written summary of all operations and maintenance activities for the time period.
- System dispatch information and use patterns associated with the project, as appropriate.
- Energy consumption breakdown of parasitic loads introduced by the demonstration system, as appropriate.
- System performance under typical utility fault conditions, e.g. lightning strikes, primary phase to ground faults, voltage sags/spikes, electric outages, etc., as appropriate.
- System performance under user fault conditions, e.g. fault in customer plant, as appropriate.

Annual reports must be generated that consolidate all the information from the periodic reports and summarize demonstration system performance for the preceding year.

Historical Performance Data Reporting for Category D Demonstration Projects Only

Where appropriate to document project benefits, historical utility system operational data prior to the installation of the demonstration system is required in order to provide credible baseline data on electrical system performance before and after the installation of the demonstration system. Information concerning load profiles, peaks, overloads, faults, power quality events, and any other information required to fully characterize the

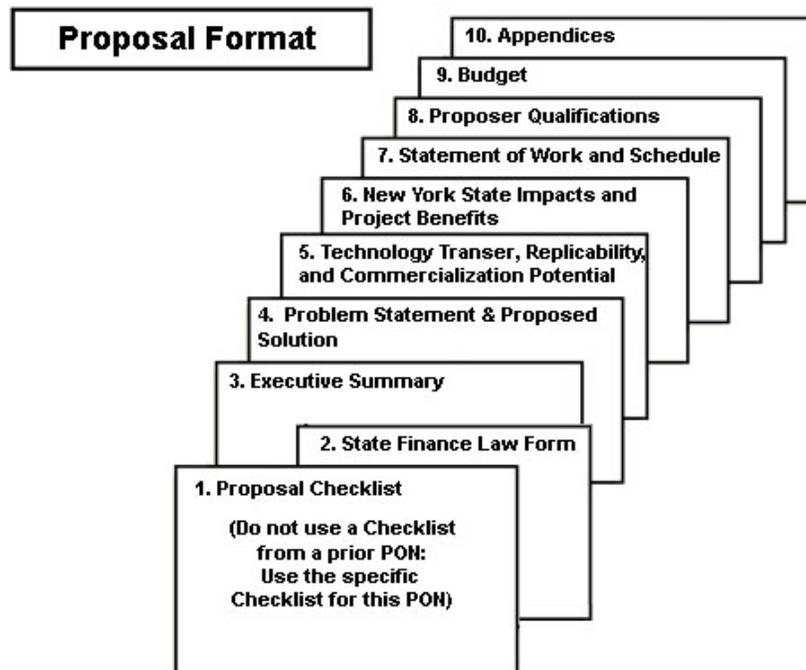
operation of the electrical utility at the demonstration site prior to installation of the demonstration system must be collected by the proposer for a reasonable period of time. Comparison information must be made part of the progress reports.

VI. PROPOSAL REQUIREMENTS (ALL PROJECTS: CATEGORIES A, B, C, AND D)

Proposers must submit ten (10) print copies and one (1) electronic media copy (CD) of the proposal in Microsoft Word format (appendices may be in PDF format) with a completed and signed Proposal Checklist attached to the front of each copy, one of which must contain an original signature. Proposal should be addressed to the attention of Roseanne Viscusi at the address on the front of this Program Opportunity Notice. **Late proposals and proposals lacking the appropriate completed and signed Proposal 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 VIII. To the extent it is necessary to include proprietary information in the proposal, ensure that you follow the instructions in Section VIII and clearly mark the Proposal Checklist as well as specific proprietary information throughout the proposal.

Proposals should not be excessively long or 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 proposal. Each page of the proposal should state the name of the proposer, the PON number, and the page number. **The proposal must be in the following format and sequence listed below** (suggested page limits for each section are shown in parentheses following the section title).



1. Proposal Checklist (INCLUDE FOR ALL PROPOSALS) - Complete the specific Proposal Checklist attached as part of this PON, and include it, with an original signature, as the front cover of the original and each copy of the proposal. Please note the following:

- Indicate whether you accept the standard terms and conditions as contained in the attached Sample Agreement. Applicants are strongly encouraged to review these terms and conditions with their attorney prior to submitting a proposal. **Contract development will be prioritized for applicants that accept these standard terms and conditions.** 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 Sample Agreement to those specifically identified in the submitted proposal (see Proposal Checklist). 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 Proposal Checklist is authorized to commit the proposer's organization to the proposal as submitted.
- Indicate to which category you are proposing on the proposal checklist. Each proposal will be considered for funding only in the category indicated.

2. Procurement Lobbying Requirements (INCLUDE FOR ALL PROPOSALS) - State Finance Law sections 139-j and 139-k -- Procurement lobbying requirements contained in State Finance Law sections 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 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 proposals: (1) a signed copy of the Proposal Checklist including required certifications under the State Finance Law and (2) a completed Disclosure of Prior Findings of Non-Responsibility form. Failure to include a signed copy of the Proposal Checklist referenced in this solicitation will disqualify your proposal.

3. Executive Summary (INCLUDE FOR ALL PROPOSALS) (one page maximum) – Provide a non-proprietary summary of the team members, the power systems-related problem or opportunity, the proposed solution and its innovative characteristics, and potential energy, environmental, and economic benefits to New York State. Use the following outline:

- A. Team Members
- B. Background
- C. Objective and Scope of Proposed Project
- D. Project Benefits

4. Problem Statement and Proposed Solution (two to three pages) The instructions below request information that allows the evaluation of the relevance and importance of the problem that the project is targeting and the likelihood of the project meeting its technical objectives and solving the stated problem. Provide the information requested in the Section 4 below that corresponds to your category of project.

4.1 For Categories A (Facilitation & PV BOS Soft Cost), B and C. Problem Statement and Proposed Solution (INCLUDE THIS SECTION FOR CATEGORY A-Technology Facilitation Projects and PV BOS Soft Cost Projects, B-Early-Stage Product Development, and C-Product Development PROPOSALS ONLY) – Describe the following:

- The power systems-related problem or opportunity, and its significance to New York State.
- The proposed solution and how it addresses the problem or opportunity and provides value to customers. Describe the technical basis, innovative characteristics, and current market penetration in New York State.
- The current state of research and development of the technology, concept, or issue as it relates to your proposal and how your proposal will build off existing knowledge or research.
- Cost, technical, and performance goals of the commercial product.
- Alternative solutions or technologies and why the proposed solution is superior.
- Barriers to market entry and your ability to overcome them.

- What you expect to achieve by the end of the project.
- Any patents or licensing agreements associated with the product or system, where applicable.
- The status of the earlier phase of a project if the proposal addresses a subsequent follow-on phase of a previously cofunded NYSERDA project.

4.2 For Categories A (Demo Feasibility) and D. Problem Statement and Proposed Solution (INCLUDE THIS SECTION FOR CATEGORY A-Demonstration Feasibility Assessment AND CATEGORY D-Demonstration Project PROPOSALS ONLY) - Describe the following:

- The power systems-related problem or opportunity, and its significance to New York State.
- The demonstration project design, including a description of the technology and its state of development, and a description of why the project is innovative. [Note that Category D Demonstration Projects should not include technology development tasks. If such tasks are necessary, consider proposing in Category C.]
- Potential advantages over competing technologies.
- The expected benefits to the end user or host site and to the electric grid that the demonstration is connected to.
- The selected project site. Identify why the project site is appropriate for the demonstration. Indicate where the site is located and whether the site pays into the System Benefits Charge on its utility bill. Indicate the current level of commitment by the site. Include a letter of from the site in an appendix that indicates its level of commitment. Note that a committed site is required for Category D projects. Category A-Demonstration Feasibility Assessments should provide the information above to the extent known.
- The expected disposition of project equipment after completion of all elements of the demonstration project. If appropriate, describe the long-term maintenance strategy for the unit.
- The monitoring strategy and how the data will be used to further the commercial application of the technology.
- The monitoring period. If the period is under 18 months, the proposer should discuss why the proposed time is adequate. Unless the proposer demonstrates a compelling reason otherwise, at least 365 operating days of data will be required.
- What you expect to achieve by the end of the project.
- The status of the earlier phase of a project if the proposal addresses a subsequent follow-on phase of a previously funded NYSERDA project.

5. Technology Transfer, Replicability, and Commercialization Potential (two to three pages) The instructions below request information that allows the evaluation of the likelihood of the proposed project to achieve commercial success (for product development projects), remove barriers and lower costs (for facilitation and PV BOS soft cost projects) or stimulate replication (for demonstration projects), should the proposed project meet its technical objectives (described in section 4 above). Provide the information requested in the Section 5 below that corresponds to your category of project.

5.1 For Category A (Facilitation & PV BOS Soft Cost). Technology Transfer and Replicability (INCLUDE THIS SECTION FOR CATEGORY A-Technology Facilitation Project and PV BOS Soft Cost Project PROPOSALS ONLY) – This solicitation is looking for projects that will take definitive steps to reduce significant barriers and lower the costs of energy from Eligible Technologies (See Section III for Eligible Technologies). It is not looking for studies that provide general information and that are not closely linked to reducing specific barriers or lowering costs. Therefore, a strategy to engage the appropriate parties so that the project will result in a near-term change is important. Describe the following:

- The target audience for the project (be as specific as possible) and how they will use the results of the project.
- The involvement of the target audience in this project.
- How this project will overcome the barriers related to the problem or opportunity and facilitate future use of the target technology in New York State.
- The expected impact of the project (be as specific as possible), how you will achieve that impact, and why you believe that you will achieve the expected impact.

- The strategy for transferring project results to the target audience.

5.2 For Categories B and C. Business/Commercialization Plan or Strategy (INCLUDE THIS SECTION FOR ALL CATEGORY B-Early-Stage Product Development PROPOSALS AND ALL CATEGORY C-Product Development PROPOSALS.) A higher level of specificity, detail, and maturity is expected for Category C (Product Development) proposals compared to Category B (Early-Stage Product Development) proposals. (Two to three pages) –

Describe how project results will be used to commercialize or deploy new products and indicate the parties involved in the process. Proposals for products nearing commercialization should have a detailed commercialization plan; whereas, proposals for early-stage product development should include at least a rough outline of how the concept may ultimately be commercialized. Cover the following topics:

- **Project Timeline:** Provide a multi-year timeline (e.g., graph) showing the paths, activities, milestones, resources, timing to take the technology from its current state of development to commercial product, and cost sharing in relation to total costs. Identify where you expect to be on this timeline by the end of the proposed effort.
- **Marketing and Sales:** Explain the customer’s economic motivation for buying the new product or system, versus alternatives (i.e. the ‘value proposition’ to the customer). Identify target markets and their relevant characteristics (e.g., size, competition, regulatory and technological trends, etc.) Describe your proposed marketing strategies, explain why they should be successful, and provide sales estimates. Describe how you will reach your target market and distribute the product to your target market. Describe barriers to market entry and how you will overcome these barriers. Provide an estimate of the price of the product or system that eventually will be commercialized and provide a comparison of that price to competing products or systems.
- **Manufacturing Plan:** Provide a discussion of the commercialization path that is appropriate to the stage of development of the proposed technology. Discuss whether the strategy is for one of the team members to manufacture the product, identify a manufacturing partner, license the technology, or another strategy. Note that, even in early stage projects, initial projections of commercialization paths and challenges are essential to assessing benefits, risks, and future resource requirements. If you plan on manufacturing the product, describe your plans for setting up or expanding manufacturing facilities, and discuss any key issues such as: need for specialized production equipment or strategic alliances; critical make/buy decisions or cost/volume issues; and plans for ancillary activities such as service support functions.
- **Finance:** Estimate funds required to go from the current stage of development to a financially self-sustaining level of commercialization. Include funding for R&D and initial marketing and manufacturing/deployment programs. Identify potential funding sources and how funding will be acquired. Identify any potential strategic partners who could reduce your costs by providing access to marketing/distribution channels, manufacturing facilities or other assets.
- **Organization Plan:** Describe staffing plans for transition from R&D stage to commercialization stage; include all organizational functions, such as management, administration, engineering, marketing/sales, and manufacturing.
- **Technology Transfer:** Describe any additional actions to promote the new technology, such as the presentation of technical papers.

5.3 For Category A (Demo Feasibility) and D. Replicability (INCLUDE THIS SECTION FOR CATEGORY A-Demonstration Feasibility Assessment AND ALL CATEGORY D-Demonstration Project PROPOSALS) – Describe the following:

- The target audience for the demonstrated technology that could benefit from the project results and may consider using the technology for other applications in New York State and nationally.
- The customer’s economic motivation for buying the new product or system, versus alternatives (i.e. the ‘value proposition’ to the customer).
- The estimated commercial market in New York State.
- 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.
- Barriers to market entry and how this project will overcome these barriers.

- The strategy for transferring project results to the target audience and causing replication or use of this technology in New York State.

6. New York State Impact and Project Benefits (INCLUDE FOR ALL PROPOSALS) (one page) – Outline benefits as follows:

- Quantify the following potential direct benefits to New York State to the extent possible:
 - Energy benefits (e.g., barrels/day reductions in petroleum fuels consumption in New York State, percentage improvement in energy efficiency, reliability improvements, etc.)
 - Environmental benefits (e.g. pollutant emission reductions, elimination of hazardous materials, etc.)
 - Economic benefits (e.g., near-term jobs created, power generation equipment life-cycle cost reductions, etc.)
- Identify other benefits (e.g., compliance with New York State or federal regulations, increased mobility, etc.)
- Identify where the product is (or will be) manufactured and the rationale behind this location. Indicate whether significant subsystems/components are manufactured in New York.
- For the proposed effort, identify the percentage of the total labor and subcontracted labor that will occur in New York.
- Since this solicitation is funded by New York Energy \$mart^(sm) which is paid for by a System Benefits Charge, describe benefits in the service territories of the State's investor-owned utilities.

7. Statement of Work and Schedule (INCLUDE FOR ALL PROPOSALS).

Statement of Work (two to four pages of work scope tasks in addition to the ‘boilerplate’ tasks in Attachment C.) The Statement of Work (SOW) is the primary contractual document that outlines work activities and quantifies deliverables. **Refer to Attachment C for a Statement of Work format and specific instructions regarding preparing the Statement of Work.**

The Statement of Work specifically delineates each step or procedure required to accomplish the project objectives. Therefore, each action shall be identified, indicating who will perform it, how it will be performed and its intended result. Be clear and specific: concentrate on how and not why. Use active voice sentence structure to make clear who is responsible for specific actions; for example, use the following phrase to start the description of every task and subtask: The Contractor shall

Schedule. Present a work schedule with a starting point and duration for each task and subtask. Presentation of the schedule in a bar chart is preferred starting with “Month 1”, “Month 2”, etc. The schedule should include timing of major milestones such as design reviews, test result analyses, completion of working prototypes, delivery of products, and the start of metrics reporting to NYSERDA, showing progress toward project objectives and goals.

If applicable, a brief description and anticipated duration of additional development or commercialization activities, beyond the proposed work, that will be necessary to fully achieve commercialization.

(INCLUDE MILESTONE PAYMENTS FOR CATEGORY D PROPOSALS ONLY) Milestone Payments – Provide a list of deliverables associated with each task with proposed milestone payments assigned to major deliverables. The magnitude of the milestone payments should be based on the amount of effort required to reach the deliverable. Completion of final design, equipment delivery, commissioning, submission of data, and acceptance of final report are examples of typical milestones for demonstration projects.

8. Proposer Qualifications (INCLUDE FOR ALL PROPOSALS) (two to three pages; include resumes and other material in appendices) – Identify:

- Proposing Organization(s) - Include a brief description of organization(s) involved in the proposing team, including major subcontractors. Include date founded, history, size, product portfolio, and location. Also include an explanation of why the proposed organization or team is the best qualified to

perform/implement the project from a technical and business perspective. Identify any other organizational qualifications relevant to the proposed work. If applicable, include examples of previous successful commercialization projects and the current status of those successes. For demonstration projects, demonstrate an understanding of New York State energy markets and interconnection requirements, and include information on the organization that will host the demonstration. (Note: Subcontracts of \$50,000 or more are subject to competitive bid procedures except where the proposal identifies a specific subcontractor as an integral participant in the proposed work; see Sample Agreement).

- Organizational Chart - Prepare an organizational chart listing all team members, including the project manager and any subcontractors and other sponsors involved in the project, showing their roles and responsibilities.
- Qualifications of Key Individuals – Identify key individuals that will be involved in the project and its success. Provide one- to two-paragraph summaries of relevant technical and business expertise of these individuals. Submit resumes (as appendices) of all key project team members. Include in the resumes, education and experience that are relevant to the proposed work.
- Previous Experience - Describe the proposing team's experience that is relevant to the proposed effort. List related projects that have been undertaken and successfully completed by the Proposer and/or subcontractors. List NYSERDA contracts awarded to the proposer, if any, in the past five years.

9. Budget (INCLUDE FOR ALL PROPOSALS) – Include a project budget using the attached Contract Pricing Proposal Form (CPPF) showing a total of project costs and proposer cost-share. Phased projects should include a CPPF for each phase, as well as one for the total project.

Funding - Maximum NYSERDA funding per project is as follows:

- Category A - Demonstration Feasibility Assessments, Technology Facilitation Projects, or PV BOS Soft Cost Projects: \$100,000.
- Category B - Early-Stage Product Development: \$200,000.
- Category C - Product Development: \$1,000,000; however, projects requesting over \$500,000 must be phased with no phase exceeding \$500,000 of NYSERDA funding. Based on availability of funds and other considerations, NYSERDA may elect to fund only Phase 1 of a proposal. Note that Phased projects must complete the 'Phase Funding Table' below and clearly identify Phase 1 vs. Phase 2 tasks in the attached Statement of Work.
- Category D - Demonstration Projects: \$750,000.

Cost Sharing - The proposal should show non-NYSERDA funding of at least 25% of the total project cost for Category A projects and 50% of the total project cost for Category B, C, or D projects. Cost sharing can be from the proposer, other team members, and other government or private sources. Contributions of direct labor (for which the laborer is paid as an employee) and purchased materials may be considered "cash" contributions. Unpaid labor, indirect labor, or other general overhead may be considered "in-kind" contributions. NYSERDA will not pay for efforts that have already been undertaken. The proposer or proposing team cannot claim as cost-share any expenses that have already been incurred. Complete the following table for **ALL PROPOSALS** (expand table as needed):

FUNDING SOURCE TABLE			
Funding Source	Project Total \$		
	Cash	In-Kind	Total (cash + in-kind)
NYSERDA	\$		\$
Proposer	\$	\$	\$
Co-Funder (identify)	\$	\$	\$
Co-Funder (identify)	\$	\$	\$
Total (\$)	\$	\$	\$

Complete the following table for **Category C proposals** requesting over \$500,000 of NYSERDA funding:

PHASE FUNDING TABLE (CATEGORY C ONLY)			
Funding Source	Phase 1	Phase 2	Project Total
NYSERDA			
Proposer and co-funders (Cash + in-kind)			
Phase Total (\$)			

For all proposals, attach supporting documentation to support indirect cost (overhead) rate(s) included in your proposal as follows:

1. Describe the basis for the rates proposed (i.e., based on prior period actual results; based on projections; based on federal government or other independently-approved rates).
2. If rate(s) is approved by an independent organization, such as the federal government, provide a copy of such approval.
3. If rate(s) is based on estimated costs or prior period actual results, include calculations to support proposed rate(s). Calculation should provide enough information for NYSERDA to evaluate and confirm that the rate(s) are consistent with generally accepted accounting principles for indirect costs.

NYSERDA reserves the right to audit any indirect rate presented in the proposal and to make adjustment for such difference. Requests for financial statements or other needed financial information may be made if deemed necessary.

Recoupment - For any early-stage product development or product development projects requesting NYSERDA funding over \$100,000, NYSERDA will require a royalty based on sales of the new product developed. NYSERDA's standard royalty terms are identified in Attachment F, Sample Agreement.

10. Appendices (INCLUDE FOR ALL PROPOSALS) – Include any resumes, company qualifications, or ancillary information that is deemed necessary to support your proposal. If appropriate, also include:

- **Letters of Interest or Commitment** – If you are relying on any other organization to do some of the work, provide services or equipment, or share in the non-NYSERDA cost, include a letter from that organization describing their planned participation. Also include letters of interest or commitment from businesses or other organizations critical to the future commercialization, demonstration, or implementation of the project. Absence of letters of interest or commitment will be interpreted as the proposer not having support from the identified parties.

- **Exceptions to the Terms and Conditions** – If you do not accept the standard terms and conditions (including the recoupment provisions) as contained in the attached Sample Agreement, provide alternate terms with justification based on the risk and benefit to NYSERDA and New York State. 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 Sample Agreement.

VII. PROPOSAL EVALUATION (ALL PROJECTS: CATEGORIES A, B, C, AND D)

Proposals that meet Proposal Requirements will be reviewed by a Technical Evaluation Panel (TEP) using the Evaluation Criteria identified below. Each project category has a separate set of evaluation criteria as indicated below. After the proposals are reviewed, NYSERDA will issue a letter to each proposer indicating the proposal evaluation results. Proposers receiving favorable evaluations will be invited to enter into contract negotiations with NYSERDA. The proposer may also be asked to address specific questions or recommendations of the TEP before contract award.

Problem and Proposed Solution

- How significant is the problem or opportunity to New York State?
- Is the proposed work feasible, innovative, and superior to alternatives?
- Does the proposal address an eligible technology?
- How well does the proposed solution address the problem or opportunity?
- Are fundamental scientific principles and issues related to the problem or opportunity well understood and clearly presented?
- How appropriate are the goals (cost, technical, performance or other goals) for the proposed technology, product, or project?
- Does the proposer exhibit an understanding of the state-of-the-art, competing products or alternative solutions?
- If the proposed work is a follow-on project to a previously funded NYSERDA project, what was the outcome of the earlier phase?
- Additional criteria for Category A Technology Facilitation Projects and PV BOS Soft Cost proposals only –
 - Does the proposer demonstrate a thorough understanding of the barrier that will be addressed, challenges associated with overcoming the barrier and the proposed solution?
- Additional criteria for Category B and C Product Development proposals only –
 - Has the proposer appropriately addressed the need for intellectual property protection?
- Additional Evaluation Criteria for Category D – Demonstration Projects and Category A – Demonstration Feasibility Assessments only –
 - Is the proposed demonstration innovative and is this demonstration a necessary step to achieving commercial acceptance in New York?
 - What is the level of commitment of a New York State site (for Category D projects)?
 - What is the likelihood that the Demonstration Feasibility Project will result in a site that is ready for development (for Category A – Demonstration Feasibility projects)?
 - Is a performance monitoring and data analysis effort included in the proposal and appropriate?

Business/Commercialization Plan or Technology Transfer and Replicability

- Is the subject technology or concept likely to be successful in the marketplace?
- Has the market been identified and characterized and are there sufficient markets or needs for the concept/technology, project, or study?
- Does the proposed project address market needs?
- How significant are the barriers to market entry or adoption?

- Does the proposer demonstrate a clear understanding of the steps required to overcome these barriers?
- Are the business and commercialization or replication and technology transfer plans appropriate for the type of project and stage of development of the technology, and are they likely to succeed?
- Does the proposal identify competing and alternate solutions, and clearly show why this product or concept is superior to, price competitive with, or provides value compared to alternative products or solutions?
- If follow-on financial resources are necessary, are plans to raise necessary financial resources likely to be successful?
- Additional Evaluation Criteria for Category A Technology Facilitation Projects and PV BOS Soft Cost Projects only -
 - Is the target audience appropriately identified and engaged in the project?
 - Is the project likely to overcome the barriers related to the problem or opportunity and facilitate future use of the target technology in New York State?
- Additional criteria for Category B and C Product Development proposals only –
 - Has a realistic strategy been presented for producing the technology, product, or system and introducing it to the market; is the manufacturing plan likely to result in manufacturing or significant commercial activity in New York?
- Additional Evaluation Criteria for Category D – Demonstration Projects and Category A – Demonstration Feasibility Assessments only –
 - To what extent does the proposed demonstration technology have commercial applications at other New York State sites?

New York State Impact and Project Benefits

- How well are the potential benefits to New York State quantified?
- How likely is it that the projected benefits will be realized?
- Does the proposed project have favorable energy, environmental and economic impacts in New York State and in the service territories of the State's investor-owned utilities? How significant are these impacts?
- To what extent will there be economic benefits in New York State in the form of subsequent commercial activity?
- Are the technical risks identified, appropriately addressed, and balanced by project benefits?
- Will a significant part of the work on the project take place in New York State and in the service territories of the State's investor-owned utilities?
- To what extent will staff located in New York State be involved in the project?
- How well does the project reflect NYSERDA's overall objectives (risk/reward relationships, similar ongoing or completed projects, the general distribution of NYSERDA projects among industries and other organizations, and the distribution of projects within New York State)?
- Additional Evaluation Criteria for Category D – Demonstration Projects and Category A – Demonstration Feasibility Assessments only –
 - Does the proposal include a New York State demonstration site that pays into the System Benefits Charge?

Statement of Work and Schedule

- How appropriate are the goals for the proposed project?
- Do the proposed goals adequately allow for measurement and verification of the success of the proposed project?
- Is the work strategy in the Statement of Work sound and likely to achieve the goals?
- Is the Statement of Work well organized, complete, and appropriate for the goals identified?
- How realistic is the schedule for achieving the goals of the proposed project?
- Is the proposed level of effort reasonable to complete the proposed project?
- Additional Evaluation Criteria for Category D – Demonstration Projects only –
 - Does the Statement of Work include an economic analysis of the technology based on

- performance measurements?
- Are the data acquisition, monitoring, and reporting plans reasonable and do they meet the requirements in Section V, 'Requirements For Category D Demonstration Projects Only'?
- Is the benefits tracking plan reasonable and does it meet the requirements in Section V, 'Requirements For Category D Demonstration Projects Only'?
- If monitoring baseline utility system operation is necessary to document system benefits, does the Statement of Work include a provision to adequately gather baseline utility operational data?
- Are the proposed milestones reasonable?

Proposer Qualifications (All Categories) -

- Has the proposer provided evidence of being qualified to perform the proposed work based on the qualifications of the organization(s) and the involved individual(s)?
- Were resumes of key individuals included in the proposal?
- To what degree does the proposer have the relevant and necessary background and experience?
- Does the team have the requisite knowledge of markets for the subject technology?
- Does the team include a New York State business, thereby providing economic benefits in the form of jobs?
- Has the proposer provided evidence of good past performance on other relevant projects?
- Is the proposing team appropriately organized?
- Are staff allocations and responsibilities reasonable?

Project Cost and Value (All Categories) -

- Is the overall project cost justified and reasonable based on the level of effort proposed and the expected benefits?
- If the proposal is a Category C project requesting over \$500,000, are phases and costs for each phase clearly identified and is the NYSERDA funding request for each phase no greater than \$500,000?
- How significant is the potential market opportunity relative to the project cost?
- How appropriate are the proposer's cofunding contributions (sources and amounts) with respect to the degree of risk, potential to benefit from the work, and financial status of the organization?
- How firm are the commitments and support from essential participants, cofunders, and related business and other organizations?
- Are the overhead rates reasonable and supported with appropriate documentation?
- Are equipment, facility, material, and travel costs based on reasonable estimates?
- Are the labor rates reflective of the industry?

Other Considerations – Proposals will be reviewed to determine if they reflect NYSERDA's overall objectives, including: risk/reward relationships, similar ongoing or completed projects, and the general distribution of projects among categories, technologies, industries and other organizations, and geographically within New York State.

VIII. 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 proposer 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 Proposal Checklist calls for a signature certifying that the proposer will comply with State Finance Law sections 139-j and 139-k and the Disclosure of Prior Findings of Non-responsibility form includes a disclosure statement regarding whether the proposer 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/illin/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 Sample Agreement (Attachment F) to contract successful proposals. NYSERDA expects to notify proposers in approximately 10 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.**

ANNUAL METRICS REPORTS

On an annual basis, the Contractor shall submit, to NYSERDA's Project Manager, a prepared analysis and summary of metrics addressing the anticipated energy, environmental and economic benefits that are realized by the project. All estimates shall reference credible sources and estimating procedures, and all assumptions shall be documented. Reporting shall commence the first calendar year after the contract was executed. Reports shall be submitted by January 31st for the previous calendar years activities (i.e. reporting period). Please see Attachment E: Sample Metrics Reporting Guides for the metrics that you will be expected to provide and the reporting duration. **NYSERDA may decline to contract with awardees who are delinquent with respect to metrics reporting for any previous or active NYSERDA agreement.**

RECOUPMENT

For any new product development projects requesting NYSERDA funding over \$100,000, NYSERDA will require a royalty based on sales of the new product developed. NYSERDA's standard royalty terms are identified in Attachment F, Sample 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 Sample Agreement.

DISCLOSURE REQUIREMENT

The proposer 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 proposer 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. Proposers 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 - Proposal Checklist

Attachment B - Disclosure of Prior Findings of Non-responsibility (mandatory)

Attachment C - Statement of Work Format

Attachment D - Contract Pricing Proposal Form (CPPF)

Attachment E - Sample Metrics Forms

Attachment F - Sample Agreement with Exhibits