



Wind and/or Photovoltaic Test
and Research Center Development
Program Opportunity Notice (PON) 1283
\$4,400,000 Available

Proposals Due: December 2, 2009 by 5:00 PM Eastern Time¹

The New York State Energy Research and Development Authority (NYSERDA) seeks proposals to establish New York-based wind and photovoltaic (PV) test and research centers to address performance of wind and solar PV systems. The Centers will focus on testing and research related to system and component safety, performance, reliability, durability and longevity. Each Center will be made up of a coalition that could include university and private team members with expertise in the appropriate areas. The test center(s) will have physical testing at one or more locations in New York State. Teams may propose to establish a PV test and research center, a wind test and research center, or both. It is anticipated that one PV center and one wind center will be selected for funding.

Phase 1 activities include developing a Phase 2 implementation plan and schedule, developing a business plan for the Centers, finalizing team members and partners, attracting initial business partners, and developing a more detailed Phase 2 budget. Phase 1 results and progress will be evaluated and, if acceptable, Phase 1 awardee(s) will progress to Phase 2. Phase 2 activities include establishing the test laboratory, and conducting performance-based testing and research for PV or wind. Phase 2 also includes managing, marketing, and fund-raising for the Center, as well as communicating with customers and meeting customer needs.

Total funding currently available for this five-year program is \$4,400,000 for both a wind and a PV testing center. Phase 1 awards will be limited to \$50,000 of NYSERDA funding and is expected to take approximately six months. Co-funding is not required, but is highly encouraged and will be an evaluation consideration.

Please see Section 1.4 for information about a pre-bid teleconference that will be held on October 26, 2009 at 10:00am and a web site to facilitate teaming.

Proposal Submission: Proposers must submit fourteen (14) copies plus one CD with files compatible with Microsoft Word format of the proposal 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 1283
NYS Energy Research and Development Authority
17 Columbia Circle
Albany, NY 12203-6399**

If you have technical questions concerning this solicitation, please email to PON1283@nyserdera.org or contact Jacques Roeth at (518) 862-1090 ext.3301 or Jennifer Harvey at (518) 862-1090 ext.3264. If you have contractual questions concerning this solicitation, contact Nancy Marucci at (518) 862-1090, ext.3335 or nsm@nyserdera.org.

No communication intended to influence this procurement is permitted except by contacting Jennifer Harvey or Jacques Roeth above. Contacting anyone other than these Designated Contacts (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 offer, and (2) may result in the proposer not being awarded a contract.

¹ Late proposals and proposals lacking the appropriate completed and signed Proposal Checklist will be returned. 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.nyserdera.org.

1. INTRODUCTION

1.1 GOALS AND OBJECTIVES

This solicitation's goal is to develop centers to provide qualification and performance testing and research services for PV and wind products and components. The Centers will serve the needs of the users and installers of the technologies by testing products to national standards, providing third-party validation services, providing information on technology performance in real-life situations, and creating more accurate siting and system output prediction tools and methods. The Centers will also serve the needs of the PV and wind industries by providing product testing services in controlled environments as well as in real-life complex resources, and by partnering with industry members on research initiatives.

Another objective of this program is to provide a training ground for highly skilled undergraduate and graduate students with specialties in PV and wind technologies to serve as a clean energy workforce that will help attract PV and wind industries to New York.

In order to meet the goals, it is anticipated that each Center will be made up of a coalition that could include multiple organizations including public and private team members with expertise in the appropriate areas. It is anticipated that proposing teams will include university members. The test center(s) will have physical testing at one or more locations in New York State.

Specific Goals of the Test Centers are as follows:

1. **Financial Sustainability.** Each center should be self-sustaining without additional NYSEDA support after five years.
2. **Quality.** Each center should strive for excellence and be on the cutting edge of wind and/or PV performance testing and research.
3. **Customer-Focus.** Centers should be customer-driven. Proposers will be expected to establish approaches, capabilities and activities that provide value to the industry and other funding customers. Centers should develop approaches to reach out to customers and promptly and effectively meet their needs. Customers include PV or wind product manufacturers wishing to test, improve, or certify products, as well as users or funders of PV and wind systems (government, installers, and end-users) that need accurate performance information and improved siting and output prediction tools.
4. **Product Testing for Certification.** Testing laboratories are expected to acquire the appropriate recognition to test products for certification. Developing the capability to test to both national and international standards is encouraged. Based on available resources and market needs, proposers should select which tests they plan on performing. Because accreditation can be a lengthy and rigorous exercise, proposers are encouraged to partner or work with accredited testing institutions in the United States or worldwide in order to ensure success using a reasonable level of resources. Proposers are also encouraged to become familiar with the ISO 17025 standard for laboratory accreditation.
5. **Laboratory and Field Testing to Meet Market Needs.** Centers are expected to increase the level of knowledge of wind and PV product and system performance by having appropriate laboratory and outdoor testing capability and by developing and implementing an extensive field evaluation program. Market needs may include testing of beta units for manufacturers, monitoring of statistically systems or products at the Center under outdoor conditions, and monitoring of significant samples of installed systems of different sizes, technologies, and end-users for users. Some examples of areas where more information is needed include, but are not limited to:
 1. **PV:** Effect of varying, diffuse, and low incident sun angle on the performance of various types of PV modules and technologies, energy output of different technologies in typical New York State weather conditions, testing to identify failure modes, etc.
 2. **Wind:** Performance-based issues of customer-sited and large-scale wind that are related to real-world operating parameters including gusts, change of wind direction, turbulence, etc. Performance of roof-mounted wind systems (performance, reliability, longevity, vibration, noise, etc.)

6. **Research.** Centers will be expected to identify and prioritize performance-based research needs based on market input and results from laboratory and field evaluations. It is expected that there will be a strong connection between research, laboratory and field testing and that these categories could overlap. Centers will also be responsible for identifying funding sources to meet these needs. The following potential research areas have been identified:
 1. **Both PV and Wind:** Research areas that are applicable to either PV or wind include: develop novel prediction tools and analysis methods that could include the creation of significant databases of information, smart grid integration, strategies that improve communication and control, evaluation of storage and control alternatives to help maximize on-peak and as-needed production of power from intermittent resources, etc.
 2. **PV:** The research conducted by the centers will be broad and range from working with PV industry members to: improve performance of components and systems, develop better techniques for integrating large numbers of systems into utility grids, better understand the effects of snow on performance, perform failure analyses, research long-term degradation mechanisms in northeast climates, etc.
 3. **Wind:** Establish/expand the capability in to address research areas; such as, wind resource prediction in complex environments (including urban), large- or small- turbine design and optimization, advanced data analysis and modeling techniques, and large- or small- turbine control optimization, failure analyses, long-term degradation mechanisms in northeast climates, etc.
7. **Workforce:** Another objective of this program is to provide a training ground for highly skilled undergraduate and graduate students with specialties in PV and wind technologies to serve as a clean energy workforce that will help attract PV and wind industries to New York. While this program does not fund curriculum development, it is expected that the Centers will be used as a tool to stimulate related workforce activities. Coordination with existing workforce practitioner training programs is also encouraged.

1.2 PROGRAM PHASES AND FUNDING

This program will be conducted in two phases. Phase 1 develops the plan for the Center and Phase 2 implements the plan. Up to \$50,000 of NYSERDA funding per project is available for Phase 1 activities. The total budget for this solicitation is \$4,400,000. Additional funds may be made available.

Phase 1 is expected to take approximately 6 months. It is anticipated that one wind center and one PV center will be selected for Phase 1 funding. Phase 1 results and progress will be evaluated and, if acceptable, Phase 1 awardee(s) will progress to Phase 2. To be successful in Phase 1 and progress to Phase 2, Phase 1 deliverables must demonstrate a likelihood of success based on the evaluation criteria in Section V, "Proposal Evaluation" of this solicitation.

If Phase 1 progress is not acceptable, NYSERDA reserves the right to cancel the contract and select another proposal for Phase 1 funding.

Phase 1 activities and deliverables include:

- Prepare a market and needs assessment.
- Develop Phase 2 implementation plan that identifies the following, at a minimum: testing equipment that will be purchased, equipment purchasing/installation schedules, specific tests that the Center will develop the capability to perform, strategy to become recognized to test products to specified certification standards, initial and long-term performance testing plans, and initial and longer-term research objectives.
- Develop a business plan.
- Finalize team members and partners.
- Attract business partners which can include private and public sectors.
- Develop Phase 2 budget and schedule.
- Develop strategies to measure success of the project. Specify performance goals.

Phase 2 activities include:

- Execution of implementation and business plans developed in Phase 1.

- Establish and install test and research facilities and equipment.
- Achieve recognition to test products for certification to standards identified in Phase 1.
- Program marketing and outreach assistance.
- Performing testing and research as identified in Phase 1 and determined by needs assessment.

1.3 COST SHARING

Cost sharing is not required, but is highly encouraged and the amount of co-funding levels will be considered in proposal evaluation. The percentage of cost-sharing is expected to increase over the contract term as the center becomes less dependent on NYSERDA support. **Cost sharing can be from the proposer, other team members, or third parties. Third party cost-sharing can come from various sources, including but not limited to user fees, funding from industrial partners, federal, state, or local government funding, etc.** 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. NYSERDA funding from other programs will not be considered cost-sharing.

1.4 BACKGROUND AND RESOURCES

Unlike large power projects financed by project revenues, performance of small power systems is often not guaranteed by the manufacturer or installers. End-users are forced to trust the vendors that their estimates of system performance will be correct. In order to establish and maintain stable, sustainable markets, these systems must perform in a predictable, dependable manner. An independent performance test and evaluation can help ensure that systems perform as expected. As markets for PV and wind systems increase and as the number of product offerings increase, demand for performance testing and evaluation will also increase.

NYSERDA provides incentives for the installation of customer-sited wind and PV systems. In its goal to provide high quality renewable energy options to the residents of New York, NYSERDA supports the development of wind and PV test and research centers to create an independent verification of wind and PV component performance.

1.4.1 PRE-BID CONFERENCE

A pre-bid teleconference will be held on October 26, 2009 at 10:00am:

For the **visual portion**: from your Internet Browser: <http://www.paetec.com/conferencing/index.html>)

Attendees will click "Join a Conference"

Access number: 8005018979

Access code: 8621090

No pass code

The **audio portion** of the conference will be via the phone: (800) 501-8979 Access code 8621090

The goals of the pre-bid conference will be two-fold: 1) to provide a brief overview of PON1283 and 2) and 2) to answer questions about this program. There will be an opportunity for organizations to introduce themselves to and identify partners.

1.4.2 COLLABORATION/PARTNERING

In order to facilitate teaming arrangements, NYSERDA has set up a collaborative on-line workspace. This site, "NYSERDA's eSolve Office", accessible at <http://nyserda.esolveoffice.com>, can be used for collaboration for PON 1283. Within this forum you can identify potential partners and exchange ideas with them via discussion threads, document sharing and other tools. To gain access to NYSERDA's eSolve

Office, please send an email with your name and organization to Jacques Roeth at PON1283@nyserdera.org

1.4.3 RELATED ORGANIZATIONS AND RESOURCES

Small Wind Certification Council (SWCC) – An independent certification body, will certify that small wind turbines meet or exceed the performance, durability, and safety requirements of the *Small Wind Turbine Performance and Safety Standard*. <http://smallwindcertification.org/>

National Renewable Energy Laboratory (NREL) Presentations from the September 2008 Small Wind Testing Workshop -- These presentations cover the American Wind Energy Association (AWEA) small turbine standard, test facility site assessment, duration testing, design data testing, power performance testing, safety and function testing, acoustic testing, and more. [NREL Regional Test Centers](#)²

New York Business Incubators – For a list of incubators in New York State, see www.nystar.state.ny.us/incubators.htm.

American Wind Energy Association (AWEA) Draft Small Wind Turbine Standard – AWEA is drafting United States safety and performance standards for small wind turbines. http://www.awea.org/smallwind/standard/Small_Turbine_Standard_Draft_Document.pdf

International Electrotechnical Commission (IEC) – The IEC develops international standards for wind turbines. <http://www.iec.ch/>

Powermark – Powermark develops test procedures for PV product certification and accredits laboratories to test to perform powermark certification testing. www.powermark.org

American Association for Laboratory Accreditation (A2LA) – A2LA is a nonprofit organization that accredits laboratories based on ISO/IEC 17025:2005. www.a2la.org

National Cooperation for Laboratory Accreditation (NACLA) – NACLA is a not-for-profit corporation that evaluates US laboratory accreditation bodies. www.nacla.net

National Voluntary Laboratory Accreditation Program (NVLAP) – NVLAP provides third-party accreditation to testing and calibration laboratories. <http://ts.nist.gov/standards/accreditation/index.cfm>

Inventory of New York University Research Expertise – www.nystar.state.ny.us/inventories.htm

Application to Access New York's Supercomputers – Two of the world's fastest supercomputers are at Brookhaven National Lab/Stony Brook University and at Rensselaer Polytechnic Institute. These computers can be accessed for modeling and simulation. This links to the application form to access these supercomputers: www.nystar.state.ny.us/hpcapp.pdf

2. PROGRAM REQUIREMENTS

WHO MAY PROPOSE

Each Center will be made up of a coalition that could include public and private team members with expertise in the appropriate areas. The test center(s) will have physical testing at one or more locations in New York State. Proposers are **encouraged to form teams** to meet project goals and possess the qualifications listed below. Teams must demonstrate expertise, as appropriate to the technology (wind or

² NREL presentations are expected to be posted week of Sept 28, 2009

solar) in resource modeling and evaluation, system and component instrumentation, testing, and measurement, performance-based research, and lab accreditation. Teams must also possess appropriate business expertise to successfully run the center. Where expertise is lacking, proposers must identify a strategy for including this expertise on the team. Proposers are encouraged to partner or work with accredited testing institutions in the United States or worldwide in order to achieve success using a reasonable level of resources.

Each Center must have a physical New York State address and on-site resources as necessary to meet the project goals. In-state team members are preferred; however, out-of-state team members are permitted if necessary to achieve the appropriate expertise. Proposers **must** describe how out-of-state resources are appropriate for the project. If the proposal is selected for funding, the lead proposer will enter into an Agreement with NYSERDA as NYSERDA's contractor.

Include **letters of commitment** from each team member in an appendix to the proposal.

3. PROPOSAL REQUIREMENTS

Format - Your goal as a proposer should be to **concisely** present the information needed to fully address the objectives (Section I.I, 'Goals and Objectives') and evaluation criteria (Section V, 'Proposal Evaluation').

Proposers must submit 14 (fourteen) copies plus one CD with files compatible with Microsoft Word format of the completed proposal to the attention of Roseanne Viscusi at the address on the front of this Program Opportunity Notice/Request for Proposal. A completed and signed Proposal Checklist must be attached as the front cover of your proposal, one of which must contain an original signature. **Late proposals and proposals lacking the appropriate completed and signed Proposal Checklist will be returned.** Faxed or e-mailed copies will not be accepted. Proposals should not be excessively long or submitted in an elaborate format that includes expensive binders or graphics. Unnecessary attachments 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 should present the items in the sequence indicated:

- Proposal Checklist
- Disclosure of Prior Findings of Non-Responsibility form
- Proposal sections:
 1. Executive Summary
 2. Test and Research Center Plans
 3. Proposal Team Qualifications and Structure
 4. Statement of Work
 5. Schedule
 6. Cost Proposal and Budget & Contract Pricing Proposal Form
 7. Appendices

Do not include Appendix D – Sample Agreement in your submittal

Proposal Checklist - Complete and sign the Proposal Checklist attached to this PON, and include it as the front cover of each copy of the proposal. Note the following:

- Project name is descriptive of the proposer's project(s). It is not the title of this PON.
- Indicate whether you accept the Standard Terms and Conditions as contained in the attached Sample Agreement. If you do not accept the Standard Terms and Conditions, be prepared to provide alternative terms with justification based on the risk and benefit to NYSERDA and New York State.
- Be sure the individual signing the Checklist is authorized to commit the proposer's organization to the proposal as submitted.

Procurement Lobbying Requirements - 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.state.ny.us/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.

Proposal Expectations – Proposers are not expected to provide a fully detailed and comprehensive implementation plan in their proposal as this will be prepared in Phase 1; however, proposers are expected to provide sufficient information to demonstrate that the proposer understands the scope of the project and to allow reviewers to effectively evaluate the proposal. Each proposal will be evaluated based on the evaluation criteria in Section V. Proposers selected for Phase 1 funding will further develop the business, technical, partnership, and funding aspects of their Center plans during Phase 1 and will be evaluated at the end of Phase 1 based on the evaluation criteria in Section V. Phase 1 results are expected to be significantly more mature than proposals.

Proposal Section 1: Executive Summary - Summarize the proposed program. (not to exceed one page). Indicate whether you are proposing to develop a wind test and research center, PV test and research center, or both. The summary should clearly and concisely discuss the business case, problem statement, goals & objectives and project scope of the proposal.

Proposal Section 2: Test and Research Center Plans – Based on the guidance below, provide an overview of the Center's activities during the five years of this project. Note that the strategies identified here will be further fleshed out and built upon during Phase 1. Provide enough information in your proposal so that the review team can effectively evaluate your proposal compared to others submitted to this program based on the evaluation criteria in Section V of this solicitation.

2.1 Financial Sustainability and Business Plan and Customer Focus

1. Describe strategies the Center will use to create a long-term program that is sustainable after the NYSERDA funding for the project ends. The successful proposer(s) will present a convincing plan to establish a program that is capable of becoming self-sustaining without additional NYSERDA support. Identify potential funding sources, the potential amount of these sources, and strategies that will be used to secure funding. Testing services could be provided on a proprietary fee-based basis.
2. Develop an initial projection of operating costs and revenues for the first five years of center operation.
3. Describe strategies the Center will use to market its services and attract customers and partners. Indicate the type of customers or partners you anticipate targeting. Partnering or coordinating with renewable energy business incubators should be considered as part of the overall strategy.
4. Describe strategies the Center will use to meet the needs of customers and partners. This should include a description of how the Center will effectively and promptly meet customer needs and get input on testing and research needs. The strategy may include internship/resource-sharing between center and companies. Centers are encouraged to have a designee responsible for outreach and coordination with businesses, clients, and other testing/research centers, to ensure that the center is responsive to customer needs.
5. Discuss outreach and coordination strategies the Center will use. For example, will the Center host industry workshops, and will the Center coordinate with other testing/research institutions and accredited testing laboratories, business incubators, training programs and workforce training sites?
6. Discuss how the Center will help achieve an objective to provide a training ground for highly skilled undergraduate and graduate students with specialties in PV and wind technologies to serve as a clean energy workforce for New York's PV and wind industries.

7. Discuss the Center's approach to intellectual property and how this approach will not hinder business partnerships.

2.2 Testing Capabilities and Facilities

1. **Testing for Product Certification.** Discuss (with specifics) your strategy to become recognized to test and certify products and discuss why and how this strategy will meet the goal of becoming an accredited or nationally recognized testing laboratory for product certification. The strategy may include partnering with or become accredited to perform PV or wind testing. Accreditation may include accreditation by the American Association for Laboratory Accreditation (A2LA) or equivalent and (for PV only) PowerMark Corporation (the U.S. representative to the PV Global Approval Program, PV GAP). Identify whether your strategy includes teaming with other accredited or nationally recognized testing laboratories and, if so, describe the status and nature of the teaming arrangements and include letters of support if available. If your strategy includes teaming, describe the benefits you expect to achieve through this teaming arrangement. Identify a time-line for achieving recognition to test products for certification.
2. **PV-Specific Testing Capabilities** (Answer if proposing a PV test and research center.)
 - a. **Testing Capabilities for Product Certification.** This program seeks to develop a PV module testing facility capable of evaluating the safety, performance, reliability and durability of PV modules for product certification. Identify which PV module tests and the relevant associated standards the Center will develop the capability to perform during this project timeframe. Describe your basis for selecting these tests. If you are not going to provide all of the testing services necessary to test to relevant standards (UL 1703 and IEC 61730 for PV module safety; ASTM E 1036 for PV module performance; and IEC 61215 and IEC 61646 for PV module reliability and durability), indicate whether you have or anticipate having partners that can complement your capabilities. Indicate whether the Center will address testing for other PV-related components such as inverters.
 - b. **Other Testing Capabilities.** Identify any additional testing capabilities you plan on developing including other PV system components. For example, are there module testing capabilities that would be attractive to industry that are not required for certification? Describe capabilities that will be developed for controlled outdoor testing.
3. **Wind-Specific Testing Capabilities** (Answer if proposing a wind test and research center.)
 - a. **Testing Capabilities for Product Certification.** This program seeks to develop a small wind testing facility capable of evaluating the safety, performance, reliability and durability of small wind turbines for product certification. Identify which small wind turbine tests and the relevant associated standards the Center will develop the capability to perform during this project timeframe. Describe the basis for selecting these tests. If you are not going to provide all of the testing services necessary to test to relevant standards (i.e. all areas of AWEA Small Wind Turbine Standard (currently in draft form) and/or IEC 61400, indicate whether you have or anticipate having partners that can complement your capabilities. Indicate whether the Center will address testing larger wind turbines or other wind systems or components.
 - b. **Other Testing Capabilities.** Identify any additional testing capabilities you plan on developing for large or small wind turbines. For example, are there turbine testing capabilities that would be attractive to industry that are not required for certification? Do you plan on expanding the Center's capability to test and evaluate other components of wind systems (i.e. towers or inverters?) Explain.
4. **Existing and Planned Facilities.**
 - a. **Existing Facilities and Equipment.** Describe existing facilities and equipment the proposing team has that are relevant to establishing a wind or PV test center. Applicants are expected to leverage existing investments in facilities and equipment. See www.nystar.state.ny.us/ref/index.htm for a database of equipment at New York's

colleges, universities, and research centers. If facilities or equipment are not owned by the lead team member, provide letters that support the use of the facilities or equipment for the wind or PV test center.

- b. **Planned Facilities and Equipment.** Describe any facilities or equipment that you anticipate acquiring in order to carry out the objectives of your center. Note that at the proposal stage a detailed list is not required, but proposers should demonstrate an understanding of the type of equipment that will be purchased. Please provide the level of information that you have.
- c. **Wind Test Center Site.** For proposers of Wind Test and Research Centers, identify a site or potential sites in New York for wind turbine certification testing and indicate whether you have site control, and if not, provide information on how you will get site control. If a site has not been identified, the strategy to secure a test center site. Provide location, size, estimated wind speed, and a topographic map identifying the site boundaries. Describe the characteristics of the site and why the site would be a good test site. Identify anticipated issues with regard to permitting the site and why turbine manufacturers will choose to have turbines tested at this site. For information on test site requirements, see: [NREL Regional Test Centers](http://www.nrel.gov/wind/regions/). A New York State wind map is available at: <http://windexplorer.awstruwind.com/>.

2.3 Testing and Research Plans and Projects

Present a preliminary 5-year testing and research plan for the Center and include a brief description and budget for each project. Specific testing and research needs are identified in Section I.I 'Goals and Objectives' under numbers 5 'Laboratory and Field Testing to Meet Market Needs' and 6 'Research'. Center(s) will be expected to identify and prioritize research and testing needs based on market input and results from laboratory and field evaluations. Centers will also be responsible for identifying funding sources to meet these needs.

The testing and research plan should include an extensive multi-year field evaluation program. To the extent possible, field evaluation programs should evaluate systems that have been funded by third parties in order to maximize funding available for the Center's testing and research activities. Describe plans to implement such a program.

Proposal Section 3: Proposing Team Qualifications and Structure - Proposers should demonstrate how they are qualified to carry out each of the tasks in the Statement of Work and describe existing facilities that are relevant to the work. The proposal should clearly demonstrate how the proposer has the experience, skills, abilities, and facilities necessary to effectively develop and implement this Program. The proposal will be evaluated on how well the proposer details their qualification to meet all of the goals of this Program. It is preferred that teams are established by the time that the proposal is submitted; however, where vacancies exist, identify qualifications and strategies to populate those vacancies through partnerships or hiring. It is strongly recommended personnel for key positions be identified in the proposal.

- **Introduction and Information About Proposing Organization(s)** - Proposers should identify relevant information about each organization in the proposing Team. Given the wide variety of skills and expertise needed to complete some elements of these tasks, the proposers should describe ideas or strategies to augment their capabilities with external resources. Responding proposers or proposing teams must include the following information for each team member with his or her response:
 - Firm name, address, telephone number and fax number, an e-mail address and contact person.
 - Summary of each teaming organization's size, capabilities, and length of operation.

Proposers should describe why they are qualified to perform and complete the services requested under this PON. Proposers should describe any current activities that this proposal may build upon.

- **Management Structure and Staffing Plan** - The proposal shall identify the program director who

will be responsible for ensuring that the tasks within the project are carried out properly and in a timely manner. The proposer should provide a clear description of the roles and responsibilities of each key person in completing project. An organization chart should be included in the proposal. Proposals that include teaming arrangements must specify one party as the Prime Contractor. The Prime Contractor will have overall responsibility for the administration of the Agreement and completion of Project. The proposer should also describe how coordination with NYSERDA will be accomplished. The proposal should also include a staffing plan that identifies the key personnel, including any subcontractors or other resources, responsible for completing each task and major subtask. Provide a table showing the number of hours each key person or subcontractor will spend on each task and the total hours per task.

- **Industry Advisory Board** – An Industry Advisory Board to help guide Center activities is highly recommended. Industry Advisory Board members should provide New York, national, and possibly international perspectives on performance-based testing and research needs. To the extent that Industry Advisory Board members have been identified, provide information on these members. To the extent that vacancies exist, provide information on the qualification requirements for potential Board members and strategies to attract these Board members.
- **Qualifications of Individuals** – Describe qualifications of individual team members as they relate to this project. Identify experience and education team members have related to achieving the goals of the Center. Identify the organization individual team members work for and include their city and state. Proposers should, at a minimum, address technical qualifications, as appropriate to the technology (wind or solar) in resource modeling and evaluation, system and component instrumentation, testing, measurement, evaluation, performance-based research, and lab accreditation. Proposers should also address business and management qualifications as appropriate to manage, provide outreach, and raise funding for the center. Provide additional information for the program director that describes formal business training, previous experience in establishing and running organizations, working with businesses on technical matters, and being responsive to business needs. If the team lacks experience in a specific area, identify a strategy for including this expertise on the team. Include resumes of team members as attachments.
- **Related Work Examples** – Proposals should include examples of related work and experience completed by members of the proposing team that would demonstrate their qualifications to develop and implement this Program. Each proposer should include the name and telephone number of at least three references for whom its organization has completed projects. Resumes of all team members should be provided in an appendix.

Proposal Section 4: Phase 1 Statement of Work – Prepare a Statement of Work (SOW) for Phase 1 that addresses, at a minimum, the following tasks (you may add additional tasks) and includes duration, deliverables and budget for each task:

- Develop Phase 2 implementation plan that identifies the following, at a minimum: testing equipment that will be purchased, specific tests that the Center will become qualified to perform, initial and long-term performance testing plans, initial and longer-term research objectives, Phase 2 milestone budget and schedule, strategies to measure success of the project, and performance goals.
- Develop business plan. This should include:
 - A description of the proposing organization's history, size, and business model
 - An analysis of the markets and needs assessment for the test center's services
 - A description of the value proposition of the test center
 - The test center's marketing and sales strategy over the 5 years
 - The test center's plan to expand operations over the 5 years
 - A financial plan describing anticipated capital needs and sources
 - A five year forecast of sales, profits and losses, and cash flows
 - An assessment of business risks
- Develop evaluation plan.
- Finalize team members and partners.

- Attract business partners.

The SOW is the primary document that outlines work activities and required performance for payment by NYSERDA. It is an action document that specifically delineates each step or procedure required to accomplish objectives of each task. The tasks should describe the actions that will be taken to complete each task and what the anticipated outcome of each task is. 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". Include quantifiable milestones as deliverables where possible. In order to effectively evaluate a proposer's Statement of Work, there must be concrete and specific ideas presented in the proposal for each element of all tasks. Proposers are expected to demonstrate their understanding of each task and what it entails by elaborating on how they would carry it out.

Proposal Section 5: Schedule - The proposers shall include a time line for completing each task and major subtask identified in their Statement of Work for Phase 1. This time line should be in bar chart form showing anticipated starting and completion times for each task, in terms of weeks or months after execution of the Agreement. Phase 1 is expected to take approximately six months.

Provide a preliminary Phase 2 schedule. The preliminary Phase 2 schedule should provide the reviewers with an overview of when major Phase 2 activities will occur and be completed. The entire project (including Phases 1 and 2) is anticipated to be five years.

Proposal Section 6: Cost Proposal and Budget –

Contract Pricing Proposal Form - The Contract Pricing Proposal Form (CPPF) is included as an attachment to this PON. The proposal must include a completed CPPF for each of the following:

- The total proposal
- Phase 1
- Phase 2 (preliminary budget)

Note that the cost elements identified on the Phase 2 budget and CPPF are preliminary and are expected to be refined during the Phase 1 work; however, the overall Phase 2 NYSERDA funding request developed in Phase 1 may not exceed the amount requested in this proposal.

Attach detailed budget breakdowns (using the CPPF Supporting Schedule) for subcontractors, equipment, material, and travel.

If you are proposing to establish both a PV and wind test and research center, prepare a separate CPPF for the wind test and research center and for the PV test and research center. If there are cost savings due to efficiencies of operating both a wind and a PV test and research center, prepare a CPPF for the combined center so the savings may be evaluated.

Budget Breakdown – Provide a breakdown of anticipated costs for PV Test Center, Wind Test Center or combined Wind and PV Test Centers, each Task in Phase 1 and Phase 2. Proposers must provide a summary table of milestone payments, indicating the task number, deliverable, proposed payment, and number of deliverables, if repeating (e.g., quarterly reports.) An example of a summary table of milestone payments is provided in Table 1.

Table 1 Example Budget and Milestone Summary Table

PHASE 1 Develop Test Center (add tasks or lines as needed)	Labor & labor overhead	Subcontracts (list each separately)	Deliverables	Total NYSERDA funding
Develop Phase 2 implementation plan				\$x,xxx
Develop business plan				\$x,xxx
Develop evaluation plan				\$x,xxx
Finalize Team Members				\$x,xxx
Secure Business Partners				\$x,xxx
<i>You may add additional tasks</i>				\$x,xxx
Total Phase 1				Max \$50,000

PHASE 2 Implement Test Center (example tasks below; add tasks or lines as needed)	Equipment , materials	Labor & labor overhead	Subcontracts (list each separately)	Deliverables (Examples)	Total NYSERDA Funding
<i>Test Center establishment, Including Equipment</i>				<i>Report & inspection of centers</i>	<i>\$xxx,xxx</i>
<i>Achieving national recognition or accreditation to test and certify products</i>				<i>Accreditation certificate(s)</i>	<i>\$xx,xxx</i>
<i>Test Center Operation (breakout in to subtasks) (5-year)</i>				<i>Equipment to be tested in-house with project testing plan</i>	<i>\$x,xxx per project</i>
<i>Testing and Research Projects Completed (use one line per project area)</i>				<i>Project Reports for each test.</i>	<i>\$xx,xxx per project</i>
Total Phase II					

Cost Sharing - Identify non-NYSERDA funding. There is no minimum level of cost sharing, but cost sharing is highly recommended and the level of cost sharing proposed and the value of the proposal compared to the NYSERDA funding requested are evaluation factors. In addition, the percentage of cost-sharing is expected to increase over the contract term as the center should be self-sufficient without additional NYSERDA support in five years.

Cost sharing can be from the proposer, other team members, and other government or private sources. Third party cost-sharing can come from various sources, including but not limited to, user fees, funding from industrial partners, federal, state, or local government funding, etc. 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. Show the cost-sharing plan in the following format (expand table as needed):

	Phase 1 Cash	Phase 1 In-Kind Contribution	Phase 2 Cash	Phase 2 In-Kind Contribution	Total
NYSERDA	\$	\$ 0.00	\$	\$ 0.00	\$
Proposer	\$	\$	\$	\$	\$
Others (identify each source of funding and list each individually)	\$	\$	\$	\$	\$
Total	\$	\$	\$	\$	\$

Attach supporting documentation to support indirect cost (overhead) rate(s) included in the 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.

FACILITIES AND EQUIPMENT - Funding is available under this PON for developing facilities and purchasing equipment and resources required for institution certification and for other testing and research needs. Only equipment that can be justified as directly necessary for PV or wind testing and research will be approved. Make sure that costs for facility upgrades and equipment is broken down to the extent possible on the CPPF.

- Funding not available for constructing or purchasing buildings, however, funding is available for facility upgrades necessary to develop the test and research facility. If funding for facility upgrades is requested, clearly identify the level of funding requested for facility upgrades.
- Funding is not available for facilities or equipment that will be located outside of New York State.

Proposal Section 7: Appendices - Include any resumes, company qualifications, financial statements, or ancillary information which 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 and signed by a person authorized to contractually obligate the organization. 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 as contained in the attached Sample Agreement, provide alternate terms with justification based on the risk and benefit to NYSERDA and New York State.
- **Potential Conflicts of Interest** – Identify the nature of any potential conflicts of interest among team members in providing services to NYSERDA under this PON. Fully discuss possible conflicts of interest, actual and perceived, which could arise in connection with performance by team members of the proposed contract. Describe how your firm would resolve conflicts of interest. In the event that NYSERDA determines that a team member may have a conflict of interest or the appearance of such, NYSERDA may: (1) take this into consideration in evaluating the proposal; (2) exclude the proposer from consideration for an award; (3) adjust the scope of work to avoid the conflict of appearance of conflict; or (4) negotiate other appropriate actions with the team member to avoid the conflict or appearance of conflict.

4. PROPOSAL EVALUATION

Proposals that meet Proposal requirements will be reviewed by a Technical Evaluation Panel (TEP) using the Evaluation Criteria below. Proposals for wind testing centers will be evaluated compared to other wind testing center proposals and proposals for PV testing centers will be evaluated compared to other PV testing center proposals. If a proposal includes both wind and PV testing centers, the wind portion will be evaluated compared to wind testing center proposals and the PV portion will be evaluated compared to PV testing center proposals.

Overall and New York Benefits

- What is the likelihood of the proposal achieving its stated goals?
- How likely is it that the benefits will be realized?
- Have the risks been identified and addressed?
- Does the proposal provide good value for the level of NYSERDA funding?
- Does the proposal leverage existing facilities and equipment?
- Will a substantial amount of Center activity occur in New York State and are a substantial number of team members located in New York State?
- What is the likelihood of the proposal to stimulate New York-based wind and solar business?
- Does the proposal include adequate resources and an appropriate strategy for outreach and coordination?
- What is the potential for expanding New York's highly-qualified workforce suitable for the PV or wind industries?

Financial Sustainability and Business Plan

- What is the likelihood of the center operating beyond the 5-year project operational period without additional NYSERDA support?
- Has the Proposer demonstrated sufficient markets and demand for its services to justify the forecasted revenues?
- Does the proposer understand market, customer, and technology performance-related testing and research needs necessary to further the technology, its performance, and the industry?
- Has the proposer contacted industry members to identify their needs as related to the Center and solicit interest in participating in an Industry Advisory Board?
- Will the Centers be customer-focused and meet customer and market needs?
- Are the Proposer's approaches to attracting customers and partners likely to be successful?
- Does the proposal include an adequate strategy to measure success of the Center?
- Are intellectual property provisions reasonable and not likely to pose barriers to business participation in the center?

Testing Capabilities and Facilities

- What is the expected accredited testing capability of the center?
- Is the proposal's strategy to gain laboratory accreditation appropriate?
- Will the Center have appropriate performance testing and research capability to meet industry and market needs?
- Does the proposer understand and have the ability to overcome challenges associated with gaining laboratory accreditation?
- Is the proposer likely to achieve efficiency improvements, cost reductions, and increased quality by partnering with other testing organizations? Does the proposer have a well-thought-out approach for partnering with other testing organizations?
- For proposers of wind centers only:
 - o Are the physical and wind characteristics of the wind test site appropriate for testing wind turbines to national and international standards? Will the wind speed distribution and other characteristics of the site make it likely that industry will choose to have tests performed at the test center?
- Are the existing and proposed facilities and equipment adequate to achieve the goals of the program (identified in Section I.I of this solicitation)?

Testing and Research Plans and Projects

- How well does the preliminary testing and research plan meet market and customer needs?
- Does the preliminary testing and research plan adequately address the goals of this program (identified in Section I.I of this solicitation)?
- Are the scope and approach of the proposed field evaluation program adequate and will the field evaluation program provide useful information?
- Does the proposer plan to provide a range of testing and research services that are likely to meet the test center goals identified in Section I.I?

Experience, Qualifications, and Organizational Plan

- Does the proposer possess the expertise and experience to complete all aspects of the program successfully? Specifically:
 - o Does the program manager have appropriate business, management, and technical experience?
 - o Does the proposing team have documented experience in developing accredited laboratories?
 - o Does the proposing team have appropriate technical experience to address the testing and research goals of this program?
 - o Does the proposing team have appropriate business and financial expertise to set up, manage, and run a sustainable test and research center?
- Does the proposal include letters of commitment or support from all team members?
- What is the quality of the proposing team members' performance on past programs or their achievements related to proposed work?
- What is the proposer's previous experience with NYSERDA, if any?
- Is the Center's organizational structure suitable to meet the goals of the project? Is the staffing plan and schedule, appropriate and of high quality?
- Are sufficient resources (staff, facilities, and equipment) being devoted to the program?
- Is management oversight and control adequate?
- Is the coordination of other participants (proposing team subcontractors, partners, and other programs) well developed?

Statement of Work (SOW)

- Is the SOW thorough, specific, logical, and consistent with the PON's objectives?
- Does the SOW reflect an understanding of all the issues involved and their interrelationships?
- Is the SOW appropriate in its approach to develop, market, and deliver testing and research services?
- How much additional elaboration was provided for each task in the SOW?
- Does the proposer include creative suggestions to achieve the goals of this PON?

- Are there any suggestions that broaden or deepen the scope of this PON that might not have been requested?
- How well does the evaluation plan and strategy accommodate and address Program current and future needs?
- How well does the proposal incorporate input from original equipment manufacturers and industry experts who can bring useful information to program?

Cost Criteria

- How well does the proposer's budget accurately reflect potential implementation costs associated with completing the tasks in the SOW?
- Does the cost breakdown provide sufficient resources for each of the tasks?
- Is the Contract Pricing Proposal Form (CPPF) clear and responsive to the PON?
- Does the proposer have adequate financial resources to perform the proposed work?
- Are billing rates current, reasonable, appropriate, and clearly identified or itemized?
- Is the proposer's total cost appropriate when compared to the cost of other comparable proposals and their projected results?
- Is the milestone schedule of tasks, deliverables and associated payments appropriate, achievable and realistic?
- What is the level of proposed cost sharing?

5. GENERAL CONDITIONS

Proprietary Information - Careful consideration should be given before confidential information is submitted to NYSEDA 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 NYSEDA 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 NYSEDA 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 accept it from disclosure, including a written statement of the reasons why the information should be excepted. See Public Officers Law, Section 89(5) and the procedures set forth in 21 NYCRR Part 501 www.nyserda.org/nyserda.regulations.pdf. However, NYSEDA 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 that can be found at <http://www.ogs.state.ny.us/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.state.ny.us/pdf/2006/fillin/st/st220td_606_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 perspective contractor prior to contacting and filed with NYSERDA. See, ST-220-CA (available at http://www.tax.state.ny.us/pdf/2006/fillin/st/st220ca_606_fill_in.pdf). The Department has developed guidance for contractors which is available at http://www.tax.state.ny.us/pdf/publications/sales/pub223_606.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 to contract successful proposals. NYSERDA expects to notify proposers in approximately eight (8) weeks from the proposal due date whether your proposal has been selected to receive an award.

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.

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.

6. ATTACHMENTS

- Attachment A - Proposal Checklist (mandatory)
- Attachment B - Disclosure of Prior Findings of Non-responsibility (mandatory)
- Attachment C - Contract Pricing Proposal Form (CPPF - mandatory) & Instructions
- Attachment D - Sample Agreement