Advanced Buildings Program
Program Opportunity Notice (PON) 2606
Up to $25 Million Available
Over Six Rounds

Proposals Due Dates:

Round 1: January 22, 2013 **Round 2: June 04, 2013** **Round 3: December 03, 2013**

Round 4: June 04, 2014 **Round 5: December 03, 2014** **Round 6: September 17, 2015**

Received by 5:00 pm Eastern Time*

All, or none, of the available funds could be awarded in any one round

NYSERDA seeks proposals for development and demonstration activities that advance the energy performance of both new and existing buildings in the residential, multi-family or commercial sector. Technology areas of interest include, but are not limited to: construction materials, strategies and practices; HVAC and lighting technologies, automation technologies enabling load flexibility and smarter background operations; and building integrated renewable energy systems. Energy improvements in buildings can also result from activities that do not involve development of new products or construction methods; improvements can result from new policies, regulations or assessments. NYSERDA also seeks proposals for activities to remove inadvertent barriers that hinder the wider use of promising technologies. Added consideration will be given to technologies and opportunities that in addition to improving the energy and environmental performance, increase building resiliency, recovery, and adaptability to disruptions in the electric grid. The total available funding under six rounds of this solicitation is $25 million.

Technology Areas of Interest and Funding Level:

Technology Area	Construction Materials, Strategies and Practices	Heating and Cooling	Lighting	Demand Response, Smart Buildings and Demand-Side Resources	Other Technologies or Opportunities
Funding Level	**$5 Million**	**$5 Million**	**$5 Million**	**$5 Million**	**$5 Million**

The solicitation seeks proposals for: applied research (proof of concept, studies); development activities; and pilot demonstrations. Research proposals submitted to validate/prove a concept must include a task for conducting a business analysis if the concept is found technically promising. The maximum level of funding and minimum preferred cost share (based on the total project cost, not the NYSERDA funding request) required for each project category is as follows:

Project Category	Maximum Award	Total Project Cost Share (Proposer)
Research (Proof of Concept, Studies)	**$100,000**	**20%**
Development	**$500,000**	**50%**
Demonstrations	**$300,000**	**40%**

For development projects in excess of $300K, proposals are required to be structured with a minimum of two clearly defined phases of not more than $250K per phase (separate SOW and budgets).

Proposed activities requiring more than the maximum award are required to submit proposals for these additional funds in future rounds of this solicitation. Such proposals may be submitted up to six months before the completion of currently-funded activities.

Technology specific questions and questions on Attachment C-1 should be directed to the following individuals:

Technology Area	Designated Contact	Phone (518) 862-1090 Extension	E-mail
Lighting	Joseph Borowiec	3381	Joseph.Borowiec@nyserda.ny.gov
Heating and Cooling	Michael Genovese	3103	Michael.Genovese@nyserda.ny.gov
Demand Response, Smart Buildings and Demand-Side	Anthony Abate	3522	Anthony.Abate@nyserda.ny.gov
Construction Materials, Strategies and Practices	Robert Carver	3242	Robert.Carver@nyserda.ny.gov
Other Technologies or Opportunities	Robert Carver	3242	Robert.Carver@nyserda.ny.gov

In the event that the Designated Contact above for a given technology area is not available, Joseph Borowiec may be contacted for any technology area (518)862-1090 ext: 3381 (Joseph.Borowiec@nyserda.ny.gov). Contractual questions should be directed to Venice Forbes, (518) 862-1090 ext: 3507 (Venice.Forbes@nyserda.ny.gov). Technical support and questions on Attachment C should be directed to Megan Bulman (518)862-1090 ext: 3541(Megan.Bulman@nyserda.ny.gov). Questions regarding Attachment C-2, the TRL/CRL Calculator, and Attachment C-3, the 3-Year financial projections worksheet, should be directed to Nick Querques (518)862-1090 ext: 3086 (Nicholas.Querques@nyserda.ny.gov). No communication intended to influence this procurement is permitted except by contacting the designated project manager.

Contacting anyone other than the 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.

Proposal Submission: Electronic submission is preferable. NYSERDA will also accept proposals by mail or hand-delivery. If submitting electronically, proposers must submit the proposal in either PDF or MS Word format with a completed and signed Proposal Checklist and Disclosure of Prior Findings of Non-Responsibility, in PDF format. Proposal PDFs should be searchable and should be created by direct conversion from MS Word, or other conversion utility, rather than scanning. For ease of identification, all electronic files must be named using the proposer's entity name in the title of the document. Proposals may be submitted electronically by following the link for electronic submissions found on this PON 2606 webpage, which is located in the "Current Opportunities" section of NYSERDA's website (http://www.nyserda.ny.gov/Funding-Opportunities/Current-Funding-Opportunities.aspx). Instructions for submitting electronically are located as Attachment H to this PON 2606.

If mailing or hand-delivering, proposers must submit (2) paper copies of their proposal with a completed and signed Proposal Checklist, along with a CD or DVD containing both a PDF or MS Word digital copy of the proposal, following the above guidelines. Mailed or hand-delivered proposals must be clearly labeled and submitted to:

Roseanne Viscusi, PON 2606
NYS Energy Research and Development Authority
17 Columbia Circle
Albany, NY 12203-6399

*Late proposals and proposals lacking the appropriate completed and signed Proposal Checklist may be returned. Faxed or e-mailed proposals will not be accepted. See Section IV. Proposal Requirements and Submission for additional information.

*** Prior to planning and preparing a proposal for submission, proposer should check NYSERDA's website regarding changes to the solicitation. If changes are made to this solicitation, notification will be posted on NYSERDA's web site:** http://www.nyserda.ny.gov/Funding-Opportunities.aspx

I. INTRODUCTION

This Advanced Building Program solicitation encompasses a broad range of activities that address the technical, economic and market barriers of new or emerging energy-efficient building-related technologies, products and/or services. Preferred activities will support the development of innovative energy-efficient products/technologies and promote integration of high-performance and renewable energy and have broad impact on specific building types or sectors. For example, a renewable system that in addition to collecting energy also replaces a material commonly associated with a building's enclosure. Common examples are photovoltaic shingles or photovoltaic spandrel glass. Mounting a solar collector or wind turbine on a building using only conventional hardware does NOT meet this program's requirement for building integrated. Potential proposers should contact the relevant category contact if they are not certain that their renewable technology meets this program's requirement of building integrated. Additional information on each of the five eligible technology areas is included in following sections of this solicitation document.

Proposals will be evaluated by technology area and scored on the evaluation criteria listed in this solicitation. Proposals will be reviewed by technical evaluation panels (TEPs) comprised of NYSERDA staff and external technical experts. All proposals will be evaluated against the evaluation criteria provided in Section VI.

II. PROJECT CATEGORIES

This solicitation offers three project categories. A proposal can only be submitted to one category. Careful consideration should be given to the category selection, as an inappropriate choice could negatively affect project evaluation. Proposers are encouraged to contact the respective NYSERDA project manager with technical questions to gain a complete understanding of the project categories described below:

Research Category (up to $100,000 of NYSERDA funding per project with a preferred proposer cost share of 20% or greater.)

- Applied research aimed at early stage development of a new product or technology, policy, business and/or regulatory model.

Development Category (up to $500,000 of NYSERDA funding per project with a preferred proposer cost share of 50% or greater)

- Development and commercialization of products/services for improving the energy performance of either new or existing buildings in New York State. Technical and economic feasibility of the technology/activity should have been demonstrated prior to submitting to this category. If feasibility has not been demonstrated, the proposer may apply under the Research Category.
- Development activities may include field testing to help improve the product/service or expected performance.
- Development proposals in excess of $300K must include at least two clearly defined phases (field testing, prototype refinement, full-scale production, etc.) and each phase must include a separate statement of work and budget. Funding may be awarded for multiple phases with funding beyond the first phase conditional upon meeting predefined goals of prior phases.

Demonstration Category (up to $300,000 of NYSERDA funding per project with a preferred proposer cost share of 40% or greater)

- Demonstrations of new or under-utilized technologies or practices that advance the energy performance of either new or existing buildings in New York State.
- Demonstration proposals should not include technology or product development activities. If technology or product development activities are appropriate, the proposer may propose under the Research or Development category.
- Demonstration proposals should clearly identify how this project will bring the product, technology or practice closer to commercial success and how such demonstration will lead to increased use of the technology or practice in New York State.
- Demonstration proposals should include a detailed plan for disseminating project results to a wide audience.
- It is NYSERDA's preference that the evaluation of the demonstration be conducted by a recognized and independent third-party evaluator (i.e., evaluator has no financial interest in the outcome of the demonstration).
- It is NYSERDA's preference that demonstrations occur at a site(s) that pay into the System Benefit Charge as the available funding for projects at non-SBC sites is limited.

III. PROGRAM REQUIREMENTS

Projects selected for funding must:

1) Address an opportunity to increase the energy-efficiency and/or advance the energy performance of new and/or existing buildings in the residential, multi-family, commercial or institutional sector;
2) Provide direct and quantifiable energy, environmental, and economic benefits to New York State such as energy savings, demand response, emissions reductions, job creation, product manufacturing and sales, and/or reduced energy costs;
3) Include a project budget using the attached Contract Pricing Proposal Form (CPPF) showing total project cost and proposer cost-share. Include a task budget with cost-share breakdown in the Statement of Work;
4) Agree to pay recoupment to NYSERDA for commercial sales or licensing revenues of new technologies, services or products developed with NYSERDA funding;
5) Demonstrate that the proposer and/or team is qualified to carry out the proposed work;
6) Describe what, if any, barriers exist and how the project will overcome them, and lead to increased market penetration/practices;
7) Development proposals should focus on near-term commercialization activities (basic research is ineligible), discuss potential benefits for end-users and/or distribution channels, provide a preliminary commercialization and marketing strategy, and discuss potential plans for manufacturing in New York State;
8) Demonstration proposals should describe how the demonstration will help overcome market and/or informational barriers to wide spread market acceptance in New York State or commercial success. Demonstration projects must take place within New York State and include a letter of support from the site owner(s)/decision maker(s);
9) Provide a letter of support and commitment from all funding sources.
10) Demonstrate that the proposal addresses a current opportunity or gap that is not being addressed adequately by current industry practices and/or federal and/or other state research priorities and funding.
11) Include an analysis of project costs and benefits to justify allocation of funding.

Other Considerations:

- A proposal may be considered non-responsive if it fails to comply with the requirements of this solicitation.

- Prior to an award being made, proposers may be required to demonstrate one or more of the following: access to financial resources sufficient to perform the proposed work; technical experience and capability; adequate facilities (or the ability to access them); and the ability to qualify for an award under applicable laws and regulations.
- Preference will be given to proposers that provide attractive leverage (cash co-funding, partnerships) opportunities for NYSERDA.

IV. PROPOSAL REQUIREMENTS AND SUBMISSION

Proposers will be required to use the provided form fillable "Program Proposal Narrative" (Solicitation Attachment C) for the: executive summary; problem statement and proposed solution; business/commercialization plan or technology replication; New York State impacts and project benefits; schedule; proposer qualifications and budget.

The Program Proposal Narrative must have all the required questions/sections answered. If a required question is not answered, the proposal could be deemed unresponsive and will be returned.

Proposals should not be submitted in an elaborate format that includes expensive binders or graphics. Double-sided printing 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.

A Complete Proposal consists of:

- Attachment A: Proposal Checklist (one of which must contain an original signature),
- Attachment A-1: Acceptance of Standard Terms and Conditions,
- Attachment B: Disclosure of Prior Findings of Non-responsibility Form,
- Attachment C: Program Proposal Narrative
- Attachment C-1: Statement of Work
- Attachment C-2 TRL/CRL Calculator
- Attachment C-3 Three-Year Financial Projections Worksheet
- Attachment D: Contract Pricing Proposal Form, and
- Attachment E: Solicitation Marketing Questionnaire

The proposer must use the forms provided to submit a proposal. Use of a different proposal format could be deemed unresponsive and will be returned.

Proposal submission:

- Proposers must submit either one (1) electronic version online with the Proposal Submission instructions on page two or two (2) printed copies and one (1) electronic copy of the proposal on a CD or flash drive with a completed and signed Proposal Checklist attached to the front of each copy, 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 proposals will not be accepted.
- Proposals will not be accepted at any other NYSERDA location other than the address below.

Proposals must be clearly labeled and submitted to:
Roseanne Viscusi, PON 2606
NYS Energy Research and Development Authority
17 Columbia Circle, Albany, NY 12203-6399

V. TECHNOLOGY AREAS OF INTEREST

Construction Materials, Strategies and Practices

Background

Construction materials and practices utilized for both new and existing building retrofits are ever-improving with knowledge gained from field work. Continuing to incorporate more robust materials and strategies that promote energy efficiency within this practice is paramount as building markets continue to change and evolve.

Under this technology category of the solicitation, NYSERDA seeks proposals that pursue the development of new discrete construction materials and systems and/or improve upon existing whole building construction strategies and practices. Proposed activities must improve overall building energy efficiency; address robustness in installation, maintenance and reliability; and identify appropriate value propositions for the supply chain and end-user. Components that rely on the platform of other existing technologies are acceptable.

Opportunities

Over 80% of existing buildings in New York State were built before the first oil embargo of 1973. Enabling building energy retrofits of existing building stock represents a significant opportunity to save money, reduce climate impacts and generate or maintain jobs.

Preferred projects will have strong commercialization, market penetration, replication attributes and be accompanied by a Building Science liaison for project direction and lead.

Topics of interests include, but are not limited to, the following:

- Improvements that reduce energy losses from building envelope (fenestration, doors, etc.)
- Strategies that greatly reduce air leakage (reduced CFM 50), increase thermal insulation (R value > 30 wall, R value > 55 roof) and increase installation productivity (i.e. use of Structural Insulated Panels (SIPs), Insulated Concrete Forms (ICFs)).
- All-in one window flanges, flashing systems
- Low leakage air duct transitions and connections
- Building strategies that achieve whole building performance improvements (on par with Passive House Institute US, or high performance other standards) and can be replicated on a broader scale

Projects that DO NOT qualify are “one off” individual buildings that are deemed by a proposer as a candidate for renewal or retrofit, however have no repeatability or replication opportunity, or building science plan to collect data on par with past projects within the advanced buildings project portfolio.

Proposers who have questions regarding eligibility should contact Robert Carver, Robert.Carver@nyserda.ny.gov, prior to proposal submission

Heating and Cooling

Background

Heating, cooling, ventilation (HVAC), and domestic hot water (DHW) typically account for roughly 50% of commercial and residential buildings' annual energy use. The average residential consumer is spending about $1k per year when using natural gas and about $3k per year when using heating oil or propane. Expenditures for non-residential consumers vary based on the type and size of the building, but the energy costs are significant. The NYSERDA heating and cooling program seeks to reduce the energy use and total costs of NYS commercial and residential consumers through the advancement of heating, cooling, ventilation, and domestic hot water systems. Funding is available for R&D efforts associated with fossil-fueled and electric HVAC and DHW systems.

Opportunities

NYS law mandates the use of ultra low sulfur heating oil for #2 oil-fired heating systems. The substantial reduction of sulfur from heating oil eliminates a significant barrier to the adoption of oil-fired, condensing appliances. Oil-fired technology was typically limited to about 87% efficiency and there is now an opportunity to increase this to the mid 90% efficiency levels.

Efforts to develop higher performing buildings are underway, which will reduce, sometimes significantly, the space conditioning loads. This creates the opportunity to combine separate HVAC and DHW equipment into one unit. Condensing and other operating features can enable high efficiency at part load.

Recent discoveries and extraction improvements herald potentially abundant domestic supplies of natural gas. However, there are still several uncertainties regarding the extent of the impact. For example, environmental policies may limit extractable quantities; some areas still lack distribution infrastructure, while other areas are capacity constrained; power generators are expected to convert to natural gas as coal becomes less desirable; and a substantial export market could develop, among other important issues. With this in mind, it is difficult to predict how long and to what extent low natural gas prices will persist. This uncertainty is particularly important, considering the lifespan of some HVAC equipment is 10-20 years. Since a primary mission of NYSERDA is to reduce energy use, efforts toward improving the performance of natural gas systems will remain a priority despite favorable supply outlooks and low fuel prices.

With the leap to oil-fired condensing technologies, traditional fossil-fueled technologies are at the point of maximum performance, i.e. efficiencies in the mid-to-upper 90s. Coupling these systems to a heat pump provides an opportunity to push the coefficient of performance over 1, and maintaining this performance level down to NYS design day temperatures is of interest. Additionally, control and component improvements supporting optimum operation of the heating system are also of interest.

Topics of interest include, but are not limited to the following:

- Cold climate and hybrid heat pumps
- Control strategies to optimize heating system performance
- Condensing oil-fired boilers
- Component improvements
- Integrated systems to deliver heating, cooling, ventilation, and/or hot water
- Investigations of novel fuels
- Alternative thermodynamic cycles for heating, cooling, or hot water
- High performance water heating
- Performance validation of novel HVAC and DHW equipment
- Point source heating and/or cooling systems that eliminate distribution networks
- Dehumidification combined with whole house ventilation for alternative air conditioning methods
- Fuel performance testing of innovative, renewable liquid fuels
- Compressor-less and other alternative air conditioning systems
- Energy and heat recovery ventilation systems

- Any other research effort that advances the performance of HVAC and DHW equipment

Ineligible activities include, but are not limited to:
- Off-site power generation
- Fuel processing
- Biomass systems

Proposers who have questions regarding eligibility should contact Michael Genovese, Michael.Genovese@nyserda.ny.gov, prior to proposal submission.

Lighting

Background

Solid-state lighting (SSL) is revolutionizing the lighting industry. SSL includes light-emitting diodes (LEDs) and organic light-emitting diodes (OLEDs), also known as light-emitting polymers. SSL systems emit light by using semiconductors to convert electricity into light. LEDs are rapidly evolving and have advanced from niche signage, display and indicator applications to general illumination in less than ten years. The potential for improvements in LED lighting intensity, color quality, expected life, lighting maintenance, and controls promise that new performance breakthroughs will be made by those companies that invest resources in SSL research and development.

Opportunities

LED lighting systems require optimization and compatibility over multiple systems and components. LED product designers and manufacturers need to ensure component interactions do not negatively affect system performance. As a result, new LED product development efforts require more resources dedicated to component testing and development and iterative design than conventional lighting systems.

Poorly-designed LED lighting systems have a high probability of suboptimal performance and premature failure, thus the importance of independent testing and demonstrations to provide objective performance information for decision-makers. There are numerous SSL technical, economic and market barriers that the SSL industry faces where collaborative efforts (testing, application standards) can benefit the entire industry.

The 2025 target for the SSL industry that the U.S. DOE set of being 50% more efficient than conventional lighting, longer lasting and cost-competitive with light that resembles the visible spectrum of natural sunlight is fast becoming an achievable benchmark against which success can be measured. (See the S U.. DOE EERE Research and Development Multi-Year Program Plan March 11 (updated May 2011) http://apps1.eere.energy.gov/buildings/publications/pdfs/ssl/ssl_mypp2011_web.pdf.) As the LED's performance improves, the entire lighting industry is benefitted through new design and application opportunities.

NYSERDA has promoted SSL innovations and products, demonstrations and independent evaluations through competitive lighting solicitations over the last 10 years. The solicitations have spawned many successful projects and New York State is becoming an innovation hub for SSL activities and investments

Topics of interest include, but are not limited to, the following:
- SSL lighting concept development,
- LED and OLED new product development (luminaires, drivers/advanced controls, optical efficiency, LED packaging and assembly, and components),
- Demonstrations and evaluation of high-performance SSL products at New York State locations,
- SSL technologies that accelerate integration of renewable energy (PV DC output) and daylighting systems (LED dimming, other control capabilities).

Ineligible technologies:
- Low and high pressure discharge lamp technologies – fluorescent, compact fluorescent, metal halide, sodium, incandescent and tungsten halogen.

Strong proposals will involve a SSL concept, product, or demonstration project that replaces an inefficient light source, in an application that has widespread market potential, and which could lead to significant cost savings over the life of a typical installation (energy, demand and/or maintenance cost savings).

Proposers who have questions regarding eligibility should contact Joseph Borowiec, Joseph.Borowiec@nyserda.ny.gov, prior to proposal submission.

Demand Response, Smart Buildings and Demand-Side Resources

Background

Buildings that have the capability to automatically optimize and curtail electricity use through innovative smart-controls can reduce ratepayer's utility costs and increase NYS's grid flexibility and sustainability. Smart Buildings exercise more integrated control over building systems (i.e. HVAC) and may provide information on energy use, automate operations, response to grid conditions, integrate on-site generation, renewables and storage, and even aggregate control of small loads and appliances. With opportunities to reduce peak load, respond to price signals and provide demand response (DR), NYS electric customers can lower their costs while helping New York State reduce peak demand, price volatility and emissions and increase grid reliability and integration of renewables.

Opportunities

Medium to large commercial buildings and industrial customers in NYS have access to a variety of energy pricing alternatives, tariffs and demand response programs. This presents them with the opportunity to reduce energy costs and provide value to the grid by optimizing and controlling how their buildings consume energy over the course of a year, a summer, a day, and even an hour. Demand response and peak load reductions are especially valuable in the down-state market (i.e. New York State Independent System Operator Zone J) where delivery and capacity prices are higher and the utility offers demand response programs in addition to programs offered state-wide by the NYISO.

The objective of the Demand Response, Smart Buildings and Demand-Side Resources technology area of the Advanced Buildings Program is to encourage the development and application of technologies and techniques that create value propositions for end-users and expand availability of beneficial resources to the grid. This technology area also encourages innovative sensors, controls or advanced technologies for residential and commercial buildings that enhance energy management.

Topics of interest include, but are not limited to, the following:

1. **Innovative technologies that allow buildings to be more load flexible**
    a. Commercial HVAC system equipment and operation
    b. Building pre-cooling and other temperature management techniques
    c. Residential/multifamily building loads
    d. Control and aggregation of small or dispersed loads, (i.e. unitary HVAC, appliances, window AC's, office lighting, etc.)
    e. On-site thermal or electrical energy storage
    f. Customer microgrids that co-optimize load and distributed generation

2. **'Fast acting' or dispatchable demand response**
    a. Real-time, dispatchable and fast-acting demand response with telemetry for wholesale ancillary services or real-time energy
    b. Integration of demand response for distribution utility operations and targeted reliability/contingency management

3. **Communications and interoperability standards for price and demand response**
    a. Standards-based machine-to-machine protocols for Smart Buildings / Smart Grid interoperability
    b. Application of OpenADR in NYS's market structure and demand response programs
    c. OpenADR client development and integration of compliant systems and hardware
    d. Innovative distribution and use of price signals in building operation
    e. Innovative communication with loads and demand-side resources (i.e. wireless, Internet, etc.)

4. **Innovative building controls and analysis methods for optimizing load shape and energy use**
    a. Use of building energy information, data, modeling, advanced analytics, optimization techniques, machine learning algorithms, dashboards, etc. for optimization
    b. Novel use of buildings management systems for energy optimization, load management, cost minimization, automated DR, etc.
    c. Model based approaches to HVAC and building temperature control
    d. Low cost controls and integration for automated load control and demand response
    e. Building controls in conjunction with energy storage systems or distributed generation
    f. Cloud-based controls or load management services
    g. Low cost meter data acquisition and integration or use of utility supplied meter data

5. **Innovative buildings system sensors and applications**
    a. Advanced buildings system sensors for remote measurement, monitoring, etc. that may be self-configuring, self-calibrating, self-powered, wireless, having distributed intelligence, etc.
    b. Novel automated buildings system fault detection and diagnostics, performance monitoring and advanced commissioning
    c. Novel sensor technologies: volumetric air flow, low-cost power metering, low-cost indoor sensors for air quality assessment, humidity, occupancy, daylight, gas, environmental hazard, etc.

6. **Innovative dynamic price, demand response and retail electricity bundles**
    a. Novel retail bundling of energy management services such as retail supply, demand response curtailment services, peak load management, renewables, combined heat and power (CHP), energy performance, information dashboards, etc.
    b. Management of load on mandatory hourly day-ahead price (MHP) tariffs or other dynamic rate (i.e. indexed rate)
    c. Use of dynamic rates in residential and multifamily buildings

Proposers, who have questions regarding eligibility, should contact Anthony Abate, Anthony.Abate@nyserda.ny.gov, prior to proposal submission.

OTHER TECHNOLOGIES OR OPPORTUNITY AREAS

Background

PON 2606 has been structured to group anticipated research activities into major technology areas. While the majority of research activities will fit into one of the four previously described technology areas, some potential proposers may find their technology does not readily fit into one of the groupings.

Energy improvements in buildings can also result from activities that do not involve development of products, services or methods. These include policy or regulatory reform, or assessments of technology, markets or barriers. These activities can be difficult to evaluate side–by-side with discrete product development efforts because they do not always share the same metrics.

Opportunities

The "Other Technologies and Opportunities Areas" category is intended to support (1) building related technology research, development or demonstrations not fitting into other categories, and (2) policy research and assessments whose benefits are often broader, more diffuse than a single product.

All submissions received in this category will be evaluated against one another with a single ranking of activities being produced.

Examples of eligible technology development activities:

- Within building electronic informational displays
- Furnishing made with environmentally preferable performance/processes

Examples of eligible policy, regulatory, and technology assessment activities:

- Evaluation of new business models for delivering energy efficient technologies
- Engineering studies to address New York building code concerns for a class of energy efficient products
- Assessment of benefits and costs for increased use of direct current power in buildings with onsite generation

Proposals dealing with the following subject technologies or efforts are ineligible for this category: development of combined heat and power technologies, Data Center energy efficiency, market awareness for underused technologies, work force training, tools intended to aid the administration of energy-efficiency, renewable energy, or other similar programs, and engineering design studies for a technology at a specific building.

Proposers who have questions regarding eligibility should contact Robert Carver, Robert.Carver@nyserda.ny.gov, prior to proposal submission.

VI. Proposal Evaluation

Proposals that meet Proposal Requirements will be reviewed by a program area specific Technical Evaluation Panel (TEP) using the Evaluation Criteria identified 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.

EVALUATION CRITERIA:

Problem and Proposed Solution (All Categories) :

- Does the proposal address an eligible technology?
- How significant is the problem or opportunity to New York State?
- How well does the proposed solution address the problem or opportunity?
- Is the proposed work technically feasible, innovative, and superior to alternatives? How appropriate are the cost, technical, and performance goals for the proposed technology or product?
- Does the proposer exhibit an understanding of the fundamental scientific principles applicable to the technology?
- Does the proposer exhibit understanding of the state-of-the-art for the immediate and alternative technology?
- If the proposed work is a follow-on project to a previously co-funded NYSERDA project, what was the contract number and outcome of the earlier phase?
- Is the proposed project addressing a problem or opportunity that is not being addressed adequately by others (industry, government research programs)?

Additional Considerations for Demonstration Projects –

- Is the proposed demonstration of a new or emerging technology?
- Does the project have a strong letter of support from a New York State site?
- Is the performance monitoring and data analysis plan adequate?

New York State Impact and Project Benefits (All Categories)

- What are the expected economic benefits in New York State in the form of commercial sales, job creation, and other factors that support economic growth?
- Does the proposed activity increase the resiliency, recovery, and adaptation of buildings to multiple days of electricity disruption in the event of an electric grid failure?
- Does the proposal include a New York State demonstration site that pays into the System Benefits Charge?
- How well has the proposal quantified the potential benefits to New York State?
- How likely is it that the projected benefits will be realized?
- How significant are the proposed project benefits (energy, efficiency, environmental and economic) benefits in New York State?
- Will the proposed project lead to subsequent commercial activity in New York State?

Statement of Work and Schedule (All Categories)

- How realistic are the technical and performance goals for the proposed project?
- Can the proposed technical and performance goals be measured and verified?
- Is the work proposed in the Statement of Work sound and likely to achieve the technical and performance goals?
- Does the Statement of Work include a task to evaluate the economic costs and benefits of the technology?
- 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 and cost reasonable to complete the proposed project?
- Are the proposed milestones reasonable?

Additional Considerations for Demonstration Projects

- Are the data acquisition, monitoring, reporting and evaluation plans reasonable and adequate?
- If monitoring baseline performance is necessary to document system benefits, does the Statement of Work include a provision to adequately gather baseline data?

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?
- Does the proposer/team have the necessary technical and business background and experience?
- Does the team include a New York State business and/or plan for creating new jobs in New York State?
- Has the proposer provided evidence of good past performance on other relevant projects?
- Does the proposal include a management plan for coordinating the team members?
- 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 outcome and benefits?
- How significant is the potential market opportunity relative to the project cost?
- How appropriate are the proposer's co-funding 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 project partners, co-funders, 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?

Technology Transfer / Repeatability (All Categories)

- Does the proposed technology have wide-scale market potential in New York State?
- Does the proposed project include an effective strategy for leading to large-scale market acceptance of the technology in New York?
- Does the proposed technology address a need in the market place?

Business/Commercialization Plan and Market Adoption (Development Category Only) -

- Is the proposed product or concept likely to be successful?
- Are there sufficient markets or needs for the concept/technology?
- Does the proposed project address market needs?
- Are the business and commercialization (or replication) plans appropriate for the type of project and stage of development?
- How significant are the barriers to market entry?
- Does the proposer demonstrate a clear understanding of the steps required to overcome these barriers?
- How well does the proposer understand his/her market; has the market been identified and characterized?
- Does the proposal identify competing and alternate solutions, and clearly demonstrate that the proposed 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, what is the likelihood that the proposer will be able to raise necessary financial resources?

Programmatic 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.

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

Empire State Development
Division For Small Business
625 Broadway
Albany, NY 12207

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

Empire State Development
Minority and Women's Business Development Division
625 Broadway
Albany, NY 12207

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/current_forms/st/st220td_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 pertaining to the Statement of Work. 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, at its soles discretion, will decide whether to contract successful projects using time and material or milestone payment terms. NYSERDA may decline to contract with awardees who are delinquent with respect to any obligation under any previous or active NYSERDA agreement.

Expected timetable for Award- After the Solicitation due date, the proposals go through an internal review process. The process from due date to contract agreement may take up to six months. Duration varies based on number of proposals received under this solicitation, initial clarity of statement of work proposed, complexity of contract, and responsiveness of awardee to requests from NYSERDA.

Contractor can expect the following sequence of events:

Proposal Review and Award-Proposals are reviewed by a team comprised of industry experts and NYSERDA staff. NYSERDA expects to notify proposers in approximately 10 weeks from the proposal due date whether your proposal has been selected to receive an award.

Contract Negotiation-Subsequent to receipt of an award letter, NYSERDA will work with the Technical Contact to reach agreement on a Statement of Work, Budget and Schedule, (collectively Exhibit A of the Contract).

Concurrently, NYSERDA will work with the Primary Contact to reach mutually acceptable Terms and Conditions (NYSERDA's standard contract terms and conditions are provided as an attachment to the Solicitation). NYSERDA may or may not accept any requested exceptions; 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.

Contract Execution- Contract executed by Contractor and NYSERDA.

Recoupment - For any new product development effort, research and/or development receiving total NYSERDA funding over $100,000, NYSERDA will require a royalty based on sales of the new product developed. NYSERDA's standard royalty terms are 1.5% of sales for products produced in New York State (for a period of fifteen years or until the Contractor pays NYSERDA an amount equal to the amount of funds paid by NYSERDA to the Contractor, whichever comes first) and 5% of sales for products produced outside of New York State (for a period of fifteen years or until the Contractor pays NYSERDA an amount equal to three times the amount of funds paid by NYSERDA to the Contractor, whichever comes first).The complete recoupment terms can be found in Article VIII of the Sample Agreement located in Attachment F.

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 F: 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.**

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.

Attachments

Attachment A: Proposal Checklist
Attachment A-1: Acceptance of Standard Terms and Conditions
Attachment B: Disclosure of Prior Findings of Non-responsibility Form
Attachment C: Program Proposal Narrative
- Attachment C-1: Statement of Work
- Attachment C-2 TRL/CRL Calculator
- Attachment C-3 Three-Year Financial Projections Worksheet

Attachment D: Contract Pricing Proposal Form
Attachment E: Solicitation Marketing Questionnaire
Attachment F: Sample Agreement (Not included in proposal submission)
Attachment G: Sample Metrics Reporting Guides (Not included in proposal submission)
Attachment H: Electronic Submission Instructions