

**FINANCIAL ASSISTANCE  
FUNDING OPPORTUNITY ANNOUNCEMENT**



**U. S. Department of Energy**

**National Energy Technology Laboratory**

**Recovery Act – Solid-State Lighting Core Technologies**

**Funding Opportunity – Round VI**

**Funding Opportunity Number: DE-FOA-0000082**

**Announcement Type: Initial**

**CFDA Number: 81.086**

<b>Issue Date:</b>	<b>06/29/2009</b>
<b>Letter of Intent Due Date:</b>	<b>Not Applicable</b>
<b>Pre-Application Due Date:</b>	<b>Not Applicable</b>
<b>Application Due Date:</b>	<b>08/10/2009 at 3:00:00 PM Eastern Time</b>

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](http://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](mailto: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/NNSA 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](mailto: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](http://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 (ARRA 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](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](http://www.energy.gov), the OMB website <http://www.whitehouse.gov/omb/>, and the Recovery website, [www.recovery.gov](http://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).

## **A. PURPOSE**

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

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. The focus of this Funding Opportunity Announcement, herein referred to as Announcement, is to support applied research in certain key technical areas by fostering a collaborative atmosphere favorable to overcoming the significant technical challenges that restrict the application of SSL.

Significant progress has been made in the performance of solid-state lighting. Products are just now reaching the lighting market. However, these products have yet to reach the full potential of solid-state lighting. Significant technical challenges still remain to the adoption of viable SSL. The technical challenges that impede penetration into mainstream general illumination markets are complex and require the combined resources of many researchers and perhaps, the unique research tools found only at a limited number of universities, National Laboratories and research institutions. It may be difficult to overcome these critical technical challenges without a focused Government initiative. This is partly because the research may be judged as too risky for industry to undertake alone. Thus, the collaborations sought under this Announcement will help mitigate or reduce the level of technical risk by providing significant financial resources.

A separate funding opportunity announcement will solicit applications from interested entities for product development. Product applications will systematically use the knowledge gained from basic or applied research to develop or improve commercially viable materials, devices, or systems.

## **B. BACKGROUND**

The DOE's BT Program has selected lighting as one of the principle target markets for the development of more efficient technologies since it represents one-fifth of the national electrical consumption. The DOE has provided assistance over the past several years with significant effort invested by industry, academia, and Government. The prevailing theme that has surfaced repeatedly is the promise that solid-state lighting will only be produced through a focused and concentrated effort between the stakeholders.

To address these issues and to advance energy conservation in lighting in US buildings, the DOE's BT Program maintains a Lighting Research and Development (LR&D) program.

To ensure that its research portfolio meets critical and evolving needs in a timely fashion, the LR&D program hosts industry-led efforts to develop and maintain a series of technology road maps for the various technologies that comprise the lighting business. While not the only lighting technology of interest within the BT Program portfolio, SSL is the singular focus of this Announcement.

This Announcement is the sixth in a series of announcements projected to span the next decade. As the relevant SSL technology base matures, it is anticipated that the present level, applied research, will advance to market conditioning once the targets for efficiency, cost, longevity, stability, and control are demonstrated in a product environment.

The DOE envisions a LR&D Program that works together with the SSL industry to meet the program's goal by the year 2025. Critical to this LR&D Program are seven important aspects:

- Emphasizing Competition
- Cost (and Risk) Sharing
- Partners Involved in Planning and Funding
- Targeted Research for Focused Need
- Innovative Intellectual Property Provisions
- Open Information and Process
- Success Determined by Milestones Met and Ultimately Energy Efficient, Long-life and Cost Competitive Products Developed

In order to achieve these goals, a partnership was awarded via Memorandum of Agreement (MOA) with the Next Generation Lighting Industry Alliance (NGLIA). More detailed information about the MOA with the NGLIA can be found at:  
<http://apps1.eere.energy.gov/buildings/publications/pdfs/ssl/moa.pdf>.

This program has been granted an Exceptional Circumstances Determination under the Bayh-Dole Act. The Exceptional Circumstances Determination applies to domestic small businesses and non-profit organizations that receive awards under the Core Technologies Program. The Exceptional Circumstances Determination will allow recipients to retain title to inventions made under their SSL Program awards, but will require them to offer to each member of the NGLIA for a limited period of time the first option to enter into a non-exclusive license upon terms that are reasonable under the circumstances, including royalties, for these inventions. More detailed information about the Exceptional Circumstances Determination can be found at:

[http://apps1.eere.energy.gov/buildings/publications/pdfs/ssl/ssl\\_determination\\_signed\\_june\\_2005\\_1.pdf](http://apps1.eere.energy.gov/buildings/publications/pdfs/ssl/ssl_determination_signed_june_2005_1.pdf).

Entities at any level that do not qualify as a domestic small business or non-profit entity will be subject to the licensing requirements described in the Exceptional Circumstances Determination in the event that they petition for and are granted an advance patent waiver.

### **C. PROGRAM AREAS OF INTEREST**

The Program Areas of Interest for this announcement were chosen by the DOE based on the prioritization of research subtasks in the DOE SSL Multi-Year Program Plan (MYPP) through collaboration with the NGLIA, the current status of projects in the DOE SSL Project Portfolio, and stakeholder input from the DOE SSL Workshops. Each area of interest corresponds to one or more research subtasks identified in the SSL Multi-year Program Plan (MYPP). The SSL MYPP can be found at:

[http://apps1.eere.energy.gov/buildings/publications/pdfs/ssl/ssl\\_determination\\_signed\\_june\\_2005\\_1.pdf](http://apps1.eere.energy.gov/buildings/publications/pdfs/ssl/ssl_determination_signed_june_2005_1.pdf).

The Areas of Interest target innovations in both Light Emitting Diodes (LED) and Organic Light Emitting Diodes (OLED). Each application shall feature a single approach to achieve the desired performance improvements. Multiple approaches shall be proposed in multiple applications, but all applications must offer a research plan that is not dependent on other applications. Applications shall not duplicate existing projects in the DOE SSL Portfolio. Active projects can be found on the Solid-State Lighting Project Portfolio page at

<http://www1.eere.energy.gov/buildings/ssl/projects.html>. Applicants shall discuss SSL industry relationships, collaborations, or partnerships in order to provide evidence of corporate

commitment.

Descriptive information on each of these Areas of Interest is provided in the following paragraphs:

### **Light Emitting Diodes:**

For the following areas of interest, applicants shall relate their technical progress and milestones to the SSL Program milestones and device performance projections contained in the DOE SSL MYPP.

#### Area of Interest 1: Internal Quantum Efficiency

In order to meet the DOE luminous efficacy goals by 2015, more research is required in the area of internal quantum efficiency (IQE) of LED devices. The DOE goal for LEDs across the visible spectrum is 90% IQE by 2015. Research in IQE benefits both color mixing and phosphor converted LED white-light system approaches. Applications are sought that specifically address the improvement of IQE through the epitaxial process. This includes, but is not limited to, bandgap engineering of the active region, novel growth structures, quaternary materials, novel alloys, the use of nanostructures within the active region, epitaxial growth of alternative crystal orientations, and study/control of the role of indium in the active region. Successful applicants shall address IQE improvements beyond the current levels in solid-state lighting, which are listed in the MYPP. Applicants may also address improving the degradation of IQE in LEDs operating at high current density and high operating temperatures. Preference shall be given to projects that demonstrate the highest potential for improvement from current levels in combination with the highest likelihood of adoption into the highest number of SSL products. Quantifiable improvements in the IQE, measured using electroluminescence when applicable, are suggested milestones for applications to this approach and milestones shall demonstrate advancement to the state of the art. Substrate research is identified in the MYPP as a separate subtask **but is not prioritized** for funding in this funding opportunity.

#### Area of Interest 2: Phosphors and Conversion Materials

Current high efficiency LEDs use a phosphor converted approach employing a high efficiency blue emitter with an efficient, broad emission yellow-green phosphor to create white light. Research is sought in improvements to quantum yield of blue or near UV pumped phosphors (wavelength conversion materials) emitting across the visible spectrum. Research is also sought in improvement of the optical efficiency of the phosphor system. Improvements in these areas shall allow for higher efficiency and improved color rendering from phosphor converted LEDs. Phosphor stability and device color stability shall also be addressed in the proposed research. Quantifiable improvements in the phosphor system efficiency (quantum yield and scattering losses) shall be the primary objective of this research, but spectral power distribution, CRI, thermal stability, package efficiency and color stability are also suggested milestones for this research. Phosphor improvements shall be demonstrated through integration with existing high efficiency, high brightness LEDs. Applicant should discuss how research will help DOE react to the MYPP 2015 target of 90% QY across the visible spectrum.

#### Area of Interest 3: Thermal Components Research

Elevated LED junction temperatures can cause reduced light output and shorter lifetimes for an SSL system. Therefore, good thermal management in an SSL lighting system is critical. Research

is sought to develop novel thermal components that can be applied to solid-state lighting products. This includes, but is not limited to improved LED packaging materials, more thermally efficient heat sinks, thermal improvements in circuit boards, and improved thermal efficiency of bonding materials. Thermal improvements shall be demonstrated through integration with existing high efficiency, high brightness LEDs. Quantifiable improvements to thermal resistance are suggested milestones in this research.

#### Area of Interest 4: System Reliability Methods

One of the advantages of SSL is its potential for long lifetimes. However, the long LED lifetimes create a challenge in determining the overall system reliability and lifetime. The DOE is seeking research in models, accelerated testing methodology, and experimentation to determine the lifetime and reliability of integrated SSL luminaires, and individual components. Modeling and simulation results shall be verified with actual SSL luminaire and component testing. Modeling software and methodologies are the expected outcomes of this research and model accuracy with respect to experimental results is the suggested milestone for this research.

#### Area of Interest 5: Optical Component Materials

Due to the long life of SSL systems, it is challenging to find optical components that maintain their integrity throughout the life of the SSL luminaire. The DOE is seeking research and development for optical component materials that last as long as an LED system (~50,000 hours). The optical materials shall be able to handle elevated operating temperature, prolonged UV and blue light exposure, and wet or humid operating environments. Applicants shall emphasize how their materials would be an improvement over existing materials used in current SSL systems. The proposed materials shall maintain high optical transparency, have an appropriate index of refraction, and efficiently perform the stated optical function (i.e. lens material, diffusion, etc.). Applicants shall discuss the merits of their material system such as cost and ease of use in a SSL system.

#### **Organic Light Emitting Diodes:**

Applicants shall relate their technical progress and milestones to the SSL Program milestones and device performance projections contained in the DOE SSL MYPP.

#### Area of Interest 6: Novel Device Architectures

Research is sought in the development of novel white OLED architectures that demonstrate improvements in EQE, reduction in operating voltage, and/or improvement in the device lifetime. These improvements shall not come at the expense of other performance metrics. Applications to this area shall also address manufacturability and cost of fabrication in their application. The applications in this area shall build upon prior research, which shall now be applied to the field of OLEDs for solid-state lighting. Applications shall contain milestones with measurable improvements in device efficiency, increased luminance and improved device lifetimes.

#### Area of Interest 7: High Efficiency OLED Materials

Research is sought in the development of materials that shall efficiently emit light, operate at a low

voltage, show improvements in operating lifetime, and operate at increased brightness levels. This research includes, but is not limited to improved carrier transport materials, carrier blocking materials, integrated nano-structures, inorganic-organic hybrid materials, doping, improved anode and cathode designs, and charge balancing techniques. Improvements made in device efficacy shall not come at the expense of other performance attributes. Applications to this area shall also address manufacturability and cost of fabrication in their application. The applications in this area shall build upon prior research, which shall now be applied to the field of OLEDs for solid-state lighting. Applications shall contain milestones with measurable improvements in device efficiency, increased luminance and improved device lifetimes.

#### Area of Interest 8: OLED Electrodes

Research is sought on transparent or reflective electrodes, light extraction at the substrate or electrode level, and/or charge injection. Research shall demonstrate an OLED device that shows improvement to one or more of these areas while maintaining other performance aspects suitable for lighting applications. All proposed work shall be compatible with state of the art OLED materials and benchmarked against state of the art OLED performance. The proposed electrodes shall be demonstrated on a consistently reproducible OLED of moderate performance. The recommended milestones shall relate to measurable improvements in extraction efficiency, overall device efficiency, device stability and/or electrode resistance and transparency.

#### Area of Interest 9: OLED and Encapsulation Fabrication

Research is sought on improved low-cost fabrication or encapsulation techniques compatible with high efficiency OLEDs for SSL. Applications to this area shall take into account all aspects of device fabrication, and show compatibility with state of the art OLED materials and device structures. The cost of fabricating device material along with device performance limitations shall be considered together and compared against state of the art OLED fabrication techniques. The recommended milestones for this area of interest shall relate to measurable improvements in deposition speed, material utilization, lifetime, shelf life, and reducing manufacturing cost per area of device material.

## **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 \$8,000,000 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 \$600,000 (Federal Share) per year for up to 3 years.

### **F. PERIOD OF PERFORMANCE**

DOE anticipates making awards that will range from twelve (12) months to thirty-six (36) months. Awards will have budget periods that are specific to the project and funding.

### **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 20% 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 10% of the total project costs, except for Indian Tribes or Tribal Energy Resource Groups, for whom the cost share requirement is waived.

### 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/NNSA 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/NNSA FFRDCs. The cognizant contracting officer for the FFRDC must authorize in writing the use of a DOE/NNSA 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/NNSA 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. **The FFRDC portion shall be limited to use of equipment and/or facilities and any related personnel costs that would apply to this use.**

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 save 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 – 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 the required fields in accordance with the pop-up instructions on the form. The list of certifications and assurances referenced in Field 17 can be found on the DOE Financial Assistance Forms Page at [http://management.energy.gov/business\\_doe/business\\_forms.htm](http://management.energy.gov/business_doe/business_forms.htm) under Certification and Assurances.

#### 2. RESEARCH AND RELATED Other Project Information

Complete questions 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 25 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). **EVALUATORS WILL ONLY REVIEW THE NUMBER OF PAGES SPECIFIED IN THE PRECEDING SENTENCE.** 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:

**Project Objectives:** This section should provide a clear, concise statement of the specific objectives/aims of the proposed project.

**Merit Review Criterion Discussion:** The section should be formatted to address each of the merit review criterion and sub-criterion listed in Part V.A. Provide sufficient information so that reviewers will be able to evaluate the application in accordance with these merit review criteria. **DOE WILL EVALUATE AND CONSIDER ONLY THOSE APPLICATIONS THAT ADDRESS SEPARATELY EACH OF THE MERIT REVIEW CRITERION AND SUB-CRITERION.**

**Statement Of Project Objectives (SOP):**

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 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 generally less than 3-4 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.

**B. SCOPE OF WORK**

This section should not exceed one-half page and should summarize the effort and approach to achieve the objective(s) of the work for each Phase.

**C. 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 1.0 – (Title)

Subtask 1.1

(Description)

Task 2.0 - (Title)

PHASE II (Optional)

Task 3.0 - (Title)

#### D. MILESTONES AND SUCCESS CRITERIA

As a part of the approved SOPO, the Recipient shall propose Milestones that will serve as the baseline for tracking performance of the project and will identify success criteria associated with the milestones. Milestones are incremental achievements that need to occur to accomplish a goal. Success Criteria are meant to define project goals for each interval of the proposed effort. Success Criteria are intended to objectively determine whether or not a project has been successful. These success criteria and milestones shall relate to the determination of technical “value” as described in Criterion 2 and shall be relevant to the MYPP goals. The success criteria will be taken into consideration when making a continuation determination at each decision point.

During project performance, the Recipient will report the Milestone Status as relates to the Success Criteria. The Milestone and Success Criteria Status will present and include:

- (1) the actual status and progress of the project,
- (2) specific progress made toward achieving the project’s Success Criteria, and,
- (3) any proposed changes in the projects schedule required to complete critical path milestones.

#### F. 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 reports shall also be identified within the text of the Statement of Project

Objectives.]

See the following examples:

1. Task 1.1 - (Report Description)
2. Task 2.2 - (Report Description)

G. BRIEFINGS/TECHNICAL PRESENTATIONS (If applicable)

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 Solid State Lighting Research & Development Workshop to be held 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 as specified by the DOE Project Officer.

(END OF STATEMENT OF PROJECT OBJECTIVES)

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.

Biographical Sketch Appendix:

Provide a biographical sketch for the project director/principal investigator (PD/PI) and each senior/key person listed in Section A on the R&R Budget form. Provide the biographical sketch information as an appendix to your project narrative. Do not attach a separate file. The biographical sketch appendix will not count in the project narrative page limitation. The biographical information for each person must not exceed 2 pages when printed on 8.5" by 11" paper with 1 inch margins (top, bottom, left, and right) with font not smaller than 11 point and must include:

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 5 professional and scholarly activities related to the effort proposed.

**Third Parties Contributing to Cost Sharing Appendix:** At the time you submit your application, you must have a letter from each third party (i.e., a party other than the organization submitting the application). The letter must state that the third party is committed to providing a specific minimum dollar amount of cost sharing. By submitting your application, you are providing assurance that you have signed letters of commitment. In an appendix to your Project Narrative, you must identify the following information for each third party contributing to cost sharing: (1) the name of the organization; (2) the proposed dollar amount to be provided; (3) the amount as a percentage of the total project cost; and (4) the proposed cost sharing – cash, services, or property. This appendix will not count in the project narrative page limitation. Successful applicants must provide the signed letters of commitments within the number of days specified in Part IV.D, Submissions from Successful Applicants.

**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 9. This appendix will not count in the project narrative page limitation.

**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, Animal, Computer, Office, Clinical, 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., 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 10. This appendix will not count in the project narrative page limitation.

**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 11. This appendix will not count in the project narrative page limitation.

***Other Attachments (Field 12 on the form):***

If you need to elaborate on your responses to questions 1-6 on the “Other Project Information” document, attach a file in Field 12.

**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 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. F).

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, other than DOE FFRDC Contractors. 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.

**6. Project/Performance Site Location(s)**

Indicate the primary site where the work will be performed. If a portion of the project will be performed at any other site(s), identify the site location(s) in the blocks provided.

**Note that the Project/Performance Site Congressional District is entered in the format of the 2 digit state code followed by a dash and a 3 digit Congressional district code, for example VA-001. Hover over this field for additional instructions.**

Use the Next Site button to expand the form to add additional Project/Performance Site Locations.

**7. 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 forms from the application package and other documents as shown below:

<b>Name of Document</b>	<b>Format</b>	<b>Attach to</b>
<b>SF 424 (R&amp;R)</b>	Form	N/A
<b>RESEARCH AND RELATED Other Project Information</b>	Form	N/A
<b>Project Summary/Abstract</b>	PDF	Field 7
<b>Project Narrative, including required appendices</b>	PDF	Field 8
<b>RESEARCH AND RELATED BUDGET (Total Fed + Non-Fed)</b>	Form	N/A
<b>Budget Justification, including ARRA 2009 Additional Budget Justification Information</b>	PDF	Field K
<b>R&amp;R SUBAWARD BUDGET (Total Fed + Non-Fed) ATTACHMENT(S) FORM, if applicable</b>	Form	N/A
<b>PROJECT/PERFORMANCE SITE LOCATION(S)</b>	Form	N/A
<b>SF-LLL Disclosure of Lobbying Activities, if applicable</b>	Form	N/A

**D. SUBMISSIONS FROM SUCCESSFUL APPLICANTS**

If selected for award, DOE/NNSA 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 08/10/2009 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 applications through the FedConnect portal at [www.fedconnect.net](http://www.fedconnect.net). Information regarding how to submit applications via Fed Connect can be found at [https://www.fedconnect.net/FedConnect/PublicPages/FedConnect\\_Ready\\_Set\\_Go.pdf](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.

## 1. **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 Announcement will be evaluated and scored in accordance with the criteria and weights listed below.

Criterion 1: Technical Approach  
Weight: [40%]

- Validity of the proposed approach, the likelihood of success, and the scientific merit of the key technology issues addressed.
- Clarity, reasonableness and applicability of proposed milestones and success criteria as relates to MYPP goals for each interval of the proposed effort with special emphasis on the descriptive, qualitative and especially quantitative milestone aspects.
- Thoroughness and feasibility of the proposed Statement of Project Objectives (SOPO), anticipated outcomes and results.
- The proposed technical innovation and its relevance to the stated objectives.

Criterion 2: Technology Value  
Weight: [30%]

- Extent to which the proposed project meets or exceeds yearly projections as defined in the MYPP, and contributes to the DOE's SSL mission and/or goal.
- Degree of potential improvements over current state of the art device levels.
- Extent to which the proposed approach will contribute to multiple SSL technologies or how it may positively impact other DOE energy efficiency objectives (crosscutting).
- Relevance of the proposed work and its potential impact on eventual SSL products.
- Degree to which the proposed work meets the areas of interest.
- Degree of possibility that the proposed work will achieve the SSL goals earlier than planned.

Criterion 3: Applicant and Team Members Roles and Capabilities  
Weight: [20%]

- Ability of the proposed team to achieve the goals stated in the SOPO; the level of professional and academic credentials.
- Demonstrated abilities based on relevant prior Federal and non-Federal performance.
- Reasonableness of time allocations and appropriateness of proposed personnel in the manpower matrix.
- Adequacy (quality, availability, and appropriateness) of facilities and equipment for the proposed project.

Criterion 4: Corporate Commitment and Technology Transfer Abilities Weight: [10%]

- Degree to which the applicant leverages existing relationships, collaborations or partnerships with the SSL industry or relevant Federal Programs, and evidence of corporate commitment.
- Evidence of ability to successfully transfer technologies to US industry for commercialization.

### **3. Other Selection Factors**

1. It may be desirable to select project(s) that reduce Federal investment and maximize corporate commitment as demonstrated by cost share levels that seek the minimum requested.
2. It may be desirable to select for award a project that adds technical diversity to the SSL R&D Project Portfolio;
3. 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;
4. 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;
5. 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.
6. It may be desirable to select project(s) that promote and enhance the objectives of the American Recovery and Reinvestment Act of 2009, P.L. 111-5, especially job creation, and/or preservation and economic recovery in an expeditious manner.

## **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 11/02/2009 and making awards by 01/07/2010.

## 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.)

Organizations whose applications have not been selected will be advised as promptly as possible. This notice will explain why the application was not selected.

#### 2. Notice of Award

An Assistance Agreement 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/NNSA.; (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](http://management.energy.gov/policy_guidance/1672.htm).

#### 2. Special Terms and Conditions and National Policy Requirements

##### **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](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](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](http://www.gc.doe.gov/financial_assistance_awards.htm).

##### **Statement of Substantial Involvement**

There will be substantial involvement between the DOE and Recipient during performance of the

resultant cooperative agreement.

**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.**

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 Program Planning 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 coordinating 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. See the NETL Business Page at <http://www.netl.doe.gov/business/forms/FederalAssistanceReportingChecklistExample> for the proposed Checklist for this program.

## 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/NNSA will try to respond to a question within 3 business days, unless a similar question and answer has already been posted on the website. DOE/NNSA will not respond to questions received within 5 days of the FOA closing date. For this FOA, no response will be provided for questions received after August 3, 2009.

### B. AGENCY CONTACT

Name:	Jacquelyn Wilson
E-mail:	<a href="mailto:jacquelyn.wilson@netl.doe.gov">jacquelyn.wilson@netl.doe.gov</a>
FAX:	(304) 285-4683
Telephone (Optional):	(304) 285-4135

## **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.

## G. NOTICE OF RIGHT TO REQUEST PATENT WAIVER

Applicants may request a waiver 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.

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.

## I. EXCEPTIONAL CIRCUMSTANCES

**NOTE: The following clause applies only to domestic small businesses and nonprofit organizations, including educational entities. This requirement must be flowed down to any subaward in which research, development or demonstration is anticipated to be performed by domestic small businesses and nonprofit organizations, including educational entities.**

Regarding any award made to domestic small businesses, institutions of higher education, or other non-profit organizations under this announcement, the Department of Energy has approved a determination titled "Exceptional Circumstances Determination for Inventions Arising Under the Solid-State Lighting Core Technologies Program." This Determination is based on the Department's belief that circumstances surrounding the Solid-State Lighting Core Technologies Program are exceptional and justify modified intellectual property arrangements as allowed by the Bayh-Dole Act (35 U.S.C. 202(a)(ii)). More detailed information about the Exceptional Circumstances Determination can be found at:

[http://www.netl.doe.gov/ssl/PDFs/SSL%20Determination%20-%20Signed%20June%202005\\_1.pdf](http://www.netl.doe.gov/ssl/PDFs/SSL%20Determination%20-%20Signed%20June%202005_1.pdf)

The Department of Energy intends that disposition of rights to subject inventions made by domestic small businesses and non-profit entities under awards resulting from this announcement will be subject to the terms of this Determination. The restriction of patent rights under the Determination will be basically as described in the last paragraph of the document in the link provided above. The Department is requiring minimum licensing rights of which the Core Technology Program recipients will have to agree. In addition, under 35 U.S.C 203 § (2), an awardee adversely affected by this Exceptional Circumstance Determination has a right to appeal the Determination to the Department of Energy or to the United States Court of Federal Claims.

Entities at any level that do not qualify as a domestic small business or non-profit entity will be subject to the licensing requirements described in the Exceptional Circumstances Determination in the event that they petition for and are granted an advance patent waiver.