FINANCIAL ASSISTANCE
FUNDING OPPORTUNITY ANNOUNCEMENT

U. S. Department of Energy

National Energy Technology Laboratory

Recovery Act: Deployment of Combined Heat and Power (CHP) Systems, District Energy Systems, Waste Energy Recovery Systems, and Efficient Industrial Equipment

Funding Opportunity Number: DE-FOA-0000044

Announcement Type: Amendment 000005

CFDA Number: 81.087

Issue Date:	**07/07/2009**
Letter of Intent Due Date:	**Not Applicable**
Pre-Application Due Date:	**Not Applicable**
Application Due Date:	**07/14/2009, 8:00 PM Eastern Time**

THIS AMENDMENT SUPERSEDES THE ORIGINAL ANNOUNCEMENT AND ANY PREVIOUSLY ISSUED AMENDMENTS.

THIS DOCUMENT REPRESENTS THE ANNOUNCEMENT IN FULL.

It is not necessary to access the Body or any other previous versions for information.

The purpose of this Amendment No. 000005 to DE-FOA-0000044 is to:

Add a requirement for submission of an additional appendix (Project Economics) to the Project Narrative section under Section IV.C.2. as follows:

- **Project Economics Appendix:**

Provide evidence of economic viability to include financial status with projections on an annual basis, commence at the initial project phase & extend to project closeout, Include evidence of projected revenues, capital, maintenance and operating costs. Provide balance sheet, and a cash flow sheet (sources and uses of funds). If loans are required, please address the loaning institution as well as the status of the loan. Provide Internal Rate of Return (IRR), Return on Investment (ROI), and Payback Period for the project. Applicants may assume a flat 3% inflation rate. For bundled projects, the information should be provided for each installation. Do not attach a file in Field 12. This appendix will not count in the project narrative page limitation.

Please be reminded that:

THE DUE DATE WILL NOT BE EXTENDED.

NO QUESTIONS WILL BE ANSWERED AFTER JULY 9, 2009.

It is important to follow the Registration Requirements instructions on the following page.

As stated in the Questions section, all questions must be submitted via FedConnect.

The application package is only available via Grants.gov. Search by opportunity number and be sure to include all dashes and digits exactly as stated on this cover page.

Applications must be submitted via FedConnect.

The original Body was created with Microsoft Word 2007 and some users may have difficulty opening the document. Subsequent amendments have been created with Microsoft Word 2003. This document represents the announcement in full. It is not necessary to access the Body or any other previous versions for information.

It is advised that prospective applicants use only the most recent amendment for accurate information.

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.

Any employee from a FEDConnect registered entity can individually register to ask/view questions.

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.)

Applicants must identify the Area of Interest they are applying for (i.e., 1, 2, 3 or 4). The required format for the title will be: “Area [X] (project title)” See Section IV, C. 1 and 2.

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SECTION I – FUNDING OPPORTUNITY DESCRIPTION

This Funding Opportunity Announcement (FOA) is funded under Statutory Authority of the American Recovery and Reinvestment Act 2009, Public Law 111- 5 (Recovery Act).

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 amd 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).

Background
The American Recovery and Reinvestment Act of 2009 (ARRA) enacted legislation to create jobs, restore economic growth, and strengthen America's middle class through measures that modernize the nation's infrastructure, enhance America's energy independence, expand educational opportunities, preserve and improve affordable health care, provide tax relief, and protect those in greatest need. This activity aligns with goals identified in the ARRA associated with:

- Creation and preservation of jobs while promoting economic recovery.
- Assisting those most impacted by the recession.
- Provide investments needed to increase economic efficiency by spurring technological advances in science and health.
- Invest in transportation, environmental protection, and other infrastructure that will provide long-term economic benefits.
- Stabilize State and Local governments in order to minimize and avoid reductions in essential services and counterproductive state and local tax increases.

In support of the AARA, the Industrial Technologies Program (ITP) is seeking deployment projects for district energy systems, Combined Heat and Power (CHP) and waste energy recovery applications, and energy-efficient industrial equipment and processes.

Combined Heat and Power (CHP) offers several distinct advantages over many other electricity and thermal energy generating technologies with regard to performance, availability, and cost. CHP, or cogeneration, is the concurrent production of electricity or mechanical power and useful thermal energy (heating and/or cooling) from a single source of energy. CHP is a suite of technologies that generate electricity or power at the point of use and recover the thermal energy that would normally be lost in the power generation process. This allows for much greater improvement in overall fuel efficiency, resulting in lower operating costs and CO_2 emissions. CHP positively impacts the health of local economies while also supporting national policies in a number of ways.

District energy systems produce steam, hot water or chilled water at a central plant and then pipe the energy out to buildings in the district for space heating, domestic hot water heating and air conditioning. The scale of district energy systems enables higher efficiencies to be obtained through the centralized system. District energy systems are often operated with CHP technologies, providing efficiencies of 80% or higher.

The capital cost of new equipment is often a roadblock for utilization of more efficient equipment and processes. Although the newer technologies would provide lower energy requirements and operating costs, the payback period for some technologies does not meet internal business goals. This FOA will enable deployment of industrial technologies that provide 25% or greater improvement in energy efficiency over the currently-utilized equipment.

Objective
The objective of the FOA is to solicit applications for cost-shared projects that will deploy sustainable energy infrastructure projects and energy efficient industrial technologies. Specifically, this FOA seeks projects to deploy efficient technologies in the following four areas of interest:

- Combined Heat and Power
- District Energy Systems
- Industrial Waste Energy Recovery
- Efficient Industrial Equipment

The result will be deployment of technologies that will increase our national energy security, provide construction and manufacturing jobs, and build markets for skilled green construction.

General Requirements (All Areas of Interest)

Applications shall identify jobs directly created or retained as a result of this project (e.g. engineers, test operators, etc.) as well as the long term jobs created as a result of the project. Specifically, the applicants shall provide information detailing:

1) the number of new jobs directly created (or retained) within the first year of the project;
2) the number of new jobs indirectly created (or retained) within the first year of the project for major suppliers to the project; and
3) the number of long term jobs created by the project (lasting more than five years from the end of the project).

Consideration and priority will be given to projects which create the greatest number of jobs within the first three years of the project and projects that create long term sustainable jobs. Speculation on induced jobs that may occur as a result of workers employed as a result of this project shall not be included (e.g. jobs associated with grocery stores, retail stores, transportation, etc).

Applicants are advised that equipment acquired utilizing government project funds will be subject to the regulations set forth in 10 CFR Part 600.

Applicants are advised that information associated with awards made under this announcement shall be posted to Recovery.gov. Further, applicants will be required to include Economic Recovery Act data collection and accountability requirements in overall project plans. Reports will be collected quarterly and shall address:

- Total amount of recovery funds received
- Funds expended or obligated
- List of projects or activities for which recovery funds were expended or obligated
  - Name of Project or activity
  - Description of project or activity
  - Completion status of the activity
  - Estimate of the number of jobs created and the number of jobs retained by the project or activity
  - For infrastructure investments made by State and local governments, the purpose, total cost, and the rationale of the agency for funding the infrastructure investment with funds as made available under this act, and the name of the person to contact at the agency if there are concerns with the investment
- Detailed information on any subcontractors or sub-grants awarded by the recipient to include the data elements required to comply with the Federal Funding Accountability and Transparency Act of 2006 (P.L. 109-282), allowing aggregate reporting on awards below $25,000 or to individuals, as prescribed by Director of the Office of Management and Budget.

Applications that are ready for immediate initiation (Initiate construction within 120 days of award) will receive higher priority in the evaluation process. These applications shall provide evidence of "Readiness to Initiate" that includes some or all of the following:

- Assessment of ability to initiate in 120 days
- Preliminary evaluation of any environmental issues (environmental questionnaire-NETL F451.1-1/3) and, for projects that may require preparation of an environmental assessment (EA) or environmental impact statement (EIS) pursuant to the National Environmental Policy Act (NEPA), strategies to begin implementation of the project while complying with NEPA and other environmental requirements (e.g., obtaining permits and other government approvals).
- Evidence of a detailed design approach to include system component design and key interfaces to customers/electric cooperatives
- Expected Sites & Evidence of site agreements, licenses, permitting, lease agreements, or land ownership
- Identification of equipment on site, planned equipment purchases, potential vendors, price information, status of equipment availability, with special emphasis on equipment planned to be purchased in whole or in part with government funds
- Status of partnerships with evidence of partnering agreements
- Identification of key project members as well as relevant corporate qualifications. Key project personnel for each participating organization, their role in the project, and their relevant qualifications must also be identified. Commitment letters should be limited to project partners. Letters of support from other organizations (i.e. not project partners) interested in lending their support to the worthiness of the project will not be considered and should not be included as part of the application.
- Evidence of an Energy Services agreement if applicable
- Evidence of economic viability to include financial status with projections on an annual basis, commence at the initial project phase & extend to project closeout, include evidence of current revenues and expenses, balance sheet, and a cash flow sheet (sources and uses of funds). If loans are required, please address the loaning institution as well as the status of the loan.
- Evidence of detailed project schedules

This FOA contains multiple Program Areas of Interest, shown below. Applicants are cautioned that this FOA DE-FOA-0000044 is a master announcement and that each Program Area of Interest (Area) has its own program-specific number for submission of applications. **Applicants must identify the Area of Interest they are applying for (i.e., 1, 2, 3 or 4). See labeling instructions under Section 4, C. 1. and 2. below.**

Applicants may submit more than one application; however, each application must be submitted in separate Areas. **Duplicate applications will not be reviewed. Only the last application submitted (identified by time and date stamp) will be reviewed.**

Applicants shall select and target only one (1) Area per application. Applicants may propose multiple deployment sites within a given Area; however, the multiple sites should be included in a single application. (For example, Company A may propose sites 1, 2, 3, 4, and 5 under Area 1, and may submit a separate proposal for sites 6, 7, 8, 9, and 10 under Area 2.)

Applicants shall not submit identical applications under more than one Area of Interest. Duplicate applications will be considered non-responsive and will not be reviewed.

In the case of proposals from State or Local agencies, a certification is required from the Governor, mayor, or other chief executive, as appropriate, indicating that the infrastructure investment has received the full review and vetting and that the chief executive accepts responsibility that the investment is an appropriate use of taxpayer funds.

Applications shall provide evidence by analysis, simulation, or modeling that validates deployment of the system(s) will achieve the efficiencies identified within each area of interest.

The non-federal cost share requirements identified in this FOA represent the minimum value required. Non-federal cost share in excess of the requirement is highly encouraged for optimal use of federal funds.

The following applications shall be considered nonresponsive to this announcement and will not be reviewed:

- **Applications with approaches that do not demonstrate compliance with American Recovery and Reinvestment Act of 2009 terms and conditions (See Section VI, B);**
- **Applications that include research or development activities;**
- **Applications that have not identified implementation sites or equipment**
- **Applications with approaches which do not meet the minimum efficiency requirements for the targeted Area of Interest**

For the purposes of this FOA, the process boundaries for calculating efficiency are determined by scope and associated costs of the proposed project.

The baseline efficiency is defined as the useful energy currently recovered divided by the total energy available for use by the technology.

The total energy available for use includes the thermal, chemical, and mechanical (i.e. PV) energy going into the process boundaries.

The useful energy currently recovered includes electrical energy; useful thermal energy for process heating, HVAC or other facility use; or mechanical (e.g. shaft) energy.

Similarly, the efficiency of the proposed technology is defined as the useful energy recovered by that technology divided by the total energy available for use by the technology.

This FOA is fuel-neutral, and seeks to deploy efficient equipment and systems, regardless of energy source. With the exception of Criterion 3, no additional credit would be provided for the use of renewable fuels. (Efficiency requirements must be met, regardless of fuel source.)

Areas of Interest

Applicants will be required to apply to one or more of the following Areas of Interest:

Area of Interest 1: COMBINED HEAT AND POWER —The term 'combined heat and power' means the generation of electric energy and heat in a single, integrated system, with an overall thermal efficiency of 60 percent or greater on a higher-heating-value basis.

Applications are sought for deployment of commercially available CHP technologies and may include single installations or multiple installations at multiple sites. Applications are limited to deployment of new integrated CHP systems where similar systems had not existed previously and replacement of an inefficient existing system. Applications that include modifications or upgrades to existing systems will be deemed non-responsive to the FOA and will not be reviewed. Projects may be proposed that include multiple CHP sizes and/or types at the same location or at different locations.

New systems shall have a minimum efficiency of 60%. Replacement of an inefficient existing system shall have at least 60% overall system efficiency and represent at least a 25% efficiency increase when compared the system being replaced.

Area of Interest 2: DISTRICT ENERGY SYSTEMS —The term 'district energy systems' means systems providing thermal energy from a renewable energy source, thermal energy source, or highly efficient technology to more than one (1) building or fixed energy-consuming use from one (1) or more thermal-energy production facilities through pipes or other means to provide space heating, space conditioning, hot water, steam, compression, process energy, or other end uses for that energy.

Applications are sought for deployment of commercially available district energy system technologies and may include single installations or multiple installations at multiple sites. Applications are limited to deployment of new district energy systems where similar technology had not existed previously and replacement of an inefficient existing system. Applications that include modifications or upgrades to existing systems will be deemed non-responsive to the FOA and will not be reviewed. Projects may be proposed that include multiple district energy system sizes and/or types at the same location or at different locations.

New systems shall have a minimum efficiency of 60%. Replacement of an inefficient existing system shall have at least 60% overall system efficiency and represent at least a 25% efficiency increase when compared with the system being replaced.

Area of Interest 3: WASTE ENERGY RECOVERY —The term 'waste energy recovery' means the collection and reuse of energy from sources such as exhaust heat or flared gas from any industrial process; waste gas or industrial tail gas that would otherwise be flared, incinerated, or vented; a pressure drop in any gas, excluding any pressure drop to a condenser that subsequently vents the resulting heat.

Applications are sought for deployment of commercially available waste energy recovery technologies and may include single installations or multiple installations at multiple sites. Applications are limited to deployment of new integrated waste energy recovery systems where similar systems had not existed previously and replacement of an inefficient existing system. Applications that include modifications or upgrades to existing systems will be deemed non-responsive to the FOA and will not be reviewed. Projects may be proposed that include multiple waste energy recovery sizes and/or types at the same location or at different locations.

New systems shall have a minimum efficiency of 30%. Replacement of an inefficient existing system shall have at least 30% overall system efficiency and represent at least a 25% efficiency increase when compared the system being replaced.

Area of Interest 4: EFFICIENT INDUSTRIAL EQUIPMENT – The term ”efficient industrial equipment” refers to any proven, commercially available technology. Applications shall include deployment of technologies and systems with a minimum efficiency improvement of 25 percent into the industrial sector. Bundling of multiple projects within a single application is required. Applications submitted for this area of interest shall be sized to exceed $10M total project value.

SECTION II – AWARD INFORMATION

A. TYPE OF AWARD INSTRUMENT

DOE anticipates awarding grants under this program announcement.

B. ESTIMATED FUNDING

Approximately $156,000,000 in DOE funding is expected to be available for new awards under this announcement.

C. MAXIMUM AND MINIMUM AWARD SIZE - This amount is the total project cost including both DOE share and Recipient Share.

Areas of Interest 1:

- 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): $1,000,000

Areas of Interest 2:

- 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): $10,000,000

Areas of Interest 3:

- 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): $500,000

Area of Interest 4:

- 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): $10,000,000

D. EXPECTED NUMBER OF AWARDS

Under this announcement, DOE expects to make the following number of awards for each Area of Interest:

Program/Topic Area:	Number of Awards
Area of Interest 1	5-30
Area of Interest 2	1-4
Area of Interest 3	5-30
Area of Interest 4	1-8

E. ANTICIPATED AWARD SIZE

The anticipated award size for projects under each Area of Interest in this announcement is:

Program/Topic Area:	Anticipated Award Size
Area of Interest 1	\$1,000,000 - \$60,000,000
Area of Interest 2	\$10,000,000 - \$60,000,000
Area of Interest 3	\$500,000 - \$60,000,000
Area of Interest 4	\$10,000,000 - \$100,000,000

F. PERIOD OF PERFORMANCE

DOE anticipates making awards that will run for one to three years. Go/No Go decision points will be included that will provide the DOE with a unilateral decision point as to whether the project should continue or not continue.

G. TYPE OF APPLICATION

DOE will only accept new applications under this announcement.

SECTION III - ELIGIBILITY INFORMATION

A. ELIGIBLE APPLICANTS

All types of 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

The Recipient cost share for Areas of Interest 1, 2, and 3 is required to be 50% or higher of the total allowable costs 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) and must come from non-Federal sources unless otherwise allowed by law. However, applications with proposed cost share as low as 25% Recipient share may be considered, using the Secretary's statutory authority to reduce cost-share requirements. Applicants proposing a cost-share below 50% recipient share shall provide a justification for their request. Recipient cost share may be considered by the Government as a means to optimize federal funding.
The Recipient cost share for Area of Interest 4 shall be 50% or higher of the total allowable costs of the project. Applications with less than 50% cost share for Area of Interest 4 shall be considered non-responsive and will not be reviewed.

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. The value of, and funding for, the FFRDC contractor portion of the work will not normally be included in the award to a successful applicant. Usually, DOE/NNSA will fund a DOE/NNSA FFRDC contractor through the DOE field work proposal system and other FFRDC contractors through an interagency agreement with the sponsoring agency.

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 scope of work to be performed by the FFRDC contractor may not be more significant than the scope of work to be performed by the applicant.

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.

SECTION 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

http://www.ccr.gov/

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 the 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 17 can be found on the DOE Financial Assistance Forms Page at http://management.energy.gov/business_doe/business_forms.htm under Certification and Assurances.

   NOTE: The title provided in the SF424 must specify the Area of Interest.

   The required format for the title will be:
   "Area [X] (project title)"

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.”

NOTE: The title provided on the Project Abstract must specify the Area of Interest.

The required format for the title will be:
“Area [X] (project title)”

Project Narrative (Field 8 on the Form)

The project narrative must not exceed 12 pages, single spaced, 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 Section 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. A generic Statement of Project Objectives (SOPO) has been developed for this project, and it is unnecessary to include it in this section. Subtask-level detail for the SOPO shall be provided in the Project Management Plan.

- Merit Review Criterion Discussion The section should be formatted to address each of the merit review criterion and sub-criterion listed in Section 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.

- Relevance and Outcomes/Impacts: This section should explain the relevance of the effort to the objectives in the program announcement and the expected outcomes and/or impacts.

- Roles Of Participants: For multi-organizational or multi-investigator projects, describe the roles and the work to be performed by each participant/investigator, business agreements between the applicant and participants, and how the various efforts will be integrated and managed.

- Multiple Principal Investigators: The applicant, whether a single organization or team/partnership/consortium, must indicate if the project will include multiple PIs. This decision is solely the responsibility of the applicant.

  If multiple PIs will be designated, the application must identify the Contact PI/Project Coordinator and provide a “Coordination and Management Plan” that describes the organization structure of the project as it pertains to the designation of multiple PIs. This plan should, at a minimum, include:

- process for making decisions on scientific/technical direction;
- publications;
- intellectual property issues;
- communication plans;
- procedures for resolving conflicts; and
- PIs' roles and administrative, technical, and scientific responsibilities for the project.

The following appendices are to be included in the Project Narrative Document but will <u>not count</u> toward the Project Narrative total page count:

- <u>Identification of Potential Conflicts of Interest or Bias in Selection of Reviewers Appendix</u>.
  Provide the following information in this section. This appendix **will not** count in the project narrative page limitation):

  <u>Collaborators and Co-editors:</u> List in alphabetical order all persons, including their current organizational affiliation, who are, or who have been, collaborators or co-authors with you on a research project, book or book article, report, abstract, or paper during the 48 months preceding the submission of this application. Also, list any individuals who are currently, or have been, co-editors with you on a special issue of a journal, compendium, or conference proceedings during the 24 months preceding the submission of this application. If there are no collaborators or co-editors to report, state "None."

  <u>Graduate and Postdoctoral Advisors and Advisees:</u> List the names and current organizational affiliations of your graduate advisor(s) and principal postdoctoral sponsor(s) during the last 5 years. Also, list the names and current organizational affiliations of your graduate students and postdoctoral associates

- <u>Bibliography & References Cited Appendix:</u>
  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.

- <u>Facilities & Other Resources Appendix:</u>
  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. Identify planned equipment purchases, potential vendors, price information, status of equipment availability, with special emphasis on equipment planned to be purchased in whole or in part with government funds

  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.

- **Project Economics Appendix:**

- **Provide evidence of economic viability to include financial status with projections on an annual basis, commence at the initial project phase & extend to project closeout, Include evidence of projected revenues, capital, maintenance and operating costs. Provide balance sheet, and a cash flow sheet (sources and uses of funds). If loans are required, please address the loaning institution as well as the status of the loan. Provide Internal Rate of Return (IRR), Return on Investment (ROI), and Payback Period for the project. Applicants may assume a flat 3% inflation rate. For bundled projects, the information should be provided for each installation. Do not attach a file in Field 12. This appendix will not count in the project narrative page limitation.**

(End of Project Narrative)

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.

Also, attach the following files:

Project Management Plan.

This is a mandatory file. This plan shall be formatted to include the following sections with each section to include the information as described below:

A. Executive Summary: Provide a description of the project that includes the objective, project goals, and expected results. For purposes of the application, this information is included in the Project Narrative (Field 8) and applicable portions can be simply copied to this document for completeness, so that the Project Management Plan is a stand-alone document.

B. Detailed Work Breakdown Structure and Gannt Chart: Provide a detailed Work Breakdown Structure (WBS) and Gannt Chart for the project. This section expands on the standard Statement of Project Objectives, and shall provide a minimum of subtask-level detail, including milestones, subtask cost, and schedule for completion.

C. Risk Management: Provide a summary description of the proposed approach to identify, analyze, and respond to perceived risks associated with the proposed project. Project risk events are uncertain future events that, if realized, impact the success of the project. As a minimum, include the initial identification of significant technical, resource, and management issues that have the potential to impede project progress and strategies to minimize impacts from those issues.

D. Milestone Log: Provide milestones for each budget period (or phase) of the project. Each milestone should include a title and planned completion date. Milestones shall be quantitative and show progress toward budget period and/or project goals. Minimum milestones shall include:

- Equipment Procured
- 150 Day Go/No Go Decision Point
- Equipment Delivered to site
- System Installation Complete
- Installed System Shakedown Complete
- Full Scale System Verification Complete (minimum 160 hours)
- Project Complete

[Note: During project performance, the Recipient will report the Milestone Status as part of the required quarterly Progress Report as prescribed under Attachment 4, Reporting Requirements Checklist. The Milestone Status will present actual performance in comparison with Milestone Log, and include:

(1) the **actual** status and progress of the project,

(2) specific progress made toward achieving the project's milestones, and,

(3) any proposed changes in the project's schedule required to complete milestones.]

D. Funding and Costing Profile: Provide a table (the Project Funding Profile) that shows, by budget period, the amount of government funding going to each project team member. Also provide a table (the Project Costing Profile) that projects, by month, the expenditure of government funds for the first budget period, at a minimum.

E. Project Timeline: Provide a timeline of the project (similar to a Gantt chart) broken down by each task and subtask, as described in the Statement of Project Objectives. The timeline should include for each task, a start date, and end date. The timeline should show interdependencies between tasks and include the milestones that are identified in the Milestone Log (Section C).

F.   Success Criteria at Decision Points: Provide success criteria for each decision point in the project, including go/no-go decision points and the conclusions of budget periods and the entire project. The success criteria should be objective and stated in terms of specific, measurable, and repeatable data. Usually, the success criteria pertain to desirable outcomes, results, and observations from the project.

[Note: As the first task in the Statement of Project Objectives, successful applicants will revise the version of the Project Management Plan that is submitted with their applications by including details from the negotiation process. This Project Management Plan will be updated by the Recipient as the project progresses, and the Recipient must use this plan to report schedule and budget variances.]

Save this plan in a single file named "pmp.pdf" and click on "Add Attachments" in Field 12 to attach.

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 11 to attach.

Budget for DOE/NNSA Federally Funded Research and Development Center (FFRDC) Contractor, if applicable. If a DOE/NNSA FFRDC contractor is to perform a portion of the work, you must provide a DOE Field Work Proposal in accordance with the requirements in DOE Order 412.1 Work Authorization System. This order and the DOE Field Work Proposal form are available at http://management.energy.gov/business_doe/business_forms.htm. Use the FFRDC name as the file name (up to 10 letters) and attach to the R&R Other Project Information form in Field 12 – Add Attachments.

Environmental Questionnaire
You must complete the environmental questionnaire (NETL Form 451.1-1/3) for each location where work will be performed(do not fill out NETL Form 451.1-1/1, which is attached at the end of Form 451.1-1/3; DOE is responsible for completing Form 451.1-1/1). Fill-able versions of the Environmental Questionnaire are available at http://www.netl.doe.gov/business/forms.html#POST_SEL_AP. Save the questionnaire in a single file named "Env.pdf" and click on "Add Attachments" in Field 12 to attach.

All projects receiving federal funding must be reviewed under the National Environmental Policy Act (NEPA). Based on its review of the activities in the areas of interest that are eligible for funding under this announcement, DOE has determined that many of these activities may be categorically excluded from further analysis under NEPA. However, some proposed activities may require the preparation of an environmental assessment or an environmental impact statement.

SF 424 C Excel, Budget Information – Construction Programs
If you plan to have a subawardee provide construction services on your proposed RD&D project, submit a SF 424 C Excel Budget Information – Construction Programs form (available at http://management.energy.gov/business_doe/business_forms.htm) for the

subawardee's construction effort, instead of a R&R Subaward Budget Attachment. Complete a SF 424 C budget for each year of support requested and a cumulative budget for the total project period. You must also identify the subawardees construction costs on your RESEARCH AND RELATED BUDGET form on the Subaward/Consortium/Contractual Costs line (Line F.5). Justify the construction costs in your budget justification file and identify who will be performing the work. Save the SF 424 C budgets in a single file named "SF424C.xls," and attach to the RESEARCH AND RELATED Other Project Information form. Click on "Add Attachments" in Field 12 to attach.

3. **RESEARCH AND RELATED Senior/Key Person Profile** (Expanded)
Complete this form before the Budget form to populate data on the Budget form. Beginning with the PD/PI, provide a profile for each senior/key person proposed. A senior/key person is any individual who contributes in a substantive, measurable way to the scientific/technical development or execution of the project, whether or not a salary is proposed for this individual. Subawardees and consultants must be included if they meet this definition. . Use the Next Person button to expand the form to add additional senior/key persons.

For each senior/key person provide:

Biographical Sketch*.*
Complete a biographical sketch for each senior/key person and attach to the "Attach Biographical Sketch" field in each profile. 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.

Current and Pending Support

- Provide a list of all current and pending support (both Federal and non-Federal) for the Project Director/Principal Investigator(s) (PD/PI) and senior/key persons, including subawardees, for ongoing projects and pending applications. For each organization providing support, show the total award amount for the entire award period (including indirect costs) and the number of person-months per year to be devoted to the project by the senior/key person. Concurrent submission of an application to other organizations for simultaneous consideration will not prejudice its review. Save the information in a separate file and attach to the "Attach Current and Pending Support" field in each profile.

4. 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 SECTION IV. G).

Budget Justification (Field K on the form)

NOTE: A standard Statement of Project Objectives (SOPO) is provided as Attachment A to this FOA. Applicants shall provide cost detail at the Task level of the SOPO in the Budget Justification.

Recipients shall provide Subtask-level cost detail in the Project Management Plan.

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

Applications 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.

Cost Share Reduction Justification

If applicable, applicants must provide a cost share reduction justification if proposing less than the required 50% or higher recipient cost share. Justifications must be signed by the person authorized to commit the expenditure of funds for the entity and be provided in a PDF format. Save this letter in a single file named "Just.pdf," and click on "Add Optional Other Attachment" to attach.

5. 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 following documents:

Name of Document	Format	Attach to
SF 424 (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
Budget for DOE/NNSA FFRDC, if applicable	PDF	Field 12

Project Management Plan	PDF	Field 12
Commitment Letters from Third Parties	PDF	Field 12
Environmental Questionnaire	PDF	Field 12
SF 424C Excel - Budget Information for Construction Programs File	PDF	Field 12
RESEARCH & RELATED SENIOR/KEY PERSON Profile (Expanded) (Optional)	Form	N/A
Biographical Sketch	PDF	Attach to appropriate block
Current and Pending Support	PDF	Attach to appropriate block
RESEARCH AND RELATED BUDGET (Total Fed + Non-Fed)	Form	N/A
Budget Justification	PDF	Field K
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/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

E. SUBMISSION DATES AND TIMES

1. Pre-application Due Date

Pre-applications are not required.

2. Application Due Date

Applications must be received by July 14, 2009, not later than 8:00 PM Eastern Time. You are encouraged to transmit your application well before the deadline.

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. Applicants are advised that equipment acquired utilizing government project funds will be subject to the regulations set forth 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 (reference Page 2 of this FOA)

1. Where to Submit

APPLICATIONS MUST BE SUBMITTED THROUGH FEDCONNECT TO BE CONSIDERED FOR AWARD. Submit electronic applications through the FedConnect portal. Information regarding how to submit applications via Fed Connect 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 Registration (CCR), and register with FedConnect). Applicants, who are not registered with CCR and Grants.gov, should allow at least 10 days to complete these requirements. **It is strongly encouraged that the process be started as soon as possible.**

Section 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

Criterion 1: Ability to Preserve or Create Domestic Jobs **Weight: 35%**

- Adequacy of discussion of domestic job creation (i.e. methodology for provided estimates)
- Extent of domestic manufacturing jobs created or preserved in support of this activity.
- Extent of domestic construction jobs created or preserved in support of this activity.
- Extent of domestic skilled labor jobs created to maintain operation of equipment and infrastructure deployed under this activity.

Criterion 2: Project Management and Resources **Weight: 35%**

- Ability of the applicant to initiate the project expeditiously and initiate construction activities or equipment installation within 120 days of award
- Readiness to proceed with the project in terms of
    - Detailed design approach to include key interfaces customers and/or electric cooperatives
    - Status of partnerships with evidence of existing partnerships or commitments for partnership
    - Status of Environmental Certifications
    - Supplier commitments and Equipment installation availability status
    - Expected sites and evidence of site agreements, permits, licenses, lease agreements, land ownership, etc.
- Identification of implementation barriers, risks, and “timely” strategies for resolution.
- Application of sound methodology in the Project Management Plan including:
    - Identification of, and criteria for go/no-go decisions
    - Interim milestones
    - Identification of success/failure metrics to enable effective project management.
- Adequacy, appropriateness, and reasonableness of the proposed work and budget distribution among the team members to accomplish the Statement of Project Objectives (SOPO).
- Clarity, adequacy and completeness of the explanation of the role and contribution of each team member in deployment of the technology.
- Evidence of team’s experience and success in similar projects.
- Suitability of experience and availability of key personnel to complete the proposed project.
- Soundness of a plan to expeditiously address environmental and other regulatory requirements for the project

Criterion 3: Energy Benefits **Weight: 30%**

- The completeness and validity of analysis and assumptions used in developing the benefits ascribed to the technology.
- Extent of energy savings relative to baseline equipment and infrastructure, in TBtu/year;
- Extent of efficiency increase over existing technology;
- Adequacy of economic (cost/savings) analysis of the technology relative to the baseline equipment and infrastructure, including operating, maintenance, energy and environmental compliance costs.

3. Other Selection Factors

1. **Optimization of Federal Funds -** It may be desirable to select projects for award of less technical merit than other projects, if such a selection will optimize use of available funds by allowing more projects to be supported while not being detrimental to the overall objectives of the program. This may include, but is not limited to, the percentage of non-federal cost share contributed to the project.

2. **Diversity of Organizations -** It may be desirable to select projects that collectively represent diverse types and sizes of applicant organizations.

3. **Diversity of Technologies -** It may be desirable to select projects for award that represent a diversity of technology concepts and applications, as well as technical approaches.

4. **ARRA 2009 Application Review Information Criteria –** 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, especially economic recovery in an expeditious manner. This would include the selection of projects that promote economic recovery, assist those most impacted by the recession, stabilize state and local government budgets or provide general economic benefit.

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." 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

DOE anticipates making selections no later than October 2009.

Section 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 Section 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

A Notice of 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; (4). DOE assistance regulations at 10 CFR part 600, or, for Federal Demonstration Partnership (FDP) institutions, the FDP terms and conditions; (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.

C. REPORTING

Reporting requirements are identified on the Federal Assistance Reporting Checklist, DOE F 4600.2, and will be attached to the resulting award agreement. See the NETL Business Page at http://www.netl.doe.gov/business/forms/FederalAssistanceReportingChecklistExample for the proposed Checklist for this program.

Note: Quarterly progress and financial reports are required as stated in the Reporting Checklist.

ARRA Reporting - In addition to the quarterly progress and financial reports identified above, Recipients will be required to submit information supporting the Recovery Act goals and objectives. Requirements for this reporting are provided with the Recovery Act Special Terms and Conditions (see B. 1. above) located under award terms at http://management.energy.gov/business_doe/business_forms.htm.

SECTION VII - QUESTIONS/AGENCY CONTACTS

A. QUESTIONS - reference the Registration/Submission Requirements at the beginning of this FOA

Questions regarding the content of the announcement **must be submitted through FedConnect**.

The DOE will not answer any question nor give advice regarding the merit or applicability of a project. Prospective applicants must read the FOA in its entirety and make a business decision whether or not to submit an application.

You must register with FedConnect to respond as an interested party, to submit questions, or to view answers to questions. DOE may not reply to individual questions but rather may periodically post answers to questions via the Inbox in FedConnect. The inbox is only accessible after you have registered with FedConnect and joined the Response Team for this particular FOA.

Note: the Responses section of the FedConnect page is for submission of applications - not for responses to questions. As stated in previous paragraph, answers to questions will be available via the Inbox.

It is recommended that you register as soon as possible to have the benefit of all communications. More information is available at **http://www.compusearch.com/products/fedconnect/fedconnect.asp**.

Any employee from a FedConnect registered entity can individually register to ask/view questions.

From Compusearch: Ready, Set, Go manual:

If you are the first person from your company to register, FedConnect will need to create a company account. Only a person who knows your company's CCR MPIN can do this. To find out who this is in your company, go to http://www.ccr.gov/ and click **Search CCR**. Once you've found your company, locate the Electronic Business Point of Contact.
After the initial FedConnect account is created, employees can register themselves without the MPIN. If you are not sure whether your company has an account with FedConnect, don't worry. Complete the registration form and we'll let you know.

B. AGENCY CONTACT

Questions regarding FOA and program requirements must be directed to:

Name: Michael S. DeStefano, Contract Specialist
E-mail: Michael.DeStefano@netl.doe.gov

SECTION 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/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 confidentional 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 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.

Attachment A

Statement of Project Objectives

DE-FOA-0000044

A. BACKGROUND

The American Recovery and Reinvestment Act of 2009 (ARRA) enacted legislation to create jobs, restore economic growth, and strengthen America's middle class through measures that modernize the nation's infrastructure, enhance America's energy independence, expand educational opportunities, preserve and improve affordable health care, provide tax relief, and protect those in greatest need.

In support of the AARA, the DOE requested applications for, and awarded deployment projects for district energy systems, Combined Heat and Power (CHP) and waste energy recovery applications, and energy-efficient industrial equipment.

B. OBJECTIVES

The overall objective of this project is to deploy energy efficient technologies for cogeneration, district energy, waste energy recovery, or efficient industrial equipment. The result will be deployment of technologies that will increase our national energy security, provide job opportunities for manufacturing and construction, and provide long term job opportunities for operation and maintenance of the technologies.

C. SCOPE

The Recipient shall install, test, commission, test, and operate energy efficient technologies for sufficient time to validate system efficiency, durability and sustainable employment.

The Government has elected to include a decision point 150 days after project award to assess implementation progress. If at the time of the decision point, it is objectively advantageous to the Government to proceed, as determined in the sole discretion of the DOE, the Contracting Officer will notify the Recipient in writing and unilaterally authorize the Recipient to proceed.

If it is objectively determined that it would not be advantageous to the Government to proceed, the Contracting Officer will notify the Recipient in writing of such decision and consider the grant to be completed. This Government GO/NO GO decision will be made on a timely basis to minimize any standby costs to the Recipient and/or its sub-recipients.

In the event the project does not proceed, the maximum DOE liability to the Recipient is the funds available in support of the project effort up to and including the decision. The DOE reserves the right to deobligate any unspent funds obligated to the grant.

The scope shall be performed through the following Tasks:

D. TASKS TO BE PERFORMED

Task 1.0 Project Management and Planning

The Recipient shall manage the project for scope, cost, and schedule through all Stages of the project. This will also include the following Subtasks:

Subtask 1.1 – Maintain Project Management Plan- The Recipient shall maintain a Project Management Plan (PMP) that will be used as a management tool to establish the cost and time schedule for accomplishing the planned work. The PMP shall be provided and maintained at a Subtask level supporting the Tasks provided in the SOPO The PMP will serve as the baseline for tracking performance of the project and will identify critical path project milestones for the entire project. Planned (baseline) and actual Subtask-level schedule will be provided, along with the percentage to completion of each subtask.

The PMP shall, at a minimum, provide schedule and cost data for purchase, installation, and operation of all capital equipment. The schedule shall include the following milestones:

- Equipment Procured
- 150 Day Go/No Go Decision Point
- Equipment Delivered to site
- System Installation Complete
- Installed System Shakedown Complete
- Full Scale System Verification Complete (minimum 160 hours)
- Project Complete

During project performance, the Recipient shall report the PMP as part of the required quarterly Progress Report as prescribed under Attachment 4, Reporting Requirements Checklist, Section 4.A.7-Progress Report.

Subtask 1.2 Environmental and Regulatory Compliance - The Recipient shall complete all permitting requirements and satisfy all regulatory requirements (local, state, and federal) necessary for installation and operation.

Subtask 1.3 Execution of Required Financing Agreements - The Recipient shall execute all agreements and contracts necessary for financing the non-federal portion of the project. This will include site agreements, licenses, permitting, lease agreements, land ownership, energy service agreements, and all other requirements necessary for installation and operation.

Subtask 1.4 – Prepare Reports and Briefings – The Recipient shall prepare briefings and submit progress, financial, technical, and administrative reports in accordance with contractual requirements.

Task 2.0 Procurement of Equipment, Controls, and Ancillary Supplies

The Recipient shall procure long lead-time and capital equipment, controls, and ancillary supplies required for installation of the equipment and balance of plant (BOP) modifications required for equipment installation and operation.

Task 3.0 Installation and integration

The Recipient shall install all capital equipment and ancillary systems for operation of the technology. This includes, but is not limited to control systems, electrical connections, heat loop connections for thermal energy utilization, required heat exchangers, fuel supply, and other balance-of-plant (BOP) equipment required for operation of the technology.

Task 4.0 Commissioning, Shakedown and Startup

The Recipient shall coordinate startup activities including verification of mechanical completion, operability of the equipment, and operator training. The major commissioning and startup activities shall include:

- Inspection for mechanical completion to verify that the system meets installed project specifications;
- Control system checkout and documented verification; and
- Performance testing to confirm the proper operation of all subsystems

Task 5.0 Operational Data Collection

The Recipient shall conduct performance testing of the integrated system upon completion of the startup activities to insure operational safety, reliability and performance sufficient to proceed to long-term demonstration operations.

E. DELIVERABLES

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

F. BRIEFINGS/TECHNICAL PRESENTATIONS

The Recipient shall prepare detailed briefings for presentation to the DOE Project Officer at a NETL site or at a different location as designated by the Project Officer. The briefings shall be given by the Recipient to explain the plans, progress, and results of the project effort. The first briefing shall be presented within 30 days after the agreement award. The second briefing shall be between 120 days and 150 days after project award to provide a status report on project execution. Additional briefings shall be presented at least 45 days before completion of the current Budget Period. The final briefing shall be presented at least 45 days prior to the award is due to expire.