

NOTICE

Modifications to this Funding Opportunity Announcement (FOA) may have been made since this version was posted. Applicants are strongly advised to consult the FOA version posted on www.FedConnect.com, the official application website, for the latest changes regarding the application materials, dates, and other requirements.

The FedConnect system can be accessed through the following steps:

1. Go to <http://www.FedConnect.net/>
2. Click on "Search Public Opportunities"
3. Select "Reference Number" in the Search Criteria drop down box and then enter the Reference Number of the funding opportunity you are interested in (DE-FOA-XXXXXXX), followed by clicking the "Search" button
4. Click on the Title hyperlink after search results are displayed
5. On the right side of the screen, click on "BODY" under the "Solicitation" or "Amendment" folder; if multiple amendments exist, click on the most recent award amendment for the latest changes.

If you are new to the Federal grant application process, it can take 21 days or more to complete all of the registration processes needed to submit questions or application. These activities include acquiring a DUNS number, completing a Central Contract Registration (CCR), and FedConnect.com registration. Hence, if you are considering applying for this or another Funding Opportunity, we recommend beginning the registration process as soon as possible.

For further assistance throughout the application process, contact the following numbers:

- **General inquiries:** 1-888-DOE-RCVY (1-888-363-7289), <https://recoveryclearinghouse.energy.gov/>
- **Central Contract Registration (CCR) system:** 1-888-227-2423, <http://www.ccr.gov/Help.aspx>
- **FedConnect:** 1-800-899-6665, support@fedconnect.net
- **Specifics on FOA:** see "Questions" portion of the FOA

**FINANCIAL ASSISTANCE
FUNDING OPPORTUNITY ANNOUNCEMENT**



U. S. Department of Energy

National Energy Technology Laboratory

Recovery Act - Solid State Lighting U.S. Manufacturing - Round 1

Funding Opportunity Number: DE-FOA-0000057

Announcement Type: Initial

CFDA Number: 81.086 Conservation Research and Development

Issue Date:	June 29, 2009
Letter of Intent Due Date:	Not Applicable
Pre-Application Due Date:	Not Applicable
Application Due Date:	August 24, 2009 at 3:00:00 PM Eastern Time

This announcement will remain open until the Application Due Date. Applications may be submitted any time before the announcement closes.

NOTE: REGISTRATION/SUBMISSION REQUIREMENTS

Registration Requirements

There are several one-time actions you must complete in order to submit an application in response to this Announcement (e.g., obtain a Dun and Bradstreet Data Universal Numbering System (DUNS) number, register with the Central Contractor Registration (CCR), and register with FedConnect). Applicants who are not registered with CCR and FedConnect, should allow at least 10 days to complete these requirements. It is suggested that the process be started as soon as possible.

Applicants must obtain a DUNS number. DUNS website: <http://fedgov.dnb.com/webform>

Applicants must register with the CCR. CCR website: <http://www.ccr.gov/>

Applicants must register with FedConnect to submit their application. FedConnect website: www.fedconnect.net

Questions

Questions relating to the **system requirements or how an application form works** must be directed to Grants.gov at 1-800-518-4726 or support@grants.gov.

Questions regarding the **content** of the announcement must be submitted through the FedConnect portal. You must register with FedConnect to respond as an interested party to submit questions, and to view responses to questions. It is recommended that you register as soon after release of the FOA as possible to have the benefit of all responses. More information is available at <http://www.compusearch.com/products/fedconnect/fedconnect.asp>. DOE will try to respond to a question within 3 business days, unless a similar question and answer have already been posted on the website.

Questions pertaining to the **submission** of applications through FedConnect should be directed by e-mail to support@FedConnect.net or by phone to FedConnect Support at 800-899-6665.

Application Preparation and Submission

Applicants must download the application package, application forms and instructions, from Grants.gov. Grants.gov website: <http://www.grants.gov/>
(Additional instructions are provided in Section IV A of this FOA.)

Applicants must submit their application through the FedConnect portal. FedConnect website: www.fedconnect.net
(Additional instructions are provided in Section IV H of this FOA.)

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PART I – FUNDING OPPORTUNITY DESCRIPTION

American Recovery and Reinvestment Act of 2009

Projects under this FOA will be funded, in whole or in part, with funds appropriated by the American Recovery and Reinvestment Act of 2009, Pub. L. 111-5, (Recovery Act or Act). The Recovery Act's purposes are to stimulate the economy and to create and retain jobs. The Act gives preference to activities that can be started and completed expeditiously. Accordingly, special consideration will be given to projects that promote and enhance the objectives of the Act, especially job creation, preservation and economic recovery, in an expeditious manner.

Be advised that special terms and conditions may apply to projects funded by the Act relating to:

- Reporting, tracking and segregation of incurred costs;
- Reporting on job creation and preservation;
- Publication of information on the Internet;
- Access to records by Inspectors General and the Government Accountability Office;
- Prohibition on use of funds for gambling establishments, aquariums, zoos, golf courses or swimming pools;
- Ensuring that iron, steel and manufactured goods are produced in the United States;
- Ensuring wage rates are comparable to those prevailing on projects of a similar character;
- Protecting whistleblowers and requiring prompt referral of evidence of a false claim to an appropriate inspector general; and
- Certification and Registration.

These special terms and conditions will be based on provisions included in Titles XV and XVI of the Act. The special terms and conditions can be found at http://management.energy.gov/policy_guidance/1672.htm.

The Office of Management and Budget (OMB) has issued Initial Implementing Guidance for the Recovery Act. See M-09-10, Initial Implementing Guidance for the American Recovery and Reinvestment Act of 2009 and M-09-15, Updated Implementing Guidance for the American Recovery and Reinvestment Act of 2009. OMB will be issuing additional guidance concerning the Act in the near future. Applicants should consult the DOE website, www.energy.gov, the OMB website <http://www.whitehouse.gov/omb/>, and the Recovery website, www.recovery.gov regularly to keep abreast of guidance and information as it evolves.

Recipients of funding appropriated by the Act shall comply with requirements of applicable Federal, State, and local laws, regulations, DOE policy and guidance, and instructions in this FOA, unless relief has been granted by DOE. Recipients shall flow down the requirements of applicable Federal, State and local laws, regulations, DOE policy and guidance, and instructions in this FOA to subrecipients at any tier to the extent necessary to ensure the recipient's compliance with the requirements.

Be advised that Recovery Act funds can be used in conjunction with other funding as necessary to complete projects, but tracking and reporting must be separate to meet the reporting requirements of the Recovery Act and related OMB Guidance. Applicants for projects funded by sources other than the Recovery Act should plan to keep separate records for Recovery Act funds and ensure those records comply with the requirements of the Act. Funding provided through the Recovery Act that is supplemental to an existing grant is one-time funding.

Applicants should require their first tier subawardees to obtain a DUNS number (or update the

existing DUNS record) and register with the Central Contractor Registration (CCR).

SUMMARY

The Department of Energy (DOE), National Energy Technology Laboratory (NETL), on behalf of the Office of Energy Efficiency and Renewable Energy's (EERE's) Building Technologies (BT) Program, is seeking applications for applied research in the Solid-State Lighting (SSL) US Manufacturing Program.

The objective of this Funding Opportunity Announcement (FOA), herein referred to as Announcement, is to achieve cost reduction of solid-state lighting for general illumination through improvements in manufacturing equipment, processes, or techniques. It is anticipated that success will lead to a more rapid adoption/installation of high-quality SSL products resulting in a significant reduction of energy use and a corresponding reduction of environmental pollutants. A secondary objective is to maintain, in the case of light emitting diodes (LEDs), or establish, in the case of organic light emitting diodes (OLEDs), the manufacturing and technology base within the US.

BACKGROUND INFORMATION

The DOE has set aggressive and ambitious goals for SSL Research and Development (R&D):

By 2025, to develop advanced solid-state lighting technologies that compared to conventional lighting technologies, are much more energy efficient, longer lasting, and cost-competitive by targeting a product system efficiency of 50 percent with lighting that accurately reproduces the sunlight spectrum.

With the assistance of the DOE's Core Technologies Research and Product Development programs, industry has rapidly advanced state-of-the-art for SSL technologies. Laboratory high brightness LED (HB-LED) devices commonly exceed 100 lumens per watt (lpw) and have reached efficacies in excess of 150 lpw. As laboratory devices improve, products continue to be introduced to the market at an increasing pace. As verified by programs such as DOE's Commercially Available LED Product Evaluation and Reporting (CALiPER) program, the quality and performance of the commercial products are advancing at a similar pace to those in the lab.

Due to the often-compelling long-term cost-of-ownership considerations, industry has seen increasing numbers of commercial installations of LED systems. However, even as technical advances continue and improved luminaire fixtures appear on the market, there remains technical manufacturing challenges that must be addressed before prices fall to a level where LED lighting will become competitive with existing lighting on a first-cost basis.

Two of the five major LED companies have manufacturing operations in the US. These five hold critical intellectual property (IP) for LEDs which is cross licensed and allows the group to dominate the market. In addition, the US has a strong base of equipment for LED manufacturing and testing/characterization. The US also has a strong base of luminaire manufacturers built on years of expertise for traditional light sources. The opportunity exists to maintain and expand a strong well-rounded technology base and expertise within the US for LED-related technologies.

Although OLED technology is not as mature as LED, recent advancements in the laboratory have showed good promise. Laboratory OLED devices have been reported that exceed 100 lpw. While OLEDs are available on the market for display purposes, the release of a luminaire for general illumination has not been realized. The advancements seen in the laboratory have laid a foundation for the production of OLED lamps that equal or exceed the performance of fluorescent or incandescent sources. As OLED products are introduced, significant cost reductions will likely need to occur to move sales from decorative and specialty lighting to the general lighting market.

Currently, manufacturing of OLEDs has been for display purposes only and is dominated by foreign companies. However, as the thin-film-transistor (TFT) backplanes required to control active matrix OLEDs in displays are not required for general illumination purposes, there is an opportunity for domestic companies to enter and establish the undeveloped OLED manufacturing market for general illumination.

FUNDING OPPORTUNITY OBJECTIVES

The primary objective of this Announcement is to achieve cost reduction of solid-state lighting for general illumination through improvements in manufacturing equipment, processes, or techniques. The secondary objective is to develop, establish, and/or maintain the technology and manufacturing base within the US. The specific Program Areas of Interest are provided in the following section. Proposed approaches must have a significant impact on the cost of high-quality SSL products. Incremental cost reductions of a few percent are not appropriate for this opportunity as costs for today's products are at least an order of magnitude higher than needed for full-scale demand. Further, approaches for cost reduction shall not come at the expense of relevant performance attributes such as efficacy and color quality.

Individual companies and/or teams may submit more than one application. However, each application must have its own unique title. Applicants are encouraged to target a single Program Area of Interest per application. However, approaches in a single application may target multiple Program Areas of Interest if the approaches target consecutive processes (i.e. epi » chip » packaged LED) and if the approaches are dependent upon each other such that they could not be submitted and evaluated independently. Applicants targeting multiple Program Areas of Interest under a single application shall submit their application to the Program Area of Interest which best represents the majority of effort to be performed. If, upon review, the DOE finds an application fits more appropriately in a Program Area of Interest other than the one to which it was submitted, DOE will consider the application under the more appropriate Program Area of Interest. Do not submit identical applications under more than one Program Area of Interest.

PROGRAM AREAS OF INTEREST

The Program Areas of Interest for this Announcement include topics for LED and OLED technologies. Improvements to cost-influencing metrics through the proposed approach shall not come at the expense of product performance metrics such as efficacy or color quality.

Program Area of Interest 1: Epitaxial Growth Tools and Processes

The major limiting factor for yield of LED chips is the relatively poor uniformity and reproducibility of the Metalorganic Chemical Vapor Deposition (MOCVD) process for epitaxial growth of LEDs. Research is sought for the development of next generation epitaxial growth tools for the fabrication of efficient LEDs used in state of the art solid-state lighting products. Improvements to epitaxial growth yield, materials and electrical efficiency of the growth process, growth repeatability, growth monitoring tools, modeling of the growth dynamics, automation of the growth process, and the cost of ownership of the crystal growth tool will all be considered acceptable under this area of interest. Proposed projects may address a single subtopic listed above or multiple subtopics within this area of interest. Improvements to the fabrication process of LEDs shall not come at the expense of LED performance. Suggested metrics for this work may include, but are not limited to, yield of lighting-quality high brightness LED chips at the target wavelength and cost per growth run per wafer. Proposed research to this topic shall present a baseline for epitaxial growth yield and cost per growth run per wafer and detail how the proposed work will improve these metrics while maintaining or improving device performance. (Related to [2009 Multi-Year Program Plan \(MYPP\) tasks A.4.4, B.4.1, and B.4.2](#))

Program Area of Interest 2: LED Chip Manufacturing

Currently around 40-50% of the final luminaire cost is in the LED chip. Equipment specifically designed for LED chip manufacture is not widely available, and each chip manufacturer often performs extensive customization. Standardized processes and chip-level cost reductions are anticipated to have a significant impact on reducing the overall luminaire cost. Research is sought to support the manufacturing of low cost, high efficacy LED chips for general illumination. In moving beyond the focus of epitaxial tools in Area 1 above, the objective of this area of interest is to reduce manufacturing costs through developments in semiconductor wafer processing equipment and process optimization. This includes increased automation, higher throughput, improved process control, automated inspection, improved materials uniformity/reproducibility, flexible wafer handling, reduced materials usage and the use of larger substrates. Acceptable research may include the development of well designed, standardized, high throughput, highly automated and reliable processing equipment. This equipment should incorporate flexible wafer handling to cope with different substrate types (e.g. diameter, thickness, flatness, etc.). Success in this research area requires close partnership between chip manufacturers and equipment suppliers. A cost of ownership analysis shall be provided to demonstrate significant cost savings over current chip manufacturing equipment and processes. Suggested cost savings metrics shall be linked to more routinely measurable metrics such as throughput, cycle time, production yield, scrap/rework rate, etc. (Related to [2009 MYPP tasks A.1.2, B.1.2, B.4.2, B4.3](#))

Program Area of Interest 3: Automated LED Packaging

Research is sought to develop and demonstrate improved automated methods for the assembly and packaging of phosphor-LED die. The objective of this area of interest is to improve uniformity and consistency of product performance (control of parameters), reduce labor content per good unit produced and improve capital productivity and throughput as measured against existing methods. Proposed research should reduce or eliminate the need for product binning based on a distribution of performance parameters and thus demonstrate a significant impact on quality and cost of the packaged LEDs. Raw materials (phosphor, encapsulant) use and efficiency are also considerations for lowering cost. Research may include robotic equipment design, process flow modeling, development of in-process automated test methods, product and material handling innovations, and improved design for manufacture. Methods and equipment shall be scalable to high-volume production. Research may also include implementation of efficient high-volume manufacturing methods and application of high performance phosphors. A detailed cost of ownership impact analysis which identifies where costs can be trimmed from the manufacturing process shall be included in the application. The applicant shall identify and compare a baseline of existing production yield to the proposed research. Preferred demonstration vehicles are good performance products presently in commercial production. Suggested metrics may relate to capital and labor productivity, uniformity of color and output, packaged product yield, and other metrics relevant to cost reductions. (Related to [2009 MYPP tasks A.4.4, B.3.6, B.4.3](#))

Program Area of Interest 4: LED Luminaire Manufacturing

The application of intelligent engineering and design has created useful and marketable LED-based luminaire products for general illumination. However, further efforts are required to improve manufacturing processes in order to streamline production, optimize yields, reduce costs and improve reliability. Research is sought to develop automated assembly and test equipment and efficient manufacturing processes for integrated luminaires. Research shall be focused on an integrated luminaire that includes the LED light source(s), the driver, fixture or optics for control of light distribution, and thermal management. Automated assembly equipment shall be capable of accurate placement of LED light source(s), precise alignment of light sources with integrated optics/lenses, and reliable production of electrical interconnections. Acceptable LED light sources are bare chips or packaged LED devices. Ideally, proposed luminaires should be compatible with electronic dimming and may also incorporate other smart controls. Included in this area of interest are replacement products for existing

lighting form factors as well as novel form factors favorable to the LED technology. The primary objective of this area of interest is to demonstrate improved productivity as well as improved product quality, consistency and reliability. The applicant shall provide a cost of ownership analysis to identify the anticipated cost savings with respect to current methods of luminaire manufacture based on a realistic production run. These cost savings shall be linked to more routinely measurable metrics such as throughput, cycle time, production yield, scrap/rework rate, labor content, etc. (Related to [2009 MYPP tasks A.6.2, A.6.3, A.7.4, B.5.1, B.6.2, B.6.3, B.7.3/4](#))

Program Area of Interest 5: Production of OLED Lighting Prototypes

Recent advances in OLED technology have provided many of the components necessary to meet the SSL program performance targets. It is now time to transfer these developments from the laboratory to the production line. Research is sought to pursue the development of manufacturing processes and facilities to enable limited production of OLED devices with performance close to the 2012 targets of the SSL MYPP. The applicant shall provide a cost of ownership analysis to quantify the production cost and areas for improvement. If the demonstrated production cost exceeds the target of \$27/klm, the applicant shall show in detail how production techniques will meet this target when scaled to higher volume and optimized yields. Priority will be given to projects that will deliver OLED devices to luminaire manufacturers to facilitate testing of design concepts and gauge customer acceptance. Required metrics include OLED performance metrics and routinely used measurable metrics which relate to OLED cost such as yield, materials usage, cycle time, substrate area, and capital depreciation. (Related to [2009 MYPP tasks D.2.1, D.3.1, D.4.1, D.4.2, D.4.3, D.6.2, D.6.3](#))

Program Area of Interest 6: Paths to High-Volume Manufacturing of OLED Devices

The 2015 SSL targets for performance and cost necessitate significant advances in manufacturing methods, with respect to yield, quality control, substrate size, process time and materials usage, and require less expensive tools and materials than those currently used in display applications for OLEDs. Research is sought for the development of innovative manufacturing systems that are appropriate for OLED general-illumination lighting applications. The emphasis shall be on system integration, rather than the optimization of individual processes, tools or materials. The proposed research shall include the identification and exploration of the critical fabrication integration issues. The applicant shall provide a cost of ownership analysis to identify the anticipated cost savings with respect to current methods of OLED manufacture based on a realistic production run. (Related to [2009 MYPP tasks D.1.1, D.4.1, D.4.2, D.4.3, D.6.2, D.6.3, D.6.5](#))

PART II – AWARD INFORMATION

A. TYPE OF AWARD INSTRUMENT

DOE anticipates awarding cooperative agreements under this program announcement (See Section VI.B.2 Statement of Substantial Involvement)

B. ESTIMATED FUNDING

Approximately \$22,000,000 is expected to be available for new awards under this announcement.

C. MAXIMUM AND MINIMUM AWARD SIZE

- Ceiling (i.e., the maximum amount for an individual award made under this announcement):
None
- Floor (i.e., the minimum amount for an individual award made under this announcement):
None

D. EXPECTED NUMBER OF AWARDS

DOE anticipates making approximately 5-10 awards under this announcement.

E. ANTICIPATED AWARD SIZE

DOE anticipates that awards will not exceed \$4,000,000 of DOE share (exclusive of Recipient share) for the duration of the proposed effort.

F. PERIOD OF PERFORMANCE

DOE anticipates making awards that will run for up to two (2) years in duration.

G. TYPE OF APPLICATION

DOE will accept only new applications under this announcement.

PART III - ELIGIBILITY INFORMATION

A. ELIGIBLE APPLICANTS

All types of domestic entities are eligible to apply, except other Federal agencies, Federally Funded Research and Development Center (FFRDC) Contractors, and nonprofit organizations described in section 501(c)(4) of the Internal Revenue Code of 1986 that engaged in lobbying activities after December 31, 1995.

B. COST SHARING

DOE seeks cost share of 50% of the total allowable cost of the project (i.e., the sum of the Government share, including FFRDC contractor costs if applicable, and the recipient share of allowable costs equals the total allowable costs of the projects). The cost share must come from non-Federal sources unless otherwise allowed by law. However, DOE will accept cost share of not less than 25% for private industry recipients and not less than 10% for academic institutions, non-profit organizations, Indian tribes or Tribal Energy Resource Development Organizations, and state and local governments.

C. OTHER ELIGIBILITY REQUIREMENTS

Federally Funded Research and Development Center (FFRDC) Contractors.

FFRDC contractors are not eligible for an award under this announcement, but they may be proposed as a team member on another entity's application subject to the following guidelines:

- **Authorization for non-DOE FFRDCs:** The Federal agency sponsoring the FFRDC contractor must authorize in writing the use of the FFRDC contractor on the proposed project and this authorization must be submitted with the application. The use of a FFRDC contractor must be consistent with the contractor's authority under its award and must not place the FFRDC contractor in direct competition with the private sector.
- **Authorization for DOE FFRDCs:** The cognizant contracting officer for the FFRDC must authorize in writing the use of a DOE FFRDC contractor on the proposed project and this authorization must be submitted with the application. The following wording is acceptable for this authorization.

"Authorization is granted for the _____ Laboratory to participate in the proposed project. The work proposed for the laboratory is consistent with or complimentary to the missions of the laboratory, will not adversely impact execution of the DOE assigned programs at the laboratory, and will not place the laboratory in direct competition with the domestic private sector."
- **Value/Funding:** For awards issued in response to the Announcement, the value of, and funding for, the FFRDC contractor portion of the work will be included in the award to a successful applicant. DOE does **NOT** intend to fund FFRDC contractors through a DOE field work proposal system or through an interagency agreement with the sponsoring agency. All FFRDC costs associated with efforts under this announcement shall be proposed as subcontract costs.
- **Cost Share:** The applicant's cost share requirement will be based on the total cost of the project, including the applicant's and the FFRDC contractor's portions of the effort.
- **FFRDC Contractor Effort:** The FFRDC contractor effort, in aggregate, shall not exceed 20% of the total estimated cost of the project, including the applicant's and the FFRDC contractor's portions of the effort.

- **Responsibility:** The applicant, if successful, will be the responsible authority regarding the settlement and satisfaction of all contractual and administrative issues, including but not limited to, disputes and claims arising out of any agreement between the applicant and the FFRDC contractor.

PART IV – APPLICATION AND SUBMISSION INFORMATION

A. ADDRESS TO REQUEST APPLICATION PACKAGE

Application forms and instructions are available at Grants.gov. To access these materials, go to <http://www.grants.gov>, select “Apply for Grants,” and then select “Download Application Package.” Enter the CFDA and/or the funding opportunity number located on the cover of this announcement and then follow the prompts to download the application package. Once you have SAVED the application package and completed all the required documentation, you will submit your application via the Fedconnect portal. **DO NOT use the Save & Submit selection in Grants.gov.**

B. LETTER OF INTENT AND PRE-APPLICATION

1. Letter of Intent.

Letters of Intent are not required.

2. Pre-application

Pre-applications are not required.

C. CONTENT AND FORM OF APPLICATION – SF 424 (R&R)

You must complete the mandatory forms and any applicable optional forms (e.g., Disclosure of Lobbying Activities (SF-LLL)) in accordance with the instructions on the forms and the additional instructions below. **Files that are attached to the forms must be in Adobe Portable Document Format (PDF) unless otherwise specified in this announcement.**

1. SF 424 (R&R)

Complete this form first to populate data in other forms. Complete all required fields in accordance with the pop-up instructions on the form. To activate the instructions, turn on the “Help Mode” (Icon with the pointer and question mark at the top of the form). The list of certifications and assurances referenced in Field 21 can be found on the DOE Financial Assistance Forms Page at http://management.energy.gov/business_doe/business_forms.htm under Certifications and Assurances.

2. RESEARCH AND RELATED Other Project Information

Complete 1 through 6 and attach files. The files must comply with the following instructions:

Project Summary/Abstract (Field 7 on the Form)

The project summary/abstract must contain a summary of the proposed activity suitable for dissemination to the public. It should be a self-contained document that identifies the name of the applicant, the project director/principal investigator(s), the project title, the objectives of the project, a description of the project, including methods to be employed, the potential impact of the project (i.e., benefits, outcomes), and major participants (for collaborative projects). This document must not include any proprietary or sensitive business information as the Department may make it available to the public. The project summary must not exceed 1 page when printed using standard 8.5” by 11” paper with 1” margins (top, bottom, left and right) with font not smaller than 11 point. To attach a Project Summary/Abstract, click “Add Attachment.”

Project Narrative (Field 8 on the Form)

The project narrative must not exceed 30 pages, including cover page, table of contents, charts, graphs, maps, photographs, and other pictorial presentations, when printed using standard 8.5” by 11” paper with 1 inch margins (top, bottom, left, and right). Narrative Section 5 – Appendix is not included in this page limitation but is instead subject to a separate 20 page limitation.

EVALUATORS WILL ONLY REVIEW THE NUMBER OF PAGES SPECIFIED IN THE

PRECEDING SENTENCES. The font must not be smaller than 11 point. Do not include any Internet addresses (URLs) that provide information necessary to review the application, because the information contained in these sites will not be reviewed. See Part VIII.D for instructions on how to mark proprietary application information. To attach a Project Narrative, click “Add Attachment.”

The project narrative must include, and will be evaluated against the following sections as detailed in relation to Part V, Section A.2. – Merit Review Criteria:

Narrative Section 1 - Technical Merit:

The technical merit section shall address the overall technical approach of the proposal. This section shall contain the following sub-sections:

Project Objectives:

This sub-section should provide a clear, concise statement of the specific objectives/goals of the proposed project and shall include the anticipated outcome or advancement of the proposed approach. The proposed outcome or advancement shall be quantified when applicable.

Technical Merit Discussion:

The Applicant shall address the following evaluation factors:

- Provide a detailed technical discussion of the proposed approach and its contribution or advancement over an identified baseline state-of-the-art. Discuss the technical approach and its ability to address the specific need or problem identified in the Program Area(s) of Interest identified in Part I, Funding Opportunity Description. Identify key technical risks associated with the approach and the proposed pathway to overcome these risks.
- Provide a detailed discussion of the proposed milestones and relevant success criteria as related to factors that demonstrate a positive impact on cost reduction without adversely affecting product performance (such as efficacy). Define the baseline to which the metric is to be evaluated and detail how the metric will be tracked or measured. Detail the relevance and significance of the proposed milestones for each interval of the effort in relation to the overall project goals. Provide special emphasis on the descriptive, qualitative and quantitative success criteria aspects.

Milestones are incremental achievements that need to occur to accomplish a goal. Success Criteria are meant to define the qualitative and quantitative aspects that mean success for each milestone. The milestones and their success criteria will be taken into consideration when making a continuation determination at each decision point.

Although many consumer-related factors may influence price reduction, it is the intention of this Announcement to improve those metrics that influence cost reduction through manufacturing. Examples of appropriate cost-influencing metrics include, but are not limited to, uniformity and control (e.g. of emitted chip wavelength), color consistency of packaged products, raw material efficiency (e.g. in deposition), labor and capital productivity (in terms of good units produced), or improved product yield for any step of production.

Statement Of Project Objectives (SOPO):

The Department of Energy's, National Energy Technology Laboratory uses a specific format for Statement of Project Objectives in its awards. In announcements such as this one, where the Government does not provide a Statement of Project Objectives, the Applicant is to provide one, which the DOE will then use to generate the Statement of Project Objectives to be included in

the award.

The project narrative must contain a single, detailed Statement of Project Objectives that addresses how the project objectives will be met. The Statement of Project Objectives must contain a clear, concise description of all activities to be completed during project performance and follow the structure discussed below. The Statement of Project Objectives is not meant to contain a discussion of why a particular approach is being proposed, but rather be concise about what is being proposed. The Statement of Project Objectives may be released to the public by DOE in whole or in part at any time. It is therefore required that it shall not contain proprietary or confidential business information.

The Statement of Project Objectives is typically 1-3 pages in total for the proposed work. Applicants shall prepare the Statement of Project Objectives in the following format:

TITLE OF WORK TO BE PERFORMED

(Insert the title of work to be performed. Be concise and descriptive.)

A. OBJECTIVES

Include one paragraph on the overall objective(s) of the work. Also, include objective(s) for each phase of the work. This section shall identify the anticipated outcome or advancement of the proposed approach. The proposed outcome or advancement shall be quantified when applicable.

B. TASKS TO BE PERFORMED

Tasks, concisely written, should be provided in a logical sequence and should be divided into the phases of the project, as appropriate. This section provides a brief summary of the planned approach to this project.

Task 1.0 – Project Management Plan

The Recipient shall develop and maintain a Project Management Plan (PMP) throughout the course of the project. The initial PMP shall be submitted to the DOE Project Officer within 60 days of award. The Recipient shall review and update the PMP at the end of each Budget Period and resubmit as a part of the budget period continuation application. The PMP shall also be modified on an ad hoc basis to reflect significant changes or deviations of planning.

PHASE I

Task 2.0 – (Title)

(Description)

Subtask 2.1 (Optional)

(Description)

Task 3.0 - (Title)

PHASE II (Optional)

Task 4.0 - (Title)

C. DELIVERABLES

The periodic, topical, and final reports shall be submitted in accordance with the attached "Federal Assistance Reporting Checklist" and the instructions accompanying the checklist.

Note: The Recipient shall provide a list of deliverables other than those identified on the

"Federal Assistance Reporting Checklist" that will be delivered. These deliverables shall also be identified within the text of the Statement of Project Objectives. See the following examples:

1. Task 1.0 - The Project Management Plan and all required modifications
2. Task 2.0 - (Deliverable Description)

D. BRIEFINGS/TECHNICAL PRESENTATIONS

The Recipient shall prepare detailed briefings for presentation to the Project Officer at the Project Officer's facility located in Pittsburgh, PA or Morgantown, WV. Briefings shall be given by the Recipient to explain the plans, progress, and results of the technical effort.

The Recipient shall provide and present a technical paper(s) at the DOE/NETL Annual SSL R&D Workshop, at a location to be determined.

The Recipient shall provide and present a technical paper(s) at the DOE/NETL Peer Review Meeting to be held at DOE Headquarters in Washington D.C.; or other location specified by the DOE Project Officer.

(END OF STATEMENT OF PROJECT OBJECTIVES)

Narrative Section 2 - Potential for Cost Reduction:

This section shall provide estimates and supporting discussion for the cost-saving potential of the proposed approach. It shall address the following evaluation factors:

- Provide a detailed discussion regarding the feasibility of the approach to meet the overall cost-reduction objectives of the Announcement and to influence a significant reduction in the cost per relevant unit without adverse impacts on performance attributes of the SSL product.
- Detail the targeted cost reduction factors and the amount of anticipated cost reduction over relevant baselines due to success in those factors. Include all necessary assumptions and calculations to support your claims.
- Detail and quantify potential capital and/or labor reductions over existing baseline processes.

Narrative Section 3 - Benefit to US Technology Base:

A secondary objective of this Announcement is to provide direct benefit to the US technology base, both through the development and sales of SSL manufacturing products (reactors, tools, etc.) and from the manufacture and sales of resultant SSL products (LEDs, OLEDs, SSL luminaires, etc.) This section shall address that domestic benefit through the following evaluation factors:

- Provide a detailed discussion about current manufacturing/production capabilities for the team which are located within the US.
- Detail and quantify the proposed product manufacture, production, and assembly to be done within the US versus that proposed outside the US. Identify those components not proposed for production/assembly inside the US.
- Detail the potential for domestic jobs created or retained which would result from successful outcomes of the proposed research and development (for example - new manufacturing/assembly line). Provide relevant assumptions and calculations to support your claims.
- Detail the potential for equipment, materials, and intellectual property sold or licensed

within the US. Provide relevant assumptions and calculations to support your claims.

Narrative Section 4 - Project Team:

The discussion in this section shall detail the ability of the project team to sufficiently address the proposed approach. It shall address the following evaluation factors:

- Identify all project team members and detail the team member's role(s). Discuss the ability of the team to sufficiently address all relevant aspects of the proposed approach and to ultimately meet the objectives of the Announcement. This team member discussion shall include the identification of major component/equipment suppliers where applicable.
- Discuss the experience of individual corporate team members and/or the team as a whole. Detail success in similar projects that has led to successful technology development and commercialization.
- Identify key personnel that are necessary to complete all proposed project aspects. Identify the lead investigator/project director who is responsible to manage project operations and risk (scope, cost, and schedule). Discuss relevant experience and qualifications of these individuals.
- Provide a labor matrix which identifies proposed labor hours of key personnel versus specific tasks identified in the proposed Statement of Project Objectives.
- Indicate the primary site where the work will be performed. If a portion of the work is proposed to be performed at any other sites, identify those sites also. Detail the availability of specific facilities and equipment to accommodate the proposed project. Identify equipment proposed to be acquired under a resultant award.

Additional supporting detail for this section, including biographical sketches, facilities, and equipment, may be provided in the Narrative Section 5 - Appendix as discussed below:

Narrative Section 5 - Appendix:

The following appendix section may be used to provide greater detail for certain required aspects. **The contents of the following four (4) sections of the appendix are not to be included in the 30 page narrative limitation.** The entire appendix section shall not exceed 20 pages in length when printed on 8.5" by 11" paper with 1 inch margins (top, bottom, left, and right) and font not smaller than 11 point.

Biographical Sketch Appendix:

Provide a biographical sketch for the project director/principal investigator (PD/PI) and each senior/key person identified in Narrative Section 4 – Project Team. Provide the biographical sketch information as an appendix to your project narrative. Do not attach a separate file. The biographical sketch appendix shall include the following:

Education and Training:

Undergraduate, graduate and postdoctoral training; provide institution, major/area, degree, and year.

Research and Professional Experience:

Beginning with the current position list, in chronological order, professional/academic positions with a brief description.

Publications:

Provide a list of up to 10 publications most closely related to the proposed project. For each publication, identify the names of all authors (in the same sequence in which they

appear in the publication), the article title, book or journal title, volume number, page numbers, year of publication, and website address if available electronically.

Patents, copyrights, and software systems developed may be provided in addition to or substituted for publications.

Synergistic Activities: List no more than five professional and scholarly activities related to the effort proposed.

Facilities & Other Resources Appendix:

This information is used to assess the capability of the organizational resources, including subawardee resources, available to perform the effort proposed. Identify the facilities to be used (Laboratory, Manufacturing/Production, Computer, Office, and Other). If appropriate, indicate their capacities, pertinent capabilities, relative proximity, and extent of availability to the project. Describe only those resources that are directly applicable to the proposed work. Describe other resources available to the project (e.g., clean room, machine shop, electronic shop) and the extent to which they would be available to the project. In order to reduce the number of files attached to your application, please provide the Facility and Other Resource information as an appendix to your project narrative. Do not attach a file in field 9.

Equipment Appendix:

List major items of equipment already available for this project and, if appropriate identify location and pertinent capabilities. In order to reduce the number of files attached to your application, please provide the Equipment information as an appendix to your project narrative. Do not attach a file in field 10.

Bibliography & References Cited Appendix:

Provide a bibliography of any references cited in the Project Narrative. Each reference must include the names of all authors (in the same sequence in which they appear in the publication), the article and journal title, book title, volume number, page numbers, and year of publication. Include only bibliographic citations. Applicants should be especially careful to follow scholarly practices in providing citations for source materials relied upon when preparing any section of the application. In order to reduce the number of files attached to your application, please provide the Bibliography and References Cited information as an appendix to your project narrative. Do not attach a file in field 8.

Other Attachments (Field 12 on the form):

If you need to elaborate on your responses to questions 1-6 on the “Other Attachments” document, attach a file in field 12. **Also, attach the following files:**

Commitment Letters from Third Parties Contributing to Cost Sharing:

If a third party, (i.e., a party other than the organization submitting the application) proposes to provide all or part of the required cost sharing, the applicant must include a letter from the third party stating that it is committed to providing a specific minimum dollar amount of cost sharing. The letter should also identify the proposed cost sharing (e.g., cash, services, and/or property) to be contributed. Letters must be signed by the person authorized to commit the expenditure of funds by the entity and be provided in a PDF format. Save this information in a single file named “CLTP.pdf” and click on “Add Attachments” in Field 12 to attach.

3. RESEARCH AND RELATED BUDGET (TOTAL FED + NON-FED):

Complete the Research and Related Budget (Total Fed & Non-Fed) form in accordance with the instructions on the form (Activate Help Mode to see instructions) and the following instructions.

You must complete a separate budget for each year of support requested. The form will generate a cumulative budget for the total project period. You must complete all the mandatory information on the form before the NEXT PERIOD button is activated. You may request funds under any of the categories listed as long as the item and amount are necessary to perform the proposed work, meet all the criteria for allowability under the applicable Federal cost principles, and are not prohibited by the funding restrictions in this announcement (See PART IV. G).

Budget Justification (Field K on the form):

Provide the required supporting information for the following costs (See R&R instructions): equipment; domestic and foreign travel; participant/trainees; material and supplies; publication; consultant services; ADP/computer services; subaward/consortium/contractual; equipment or facility rental/user fees; alterations and renovations; and indirect cost type. Provide any other information you wish to submit to justify your budget request. If cost sharing is required, provide an explanation of the source, nature, amount, and availability of any proposed cost sharing. Attach a single budget justification file for the entire project period in Field K. The file automatically carries over to each budget year.

ARRA 2009 Additional Budget Justification Information:

Proposals shall provide information which validates that all laborers and mechanics on projects funded directly by or assisted in whole or in part by and through funding appropriated by the Act are paid wages at rates not less than those prevailing on projects of a character similar in the locality as determined by subchapter IV of Chapter 31 of title 40, United States Code (Davis-Bacon Act). For guidance on how to comply with this provision, see <http://www.dol.gov/esa/whd/contracts/dbra.htm>.

4. R&R SUBAWARD (Total Fed + Non-Fed) FORM:

Budgets for Subawardees You must provide a separate cumulative R&R budget for each subawardee that is expected to perform work estimated to be more than \$100,000 or 50 percent of the total work effort (whichever is less). Download the R&R Budget Attachment from the R&R SUBAWARD BUDGET (Total Fed + Non-Fed) FORM and e-mail it to each subawardee that is required to submit a separate budget. After the Subawardee has e-mailed its completed budget back to you, attach it to one of the blocks provided on the form. Use up to 10 letters of the subawardee's name as the file name.

5. Project Performance Site:

Indicate the primary site where the work will be performed. If a portion of the work will be performed at any other sites, identify those sites, also.

6. Disclosure of Lobbying Activities (SF-LLL):

If applicable, complete SF- LLL. Applicability: If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the grant/cooperative agreement, you must complete and submit Standard Form - LLL, "Disclosure Form to Report Lobbying."

Summary of Required Forms/Files

Your application must include the following documents:

Name of Document	Format	File Name
SF424 (R&R)	Form	N/A
RESEARCH AND RELATED Other Project Information	Form	N/A
Project Summary/Abstract	PDF	Field 7
Project Narrative, including required appendices	PDF	Field 8
Commitment Letters from Third Parties	PDF	Field 12
RESEARCH AND RELATED BUDGET (Total Fed + Non-Fed)	Form	N/A
Budget Justification	PDF	Field K
ARRA 2009 Additional Budget Justification Information	PDF	ARRAWage.pdf
R&R SUBAWARD BUDGET (Total Fed + Non-Fed) ATTACHMENT(S) FORM, if applicable	Form	N/A
Project/Performance Site Location(s)	Form	N/A
SF-LLL Disclosure of Lobbying Activities, if applicable	Form	N/A

D. SUBMISSIONS FROM SUCCESSFUL APPLICANTS

If selected for award, DOE reserves the right to request additional or clarifying information for any reason deemed necessary, including, but not limited to:

- Indirect cost information
- Other budget information
- Name and phone number of the Designated Responsible Employee for complying with national policies prohibiting discrimination (See 10 CFR 1040.5)
- Representation of Limited Rights Data and Restricted Software, if applicable
- Commitment Letter from Third Parties Contributing to Cost Sharing, if applicable
- Environmental Questionnaire

E. SUBMISSION DATES AND TIMES

1. Pre-application Due Date

Pre-applications are not required.

2. Application Due Date

Applications should be received by August 24, 2009, not later than 3:00 PM Eastern Time. You are encouraged to transmit your application well before the deadline. APPLICATIONS

RECEIVED AFTER THE DEADLINE WILL NOT BE REVIEWED OR CONSIDERED FOR AWARD.

F. INTERGOVERNMENTAL REVIEW

This program is not subject to Executive Order 12372 – Intergovernmental Review of Federal Programs.

G. FUNDING RESTRICTIONS

- Cost Principles Costs must be allowable in accordance with the applicable Federal cost principles referenced in 10 CFR part 600. The cost principles for commercial organization are in FAR Part 31.
- Pre-award Costs Recipients may charge to an award resulting from this announcement pre-award costs that were incurred within the ninety (90) calendar day period immediately preceding the effective date of the award, if the costs are allowable in accordance with the applicable Federal cost principles referenced in 10 CFR part 600. Recipients must obtain the prior approval of the contracting officer for any pre-award costs that are for periods greater than this 90 day calendar period.
- Pre-award costs are incurred at the applicant's risk. DOE is under no obligation to reimburse such costs if for any reason the applicant does not receive an award or if the award is made for a lesser amount than the applicant expected.

H. OTHER SUBMISSION AND REGISTRATION REQUIREMENTS

1. Where to Submit

APPLICATIONS MUST BE SUBMITTED THROUGH FEDCONNECT TO BE CONSIDERED FOR AWARD. Submit electronic application through the FedConnect portal at

www.FedConnect.net. Information regarding how to submit application via FedConnect can be found at

https://www.fedconnect.net/FedConnect/PublicPages/FedConnect_Ready_Set_Go.pdf.

Further, it is the responsibility of the applicant, prior to the offer due date and time, to verify successful transmission.

2. Registration Process

There are several one time actions you must complete in order to submit an application in response to this Announcement (e.g., obtain a Dun and Bradstreet Data Universal Numbering System (DUNS) number, register with the Central Contract Registry (CCR), and register with FedConnect). Applicants, who are not registered with CCR and FedConnect, should allow at least 10 days to complete these requirements. It is suggested that the process be started as soon as possible.

Part V - APPLICATION REVIEW INFORMATION

A. CRITERIA

1. Initial Review Criteria

Prior to a comprehensive merit evaluation, DOE will perform an initial review to determine that (1) the applicant is eligible for an award; (2) the information required by the announcement has been submitted; (3) all mandatory requirements are satisfied; and (4) the proposed project is responsive to the objectives of the funding opportunity announcement.

2. Merit Review Criteria

Applications submitted in response to this funding opportunity will be evaluated and scored in accordance with the criteria and weights listed below:

TECHNICAL MERIT (CRITERION 1) – WEIGHT: 30%

- Technical validity and reasonableness of the proposed approach and extent to which the approach addresses the specific Program Area of Interest; ability to identify and thoroughly address key technical risks; likelihood of technical success and realism of stated project goals.
- Clarity, reasonableness, and relevance of proposed milestones and success criteria as related to factors that demonstrate a positive impact on cost reduction without adversely affecting performance; reasonableness of proposed milestones for each interval of the effort with special emphasis on the descriptive, qualitative and quantitative milestone aspects.
- Thoroughness and feasibility of the proposed Statement of Project Objectives (SOPO) and the anticipated outcomes and results.

POTENTIAL FOR COST REDUCTION (CRITERION 2) – WEIGHT: 30%

- Adequacy of discussion and feasibility of approach to achieve order of magnitude cost reductions per relevant unit without adverse impacts on performance attributes and to address the overall cost-reduction objectives of the Announcement.
- The extent and degree of potential cost reduction factors over relevant baselines.
- The extent and degree of potential capital and/or labor reductions.

BENEFIT TO US TECHNOLOGY BASE (CRITERION 3) – WEIGHT: 20%

- Demonstrated current manufacturing/production capabilities located within the US.
- Degree (percentage) and extent of total proposed product manufacture, production and assembly within the US.
- Extent of potential domestic jobs created and/or retained as a result of successful outcomes to the research and development.
- Extent of potential domestic equipment, materials, and intellectual property sold or licensed.

PROJECT TEAM (CRITERION 4) – WEIGHT: 20%

- Thoroughness and completeness of the project team to sufficiently address all relevant aspects of the proposed approach and ultimately meet Announcement objectives.
- Evidence of current individual and team experience; demonstrated success in similar projects that has led to successful technology development and commercialization.
- Experience and availability of key personnel to oversee and complete all proposed project aspects and to manage project risk (scope, cost, and schedule).

- Appropriateness of the proposed labor hours and categories proposed for the work plan; relevance of potential benefit of proposed team members.
- Adequacy (quality, availability, and appropriateness) of facilities and equipment to accommodate the proposed project.

3. Other Selection Factors

The selection official will consider the following program policy factors in the selection process:

1. It may be desirable to select for award a project or group of projects which represent a diversity of technical approaches and methods to complement the SSL R&D Portfolio;
2. It may be desirable to support complementary and/or duplicative efforts or projects, which, when taken together, will best achieve the research goals and objectives;
3. It may be desirable to select different kinds and sizes of organizations in order to provide a balanced programmatic effort and a variety of different technical perspectives;
4. It may be desirable to select project(s) of less technical merit than other project(s) if such a selection will optimize use of available funds by allowing more projects to be supported and not be detrimental to the overall objectives of the program.
5. It may be desirable to select project(s) that reduce Federal investment and maximize corporate commitment as demonstrated by cost share levels that exceed the minimum required;
6. It is desirable to select applications which promote and enhance the objectives of the American Recovery and Reinvestment Act of 2009, P.L. 111-5.

The above factors will be independently considered by the Selection Official in determining the optimum mix of applications that will be selected for support. These policy factors will provide the Selection Official with the capability of developing, from the competitive funding opportunity, a broad involvement of organizations and organizational ideas, which will both enhance the overall technology research effort and upgrade the program content to meet the goals of DOE.

B. REVIEW AND SELECTION PROCESS

1. Merit Review

Applications that pass the initial review will be subjected to a merit review in accordance with the guidance provided in the "Department of Energy Merit Review Guide for Financial Assistance and Unsolicited Proposals." This guide is available under Financial Assistance, Regulations and Guidance at <http://www.management.energy.gov/documents/meritrev.pdf>.

2. Selection

The Selection Official will consider the merit review recommendation, program policy factors, and the amount of funds available.

3. Discussions and Award

The Government may enter into discussions with a selected applicant for any reason deemed necessary, including but not limited to: (1) the budget is not appropriate or reasonable for the requirement; (2) only a portion of the application is selected for award; (3) the Government needs additional information to determine that the recipient is capable of complying with the requirements in 10 CFR part 600; and/or (4) special terms and conditions are required. Failure to resolve satisfactorily the issues identified by the Government will preclude award to the applicant.

C. ANTICIPATED NOTICE OF SELECTION AND AWARD DATES

DOE anticipates notifying applicants selected for award by October 2009 and making awards beginning in December 2009.

Part VI - AWARD ADMINISTRATION INFORMATION

A. AWARD NOTICES

1. Notice of Selection

DOE will notify applicants selected for award. This notice of selection is not an authorization to begin performance. (See Part IV.G with respect to the allowability of pre-award costs.)

2. Notice of Award

A Notice of Financial Assistance Award issued by the contracting officer is the authorizing award document. It normally includes either as an attachment or by reference: (1). Special Terms and Conditions; (2). Applicable program regulations, if any; (3). Application as approved by DOE.; (4). DOE assistance regulations at 10 CFR part 600; (5). National Policy Assurances To Be Incorporated As Award Terms; (6). Budget Summary; and (7). Federal Assistance Reporting Checklist, which identifies the reporting requirements.

B. ADMINISTRATIVE AND NATIONAL POLICY REQUIREMENTS

1. Administrative Requirements

The administrative requirements for DOE grants and cooperative agreements are contained in 10 CFR part 600 (See: <http://ecfr.gpoaccess.gov>). Grants and cooperative agreements made to universities, non-profits and other entities subject to OMB Circular A-110 are subject to the Research Terms and Conditions located on the National Science Foundation web site at <http://www.nsf.gov/bfa/dias/policy/rtc/index.jsp>.

ARRA 2009 Award Administration Information

Special Provisions relating to work funded under American Recovery and Reinvestment Act of 2009, Pub. L. 111-5 shall apply. These provisions can be found at http://management.energy.gov/policy_guidance/1672.htm.

2. Special Terms and Conditions and National Policy Requirements

The DOE Special Terms and Conditions for Use in Most Grants and Cooperative Agreements are located at http://management.energy.gov/business_doe/business_forms.htm.

The National Policy Assurances To Be Incorporated As Award Terms are located at DOE http://management.energy.gov/business_doe/business_forms.htm.

Intellectual Property Provisions

The standard DOE financial assistance intellectual property provisions applicable to the various types of recipients are located at http://www.gc.doe.gov/financial_assistance_awards.htm.

Statement of Substantial Involvement

There will be substantial involvement between the DOE and the Recipient during performance of the resultant cooperative agreements:

RECIPIENT'S RESPONSIBILITIES: The Recipient is responsible for:

- Performing and managing the activities supported by this award, including providing the required personnel, facilities, equipment, supplies and services;
- Defining approaches, milestones, and schedules in the Project Management Plan, submitting the plans to DOE for review, and incorporating DOE comments;
- Reporting on milestones/success criteria in a timely basis;

- Providing all deliverables specified in the award in a timely basis;
- Participating in all briefings specified in the award Statement of Project Objectives including, but not limited to, project briefings, peer reviews, and participation in annual R&D workshops;

DOE RESPONSIBILITIES: DOE is responsible for:

- Monitoring projects closely and recommending alternative approaches to the work because of interrelationships with other projects within the SSL portfolio;
- Providing guidance for recipient's participation in the annual SSL R&D Workshop. This workshop provides a forum for building partnerships and strategies to accelerate technology advances and guide market introduction of high efficiency, high-performance SSL products;
- Reviewing in a timely manner, technical reports and other deliverables and providing comments to the Recipient;
- Conducting program review meetings and peer reviews to ensure adequate progress and that the work accomplishes the program and project objectives;
- Promoting and facilitating technology transfer activities, including disseminating program results through presentations and publications, and communications with the building community and other research organizations through the Technical Information Network as well as ENERGY STAR® for SSL; and
- Serving as scientific/technical liaison and coordinate the close collaboration between participants and other program or industry staff.

C. REPORTING

Reporting requirements are identified on the Federal Assistance Reporting Checklist, DOE F 4600.2, attached to the award agreement. For a sample Checklist, see

<http://management.energy.gov/documents/DOEF46002PolicyVersion.pdf>

PART VII - QUESTIONS/AGENCY CONTACTS

A. QUESTIONS

Questions regarding the content of the announcement must be submitted through the FedConnect portal. You must register with FedConnect to respond as an interested party to submit questions, and to view responses to questions. It is recommended that you register as soon after release of the FOA as possible to have the benefit of all responses. More information is available at <http://www.compusearch.com/products/fedconnect/fedconnect.asp>. DOE will try to respond to a question within 3 business days, unless a similar question and answer have already been posted on the website.

Questions relating to the registration process, system requirements, how an application form works, or the submittal process must be directed to Grants.gov at 1-800-518-4726 or support@grants.gov. DOE cannot answer these questions.

B. AGENCY CONTACT

Name:	Amanda Lopez
E-mail:	Amanda.Lopez@netl.doe.gov
Telephone:	(304) 285-4220

PART VIII - OTHER INFORMATION

A. MODIFICATIONS

Notices of any modifications to this announcement will be posted on Grants.gov and the FedConnect portal. You can receive an email when a modification or an announcement message is posted by registering with FedConnect as an interested party for this FOA. It is recommended that you register as soon after release of the FOA as possible to ensure you receive timely notice of any modifications or other announcements. More information is available at <http://www.fedconnect.net> and <http://www.compusearch.com/products/fedconnect.asp>.

B. GOVERNMENT RIGHT TO REJECT OR NEGOTIATE

DOE reserves the right, without qualification, to reject any or all applications received in response to this announcement and to select any application, in whole or in part, as a basis for negotiation and/or award.

C. COMMITMENT OF PUBLIC FUNDS

The Contracting Officer is the only individual who can make awards or commit the Government to the expenditure of public funds. A commitment by other than the Contracting Officer, either explicit or implied, is invalid.

D. PROPRIETARY APPLICATION INFORMATION

Patentable ideas, trade secrets, proprietary or confidential commercial or financial information, disclosure of which may harm the applicant, should be included in an application only when such information is necessary to convey an understanding of the proposed project. The use and disclosure of such data may be restricted, provided the applicant includes the following legend on the first page of the project narrative and specifies the pages of the application which are to be restricted:

“The data contained in pages _____ of this application have been submitted in confidence and contain trade secrets or proprietary information, and such data shall be used or disclosed only for evaluation purposes, provided that if this applicant receives an award as a result of or in connection with the submission of this application, DOE shall have the right to use or disclose the data herein to the extent provided in the award. This restriction does not limit the government’s right to use or disclose data obtained without restriction from any source, including the applicant.”

To protect such data, each line or paragraph on the pages containing such data must be specifically identified and marked with a legend similar to the following:

“The following contains proprietary information that (name of applicant) requests not be released to persons outside the Government, except for purposes of review and evaluation.”

E. EVALUATION AND ADMINISTRATION BY NON-FEDERAL PERSONNEL

In conducting the merit review evaluation, the Government may seek the advice of qualified non-Federal personnel as reviewers. The Government may also use non-Federal personnel to conduct routine, nondiscretionary administrative activities. The applicant, by submitting its application, consents to the use of non-Federal reviewers/administrators. Non-Federal reviewers must sign conflict of interest and non-disclosure agreements prior to reviewing an application. Non-Federal personnel conducting administrative activities must sign a non-disclosure agreement.

F. INTELLECTUAL PROPERTY DEVELOPED UNDER THIS PROGRAM

Patent Rights. The government will have certain statutory rights in an invention that is conceived or first actually reduced to practice under a DOE award. 42 U.S.C. 5908 provides that title to such inventions vests in the United States, except where 35 U.S.C. 202 provides otherwise for nonprofit organizations or small business firms. However, the Secretary of Energy may waive all or any part of the rights of the United States subject to certain conditions. (See “Notice of Right to Request Patent Waiver” in paragraph G below.)

Rights in Technical Data. Normally, the government has unlimited rights in technical data created under a DOE agreement. Delivery or third party licensing of proprietary software or data developed solely at private expense will not normally be required except as specifically negotiated in a particular agreement to satisfy DOE’s own needs or to insure the commercialization of technology developed under a DOE agreement.

Special Protected Data Statutes. This program is covered by a special protected data statute. The provisions of the statute provide for the protection from public disclosure, for a period of up to five (5) years from the development of the information, of data that would be trade secret, or commercial or financial information that is privileged or confidential, if the information had been obtained from a non-Federal party. Generally, the provision entitled, Rights in Data – Programs Covered Under Special Protected Data Statutes (10 CFR 600 Appendix A to Subpart D), would apply to an award made under this announcement. This provision will identify data or categories of data first produced in the performance of the award that will be made available to the public, notwithstanding the statutory authority to withhold data from public dissemination, and will also identify data that will be recognized by the parties as protected data.

G. NOTICE OF RIGHT TO REQUEST PATENT WAIVER

Applicants may request a waiver http://www.gc.doe.gov/documents/gc62_advance.pdf of all or any part of the rights of the United States in inventions conceived or first actually reduced to practice in performance of an agreement as a result of this announcement, in advance of or within 30 days after the effective date of the award. Even if such advance waiver is not requested or the request is denied, the recipient will have a continuing right under the award to request a waiver of the rights of the United States in identified inventions, i.e., individual inventions conceived or first actually reduced to practice in performance of the award. Any patent waiver that may be granted is subject to certain terms and conditions in 10 CFR 784 <http://www.gc.doe.gov/documents/patwaivclau.pdf>.

Domestic small businesses and domestic nonprofit organizations will receive the patent rights clause at 37 CFR 401.14, i.e., the implementation of the Bayh-Dole Act. This clause permits domestic small business and domestic nonprofit organizations to retain title to subject inventions. Therefore, small businesses and nonprofit organizations do not need to request a waiver.

H. NOTICE REGARDING ELIGIBLE/INELIGIBLE ACTIVITIES

Eligible activities under this program include those which describe and promote the understanding of scientific and technical aspects of specific energy technologies, but not those which encourage or support political activities such as the collection and dissemination of information related to potential, planned or pending legislation.