

PROGRAM ANNOUNCEMENT TO NATIONAL LABORATORIES



**U.S. Department of Energy
Golden Field Office**

Advanced Water Power

Program Announcement Number: DE-FOA-0000070

Announcement Type: Initial

CFDA Number: 81.087

Issue Date: 04/08/2009

Letter of Intent Due Date: 05/06/2009, 11:59 PM Eastern Time

Only those Offerors who submit a letter of intent are eligible to submit final proposals under this announcement.

Application Due Date: 06/04/2009, 11:59 PM Eastern Time

PLEASE NOTE:

Offerors who are not registered with CCR and FedConnect, should allow at least 21 days to complete these requirements. It is suggested that the process be started as soon as possible. For those Offerors already registered in CCR, the CCR registration must be updated annually at <http://www.ccr.gov/Renew.aspx>.

Questions regarding the content of this announcement must be submitted through FedConnect. Proposals must be submitted through FedConnect to be considered for award. You must be completely registered before you can submit questions regarding this announcement or submit an application.

**FEDCONNECT QUICK START GUIDE,
REGISTRATION/SUBMISSION REQUIREMENTS,
AND WHERE TO SUBMIT QUESTIONS**

1. Application Submission

APPLICATIONS MUST BE SUBMITTED THROUGH FEDCONNECT TO BE CONSIDERED FOR AWARD. It is the responsibility of the applicant, prior to the Application due date and time, to verify successful transmission.

2. FedConnect Quick Start Guide:

Use this guide to assist you with FedConnect:

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

3. Registration Process Requirements To submit an application in response to this FOA, Applicants must be registered with FedConnect. Before you can register with FedConnect, you will need the following:

1. Your company's DUNS (including plus 4 extension if applicable). If you don't know your company's DUNS or if your company does not have a DUNS you can search for it or request one at <http://fedgov.dnb.com/webform/displayHomePage.do>.
2. A federal Central Contractor Registration (CCR) account. If your company is not currently registered with CCR, please register at www.ccr.gov before continuing with your FedConnect registration.
3. Possibly, your company's CCR MPIN. 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 FedConnect will let you know.

Applicants who are not registered with CCR and FedConnect, should allow at least 21 days to complete these requirements. It is suggested that the process be started as soon as possible. For those Applicants already registered in CCR, the CCR registration must be updated annually at <http://www.ccr.gov/Renew.aspx>.

4. 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 https://www.fedconnect.net/FedConnect/PublicPages/FedConnect_Ready_Set_Go.pdf. 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 1-800-899-6665.

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PART I – PROGRAM ANNOUNCEMENT DESCRIPTION

In 2009, the U.S. Department of Energy (DOE) was appropriated \$40 million to investigate advanced water power energy generation technologies. The Energy Policy Act of 2005 provided authorization to DOE to conduct research on all water power technologies and The Energy Independence and Security Act (EISA) of 2007 calls for DOE to establish a robust program of research, development, demonstration and commercial application activities to expand marine and hydrokinetic renewable energy production. This research is executed through DOE's Office of Energy Efficiency and Renewable Energy (EERE), Wind and Hydropower Technologies Program (WHTP).

The Wind and Hydropower Technologies Program contributes directly to the Department of Energy's missions of improving national, energy, and economic security and of increasing the diversity of our Nation's energy resources. The WHTP works to maximize renewable energy utilization in the United States by leading the Nation's research and development efforts that improve wind and water energy generation technology and that address barriers to the use of renewable energy. DOE does this in coordination with a broad range of stakeholders, including other federal and state agencies, industry groups, academia, and non-governmental organizations. Success in DOE's mission will result in greater energy security and enhanced domestic economic benefit through more diverse, clean, reliable, affordable, and secure domestic electricity supplies.

In order to specifically address these required elements, the Wind and Hydropower Technologies Program will issue two parallel funding opportunities in FY 2009 for research and development on water power technologies: 1) a Funding Opportunity Announcement (FOA) directed at industry partners and industry-led teams, and 2) a Program Announcement (PA) directed at Department of Energy Laboratories to address technical challenges in water power development, as well as market acceptance barriers.

For the purposes of this announcement, the term “**conventional hydropower**” refers to energy from any source that uses a dam, diversionary structure, or impoundment for electric power purposes.

The term “**marine and hydrokinetic**” refers to energy from:

- (1) Waves, tides, and currents in oceans, estuaries, and tidal areas;
- (2) Free flowing water in rivers, lakes, and streams;
- (3) Free flowing water in man-made channels; and
- (4) Differentials in ocean temperature (ocean thermal energy conversion).

The term “**advanced water power**” refers to both marine and hydrokinetic power and conventional hydropower, and to newer technologies with a combination of energy and environmental performance advantages relative to existing technologies.

“**National Marine Renewable Energy Center(s)**” refers to either of the two university-led marine renewable energy centers selected by DOE in the 2008 FOA for Advanced Water Power Projects. The Northwest National Marine Renewable Energy Center is led jointly by Oregon State University and the University of Washington, and focuses on wave and tidal energy. The National Marine Renewable Energy Center in Hawaii is led by the University of Hawaii and focuses on wave and ocean thermal energy.

DOE maintains the Marine and Hydrokinetic Technology Database, which provides up-to-date information on the full range of marine and hydrokinetic technologies, both in the U.S. and around the world; it can be accessed at <http://www.eere.energy.gov/windandhydro/hydrokinetic/default.aspx>.

The Water Power R&D called for in this PA is applied science and technology development, focused on near- to medium-term actions that will significantly accelerate use of water-based energy technologies, thus reducing the Nation's dependence on imported and environmentally damaging energy sources. The DOE-funded projects at Laboratories are intended to be innovative, high-risk and high-gain research that goes beyond what industry can do on its own.

This PA is divided into four broad Topic Areas, listed below. Each proposal should address one and only one Topic Area, and should be clearly marked by the Topic Area to which it is applying. Each Topic Area is further divided into two or more subjects of study, followed by examples of possible projects within each subject. For each topic area, the potential research subjects identified are deliberately broad, and example projects are intended as suggestions that reflect the general interests of the program. Any proposal may propose multiple projects and address multiple subjects within its given topic area, but proposals will be expected to demonstrate how each proposed project: 1) fits within the framework of an identified subject; 2) is best suited to the Offeror's particular expertise and capabilities; and 3) furthers the objectives of the specific topic area to which it the proposal is directed. Laboratories are welcome to propose specific projects not explicitly mentioned as an example, if they are responsive to the purposes of this PA and applicable evaluation criteria.

DOE National Laboratories may submit multiple proposals provided they meet eligibility requirements as specified (see "Eligibility Information"). **However, no single Laboratory may submit more than five (5) proposals to this Program Announcement where they are the lead laboratory.** It is strongly preferred that proposals involve multi-Lab teams (i.e., two or more labs), which will allow the program to identify high-quality, multi-disciplinary teams to support its water power activities. **A proposal made up of a team containing Laboratory sub-recipients will not count against the five (5) proposal limit for the sub-recipient, only the lead Laboratory.** Other collaborations with industry members, other academic institutions, including the National Marine Renewable Energy Centers, and/or non-governmental organizations are also encouraged. If Offerors submit multiple proposals, each proposal submitted must be separate and complete.

Note: This Program Announcement includes two phases – letter of intent phase and a final proposal phase. **Only those Offerors who submit to the letter of intent phase are eligible to submit final proposals under this announcement.**

Under this PA, National Laboratories may compete for DOE funding within one or more of the following 4 topic areas:

1. Supporting Research and Testing for Marine and Hydrokinetic Energy
2. Environmental Assessment and Mitigation Methods for Marine and Hydrokinetic Energy
3. Supporting Research and Testing for Hydropower
4. Environmental Assessment and Mitigation Methods for Hydropower

The Electric Power Research Institute (EPRI) led a national, multiple-stakeholder workshop in October 2008 to identify and prioritize research, development, deployment and demonstration (RDD&D) needs of the emerging marine and hydrokinetic industry. This workshop identified the following needs:

1. Demonstration and testing of experimental and prototype marine and hydrokinetic technologies to understand design and operational performance issues,
2. Development of better understanding of site-specific environmental effects that can guide siting decisions and efficient compliance with environmental regulations, and
3. Development of standards and best practices for determining energy production capabilities for all types of marine and hydrokinetic devices.

Because few full-scale marine and hydrokinetic projects are operating in the U.S., there are many unresolved questions about their environmental effects. Relevant information is available in the scientific literature on potential effects, some of which comes from analogous development in marine environments, such as oil and gas wells and undersea cables. Sound assessment methods, such as ecological risk assessment, may be applied to evaluate and identify adverse impacts and mitigation practices may be developed to address many of these. Quantitative environmental impact assessment techniques, combined with adaptive management as part of project licensing, can be applied to reduce risks and uncertainties of impacts.

The October 2008 industry workshop also identified high-priority R&D needs for conventional hydropower as:

1. Demonstration and testing of advanced turbine systems that have improved environmental and energy performance
2. Studies to resolve the continuing environmental effects of conventional hydro projects (addressed in Topic Area 4 of this PA)

Some important elements in the development of advanced hydropower systems can be uniquely pursued in DOE laboratories, and those are included in this PA. For example, generation increases up to 10% per plant have been achieved when best practices are used. Improved environmental performance (e.g., improvements in fish passage or water quality) can be achieved along with energy optimization. Demonstration of new optimization technologies, combined with methods to quantify the value of increased generation, would reduce the current market-place uncertainty that hinders adaptation of new practices. There are substantial opportunities to increase the operational efficiencies of conventional hydropower projects, including pumped storage projects. Existing projects do not operate at peak efficiency for many reasons, ranging from ineffective machine monitoring and controls to aging equipment and limited staff capabilities.

Based on industry's recent positions on federal R&D and on opinions of a broad range of other stakeholders, conventional hydropower continues to have significant challenges dealing with adverse environmental impacts. Fish passage, in-stream flow requirements, and water quality are among the most important issues that are either unresolved or are imposing high costs in new development and relicensing. For example, in 2007 EPRI called for the establishment of a new Advanced Water Energy

Initiative, a major part of which was on environmental performance research and development.

Topic Area Summary

Topic Area	Total Estimated Federal Funding*	Estimated FY09 Federal Funding	Estimated 1 st Year Award per Proposal (DOE Share)	Expected Number of Awards	Required Cost Share by non-federal partners	Estimated Total per Award (DOE Share)	Period of Performance
1. Supporting Research and Testing for Marine and Hydrokinetic Energy	\$15 million	\$5 million	\$2.5 million	Up to 2	20%	Up to \$7.5 million	3 years
2. Environmental Assessment and Mitigation Methods for Marine and Hydrokinetic Energy	\$9 million	\$3 million	\$1.5 million	Up to 2	20%	Up to \$4.5 million	3 years
3. Supporting Research and Testing for Hydropower	\$12 million	\$4 million	\$2 million	Up to 2	20%	Up to \$6 million	3 years
4. Environmental Assessment and Mitigation Methods for Hydropower	\$9 million	\$3 million	\$1.5 million	Up to 2	20%	Up to \$4.5 million	3 years

***Federal funding is subject to annual appropriations – all figures above should be treated as estimates.**

PART II – TOPIC AREA DETAILS

Note: Part II of this announcement contains four separate sections describing each topic area in detail including full descriptions of each topic area as well as award, eligibility, and merit review information.

Topic Area 1: Supporting Research and Testing for Marine and Hydrokinetic Energy

AWARD INFORMATION

A. BACKGROUND

Objectives: The specific objective of Topic Area 1 is to produce new science and technology that will support industry as it develops more efficient, less costly, and more robust marine and hydrokinetic designs. The projects that are funded should assist industry in reducing capital costs, increasing availability and capacity factors, mitigating risk through enhanced system reliability, and improving quality and quantity of energy produced.

Partnering is strongly encouraged among DOE FFRDCs. Other non-DOE federal labs may participate as partners but not as the lead. Partnering is also encouraged with National Marine Renewable Energy Centers established under DOE's FY 2008 FOA, other universities, and private industry.

Projects proposed under Topic Area 1 may address one or more of the following subjects:

- ***Mechanical Engineering & Machine Performance*** -- computer design tools and simulation codes to predict machine performance, loads, and stability; development, validation, and application of tools and codes for marine power systems to understand their long-term performance, operation, and reliability; and prototype applications of new models and validation/verification studies.
- ***Hydrodynamics and Sediments*** – studies of the hydraulic environment affecting marine power systems; the effects of those power systems on downstream/surrounding hydraulic conditions; interactions of arrays of multiple devices on the local environment and neighboring devices, including velocity regimes and sediment dynamics; advanced measurement methods to define machine loading; and prototype applications of new models and validation/verification studies.
- ***Advanced Materials*** – development and testing of new materials, such as anti-corrosion coatings, with enhanced performance characteristics that may be applicable to marine power systems, especially those that will increase operational life and reduce O&M costs.
- ***Marine and Hydrokinetic System Simulation and Visualization*** – collaborative computational research that can support marine and hydrokinetic energy developers by modeling water power systems (i.e., arrays of underwater or water-surface devices), their effects on the local physical environment, total system energy extraction/generation, and environmental effects. Include advanced computers, academic excellence in math and computational sciences, and strong industry advisory collaboration to guide applications.

Offerors are required to submit a letter of intent by the due date set forth on the cover page of this PA. This letter should include the name of the offeror, a brief description of the project (maximum of 1 paragraph), the Topic Area of interest, and a point of contact for the proposal. Letters of intent will be used by DOE to organize and expedite the merit review process. Letters of intent do not commit an offeror to submit a proposal. They should not contain any proprietary or sensitive business information. The letter of intent should be sent by E-mail to Water2009@go.doe.gov. **Offerors who have not submitted a letter of intent will not be**

considered for an award.

B. TYPE OF AWARD INSTRUMENT

- DOE anticipates providing funding for selected projects to DOE National Laboratories through Field Work Proposals.

C. ESTIMATED FUNDING

- Approximately \$5 million is expected to be available for new awards in FY 2009 for Topic Area 1, with an additional \$5 million expected to be available for awards made under this announcement in FY 2010 and 2011, respectively (subject to available appropriations).

D. MAXIMUM AND MINIMUM AWARD SIZE

- Ceiling (i.e., the maximum amount for an individual award made under this announcement): \$7.5 million over three years.
- Floor (i.e., the minimum amount for an individual award made under this announcement): none

E. EXPECTED NUMBER OF AWARDS

- DOE anticipates making up to 2 awards under this announcement, depending on the size and complexity of the proposals.

F. ANTICIPATED AWARD SIZE

- DOE anticipates that awards will be up to \$7.5 million for the total project period.

G. PERIOD OF PERFORMANCE

- DOE anticipates making awards that will run for up to 3 years.

H. TYPE OF PROPOSAL

- Only new proposals will be accepted under this announcement (i.e., proposals for renewals of existing DOE funded projects will not be considered).

ELIGIBILITY INFORMATION

A. ELIGIBLE OFFERORS

- Eligibility is restricted to DOE National Laboratories or DOE National Laboratory-led Consortia.

Topic Area 1: Partnering is strongly encouraged among DOE FFRDCs. Other non-DOE federal labs may participate as partners but not as the lead. Partnering is also encouraged with National Marine Renewable Energy Centers established under DOE's FY 2008 FOA, other universities, and private industry.

No single team member or sub-awardee can exceed the value/funding of the primary Offeror.

B. COST SHARING

- **Cost sharing is not required by National Laboratories.** However, cost share will be required for institutions of higher education, nonprofit or for-profit private entities, and state and local governments who team with the National Lab primary offeror. The non-National Lab portion of the budget will require 20% cost sharing of the sub-recipient's cost for applied research and/or development from non-federal sources. Federally Funded Research and Development Centers (FRRDCs) that partner with the primary National Lab applicant, who are not included in the list of National labs under Section 2 of the Energy Policy Act of 2005, are not required to cost share.

C. OTHER ELIGIBILITY REQUIREMENTS

Primary Offeror

- DOE FFRDC's are eligible to apply for funding under this announcement if their contracting officer provides written authorization and this authorization is submitted with the proposal. If a DOE Federal Laboratory is selected for award, the proposed work will be authorized under the DOE work authorization process and performed under the laboratory's M&O contract. The following wording is acceptable for the authorization:

“Authorization is granted for the _____ Laboratory to participate in the proposed project. The work proposed for the laboratory is consistent with or complementary to the missions of the laboratory and will not adversely impact execution of the DOE assigned programs at the laboratory.”

DOE prefers that the authorization is submitted with the proposal; however the authorization will be accepted up to 30 days after the proposal closing date. If the authorization is not submitted with the proposal, please submit written notification with the proposal that the authorization from the cognizant contracting officer is in progress and will be submitted no later than 30 days after the proposal closing date.

- The offeror, 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 offeror and team members if applicable.
- Value/Funding: The value of, and funding for, the federal laboratory contractor portion of the work will not normally be included in the award to a successful offeror. Usually, DOE will fund a DOE FFRDC contractor through the DOE field work proposal system and other Federal laboratory contractors through an interagency agreement with the sponsoring agency.
- Cost Share: **Cost sharing is not required by National Laboratories.** However, cost share will be required for institutions of higher education, nonprofit or for-profit private entities, and state and local governments who team with the National Lab primary applicant. The non-National Lab portion of the budget will require 20% cost sharing of the sub-recipient's cost for applied research and/or development from non-federal sources. Federally Funded Research and Development Centers (FRRDCs) that partner with the primary National Lab applicant, who are not included in the list of National Labs under Section 2 of the Energy Policy Act of 2005, are not required to cost share.

Federal Laboratory Contractors (Team Members or Sub-Awardees)

- If DOE FFRDCs are partnering with the primary offeror:
 - Authorization: A federal laboratory or other federal agency must provide an authorization from an appropriate authorizing official that it can perform work for other federal entities in a manner consistent with this funding opportunity. Save the authorization in a single file named “Lab_Auth.pdf”.
 - Effort: **No single entity, team member or sub-awardee can exceed the value/funding of the primary offeror.**
- If Non DOE federal laboratories are partnering with the primary offeror:
 - The federal agency contracting officer sponsoring the federal laboratory contractor must authorize in writing the use of the federal laboratory contractor on the proposed project and this authorization must be submitted with the application. The use of a federal laboratory contractor must be consistent with the contractor’s authority under its award.

D. MULTIPLE PRINCIPAL INVESTIGATORS

The assignment and use of multiple Principal Investigators (PIs) in projects awarded under this PA is allowed. The offeror, whether a single organization or team/partnership/consortium, must however indicate in the proposal if the project will include multiple PIs. (See Part III) The decision to use multiple PIs for a project is the sole responsibility of the offeror. If multiple PIs will be designated, the proposal 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
- PIs’ roles and administrative, technical and scientific responsibilities for the project

PROPOSAL REVIEW INFORMATION

A. REVIEW CRITERIA

1. Initial Review Criteria

- Prior to a comprehensive merit evaluation, DOE will perform an initial review to determine that (1) the offeror 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 program announcement. If a proposal fails to meet these requirements, it may be deemed non-responsive and eliminated from full Merit Review.

2. Merit Review Criteria

The following criteria are proposed to be used to evaluate Proposals within
Topic Area 1: Supporting Research and Testing for Marine and Hydrokinetic Energy

Criterion 1: Technical Merit and Innovation

Weight: [30%]

- Extent to which the proposed research project addresses technical areas of interest, as outlined in the solicitation, and likelihood for substantial progress relative to existing scientific knowledge or capabilities (high-gain, high-risk outcomes warrant consideration).
- Credibility of the proposal based on sound engineering and scientific principles and defensible assumptions; including experimental data and prior results indicative of the viability of the concept. This includes how well the proposal demonstrates a clear understanding of the current state of the science.
- Likelihood of the project to help further industry-wide development of the relevant technologies and provide innovative solutions beyond current industry capabilities.

Criterion 2: Technical Approach and Project Research Plan

Weight: [30%]

- Viability of technical approach and the project research plan to achieve objectives of this PA.
- Degree to which proposed plan is clearly stated, organized, achievable, and technically feasible, including the adequacy and completeness of proposed tasks and the resources identified to successfully address all elements of the technical plan.
- Viability, completeness, and timeliness of offeror's decision points and deliverables in ensuring objective evaluation of progress against the proposed plan.
- Strength of vision and strategy for producing results that will benefit specifically identified industry users and how results will address current needs, barriers, or limiting factors.

Criterion 3: Qualifications and Resources

Weight: [25%]

- Capabilities, experience, qualifications, and credentials of team members, including the strength of all offerors' and team members' (if applicable) experience and record of success in technical innovation and performance.
- Availability and applicability of required equipment, laboratories and demonstration facilities, analytic support, and other necessary resources for performing the proposed project.
- Demonstrated support of each team member's participation and/or partners' cost share via letter of commitment.

Criterion 4: Project Management and Technology Transfer Plan **Weight: [15%]**

- Quality, completeness, and probability of success of the project management plan for coordinating research activities among team members and organizations.

- Level, variety, and comprehensiveness of plan to disseminate results of research to others in the industry (may include conferences, papers, workshops, and web-based information sharing), including likelihood that project will result in technology deployment and commercial development – proposal should contain a clear explanation of intended market impact by 2015.

3. Other Selection Factors

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

1. Technical diversity of projects
2. Complementarity of projects both within and across proposals, and within and across Topic Areas
3. Breadth and depth of teaming arrangements
4. Cost share from industry partners or others, above minimum amount required (no cost share is required from Labs)

B. REVIEW AND SELECTION PROCESS

1. Merit Review

Proposals 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 at <http://www.management.energy.gov/documents/meritrev.pdf>.

It is very important that those documents, Project Summary and Project Narrative file, that will be used during the Merit Review Process do not contain any Personally Identifiable Information as described in Appendix B.

2. Selection

The Selection Official may 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 offeror 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 proposal 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 offeror.

C. ANTICIPATED NOTICE OF SELECTION AND AWARD DATES

- DOE anticipates notifying offerors selected for award by 07/15/2009 and making awards by 09/30/2009.

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 PA. It is recommended that you register as soon after release of the PA as possible to ensure you receive timely notice of any modifications or other announcements.

B. GOVERNMENT RIGHT TO REJECT OR NEGOTIATE

DOE reserves the right, without qualification, to reject any or all proposals received in response to this announcement and to select any proposal, 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 PROPOSAL INFORMATION

Patentable ideas, trade secrets, proprietary or confidential commercial or financial information, disclosure of which may harm the offeror, should be included in a proposal 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 offeror includes the following legend on the first page of the project narrative and specifies the pages of the proposal which are to be restricted:

“The data contained in pages _____ of this proposal 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 offeror receives an award as a result of or in connection with the submission of this proposal, 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 offeror.”

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 offeror) 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 offeror, by submitting its proposal, consents to the use of non-Federal reviewers/administrators. Non-Federal reviewers must sign conflict of interest and non-disclosure agreements prior to reviewing a proposal. Non-Federal personnel conducting administrative activities must sign a non-disclosure agreement.

F. INTELLECTUAL PROPERTY DEVELOPED UNDER THIS PROGRAM

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

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

Special Protected Data Statutes. This program is covered by a special protected data statute. The provisions of the statute provide for the protection from public disclosure, for a period of up to five years from the date of its development, of first-produced data that would be trade secret, or commercial or financial information that is privileged or confidential, if the information had been obtained from a non-Federal party. For National Laboratories and FFRDCs, the data rights clause in the Offeror’s Management and Operating (M&O) Contract will apply. For other types of organizations (e.g., private industry) that partner with Labs, the data resulting from the testing and evaluation will be protected from public disclosure for up to five years, with some exceptions for data of a general nature that demonstrates progress toward DOE’s programmatic goals. DOE will have the right to use the data for Government purposes. The exact terms and conditions of the data use and public release will be set forth in the Lab subcontract and will be based on 10 C.F.R. 600.325, Appendix A, “Rights in Data – Programs Covered by Special Data Statutes.” This provision will identify data or categories of data first produced in the performance of the award that will be made available to the public, notwithstanding the statutory authority to withhold data from public dissemination, and may also identify data that will be recognized by the parties as protected data. Labs must consult with the Golden Field Office Patent Counsel to obtain the data rights clause to use in their subcontracts under this Announcement.

G. NOTICE OF RIGHT TO REQUEST PATENT WAIVER

Offerors 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. NOTICE OF RIGHT TO CONDUCT A REVIEW OF FINANCIAL CAPABILITY

DOE reserves the right to conduct an independent third party review of financial capability for offerors that are selected for negotiation of award (including personal credit information of principal(s) of a small business if there is insufficient information to determine financial capability of the organization).

J. NOTICE OF POTENTIAL DISCLOSURE UNDER FREEDOM OF INFORMATION ACT

Offerors should be advised that identifying information regarding all offerors, including offeror names and/or points of contact, may be subject to public disclosure under the Freedom of Information Act, whether or not such offerors are selected for negotiation of award.

Topic Area 2: Environmental Assessment and Mitigation Methods for Marine and Hydrokinetic Energy

AWARD INFORMATION

A. BACKGROUND

Objectives: The specific objective of Topic Area 2 is to develop further understanding of the environmental effects of all types of marine and hydrokinetic devices, so as to minimize the time, costs, and potential environmental effects associated with siting and deploying marine and hydrokinetic systems. Successful proposals will be broad in scope (i.e. not limited to a specific technology, project, or location) and demonstrate their value to industry (e.g., by reducing capital or operational costs or increasing availability and capacity factors) and to regulators and policymakers (e.g. by collecting and disseminating information or developing tools and approaches to assess impacts or risk). Preference will be given to proposals that demonstrate a thorough understanding of current knowledge gaps and efforts to address the environmental impacts of marine and hydrokinetic technologies, particularly those supported by DOE, and, if appropriate, how the proposed project(s) relates to or builds upon such efforts.

Partnering is strongly encouraged among DOE FFRDCs. Other non-DOE federal labs may participate as partners but not lead a project. Partnering is also encouraged with National Marine Renewable Energy Centers established under DOE's FY 2008 FOA, other universities, and private industry. **No single sub-awardee can exceed the value/funding of the primary offeror.**

Projects proposed under Topic Area 2 may address one or more of the following subjects:

- ***Environmental Impact Analysis and Prediction*** – studies of the technology-specific environmental effects of MHK devices and development/demonstration of quantitative methods to evaluate the likelihood and significance of the effects of these technologies on the aquatic ecosystem. Impacts that may be addressed include, but are not limited to:
 1. The potential near-field and far-field impacts of changes in currents and wave patterns.
 2. The alteration of substrates and sediment transport and deposition.
 3. Impacts of habitat alterations on aquatic organisms and avian species during installation and/or operation.
 4. Acoustic Impact in the aquatic environment and its effects on aquatic organisms and avian species.
 5. Effects of electromagnetic fields on aquatic organisms and avian species.
 6. Toxicity of paints, anti-fouling coatings, and other chemicals within the aquatic environment.
 7. Interference with aquatic organisms' and avian species' movements and migrations, local and/or migratory.
 8. Effects of collision or strike on aquatic organisms and avian species, including but not limited to blade strike, collision with mooring lines or surface structure, and water pressure changes or cavitation.

9. For ocean thermal energy conversion projects, additional study areas include but are not limited to: impingement and entrainment, especially at the water intakes; and the effect of changes in temperature, pressure, salinity, nutrients, and dissolved gases that may cause mortality.
10. Direct and/or indirect impacts on the use of the site for recreational activities.
11. Direct and/or indirect impacts on the use of the site for other commercial activities.
12. Cumulative impacts of multiple stresses (arrays of multiple devices and/or interactions among different stresses).

Any models or methods developed to evaluate the likelihood and significance of environmental effects should be able to distinguish between resource type, technology type (e.g. attenuator vs. point absorber; vertical axis vs. horizontal axis turbine; or open vs. closed OTEC system), and relevant project siting characteristics. The application of such concepts as ecological risk assessment and net environmental benefit analysis are especially relevant, as are prototype applications of new models and validation/verification studies.

- ***Technologies for Environmental Impact Monitoring, Avoidance and Mitigation*** – models, tools, or methodologies to monitor and measure the effects of marine and hydrokinetic technologies on aquatic ecosystems and to avoid or mitigate such effects where possible. For example, new techniques to estimate rates of direct and indirect mortality of fish passing through turbine blades would be relevant to this subtopic. Impacts addressed may include, but are not limited to, those mentioned above. Proposed approaches may include, but are not limited to: the development and/or validation of models; technology design and engineering; the development and/or use of monitoring protocols, tools and techniques; the development of low-impact strategies to install and operate devices; and the evaluation of specific mitigation options.

Offerors are required to submit a letter of intent by the due date set forth on the cover page of this FOA. This letter should include the name of the offeror, a brief description of the project (maximum of 1 paragraph), the Topic Area of interest, and a point of contact for the proposal. Letters of intent will be used by DOE to organize and expedite the merit review process. Letters of intent does not commit an offeror to submit a proposal. They should not contain any proprietary or sensitive business information. The letter of intent should be sent by E-mail to Water2009@go.doe.gov.

Offerors who have not submitted a letter of intent will not be considered for an award.

B. TYPE OF AWARD INSTRUMENT

- DOE anticipates providing funding for selected projects to DOE National Laboratories through Field Work Proposals.

C. ESTIMATED FUNDING

- Approximately \$3 million is expected to be available for new awards in FY 2009 and an additional \$3 million is expected to be available for awards made under this announcement in FY 2010 and 2011, respectively (subject to annual appropriations).

D. MAXIMUM AND MINIMUM AWARD SIZE

- Ceiling (i.e., the maximum amount for an individual award made under this announcement): \$4.5 million
- Floor (i.e., the minimum amount for an individual award made under this announcement): none

E. EXPECTED NUMBER OF AWARDS

- DOE anticipates making up to 2 awards under this announcement, depending on the size of the awards.

F. ANTICIPATED AWARD SIZE

- DOE anticipates that awards will be up to \$4.5 million for the total project period.

G. PERIOD OF PERFORMANCE

- DOE anticipates making awards that will run for up to 3 years.

H. TYPE OF PROPOSAL

- Only new proposals will be accepted under this announcement (i.e., proposals for renewals of existing DOE funded projects will not be considered).

ELIGIBILITY INFORMATION

A. ELIGIBLE OFFERORS

- Eligibility is restricted to DOE National Laboratories or DOE National Laboratory-led Consortia.

Topic Area 2: Partnering is strongly encouraged among DOE FFRDCs. Other non-DOE federal labs may participate as partners but not as the lead. Partnering is also encouraged with National Marine Renewable Energy Centers established under DOE's FY 2008 FOA, other universities, and private industry.

No single team member or sub-awardee can exceed the value/funding of the primary Offeror.

B. COST SHARING

- **Cost sharing is not required by National Laboratories.** However, cost share will be required for institutions of higher education, nonprofit or for-profit private entities, and state and local governments who team with the National Lab primary applicant. The non-National Lab portion of the budget will require 20% cost sharing of the sub-recipient's cost for applied research and/or development from non-federal sources. Federally Funded Research and Development Centers (FFRDCs) that partner with the primary National Lab applicant, who are not included in the list of National labs under Section 2 of the Energy Policy Act of 2005, are not required to cost share.

C. OTHER ELIGIBILITY REQUIREMENTS

Primary Offeror

- DOE FFRDC's are eligible to apply for funding under this announcement if their contracting officer provides written authorization and this authorization is submitted with the proposal. If a DOE Federal Laboratory is selected for award, the proposed work will be authorized under the DOE work authorization process and performed under the laboratory's M&O contract. The following wording is acceptable for the authorization:

“Authorization is granted for the _____ Laboratory to participate in the proposed project. The work proposed for the laboratory is consistent with or complementary to the missions of the laboratory and will not adversely impact execution of the DOE assigned programs at the laboratory.”

DOE prefers that the authorization is submitted with the proposal; however the authorization will be accepted up to 30 days after the proposal closing date. If the authorization is not submitted with the proposal, please submit written notification with the proposal that the authorization from the cognizant contracting officer is in progress and will be submitted no later than 30 days after the proposal closing date.

- The offeror, 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 offeror and team members if applicable.
- Value/Funding: The value of, and funding for, the federal laboratory contractor portion of the work will not normally be included in the award to a successful offeror. Usually, DOE will fund a DOE FFRDC contractor through the DOE field work proposal system and other Federal laboratory contractors through an interagency agreement with the sponsoring agency.
- Cost Share: **Cost sharing is not required by National Laboratories.** However, cost share will be required for institutions of higher education, nonprofit or for-profit private entities, and state and local governments who team with the National Lab primary applicant. The non-National Lab portion of the budget will require 20% cost sharing of the sub-recipient's cost for applied research and/or development from non-federal sources. Federally Funded Research and Development Centers (FFRDCs) that partner with the primary National Lab applicant, who are not included in the list of National Labs under Section 2 of the Energy Policy Act of 2005, are not required to cost share.

Federal Laboratory Contractors (Team Members or Sub-Awardees)

- If DOE FFRDCs are partnering with the primary offeror:
 - Authorization: A federal laboratory or other federal agency must provide an authorization from an appropriate authorizing official that it can perform work for other federal entities in a manner consistent with this funding opportunity. Save the authorization in a single file named “Lab_Auth.pdf”.

- **Effort: No single entity, team member or sub-awardee can exceed the value/funding of the primary offeror.**
- If Non DOE federal laboratories are partnering with the primary offeror:
 - The federal agency contracting officer sponsoring the federal laboratory contractor must authorize in writing the use of the federal laboratory contractor on the proposed project and this authorization must be submitted with the application. The use of a federal laboratory contractor must be consistent with the contractor’s authority under its award.

D. MULTIPLE PRINCIPAL INVESTIGATORS

The assignment and use of multiple Principal Investigators (PIs) in projects awarded under this PA is allowed. The offeror, whether a single organization or team/partnership/consortium, must however indicate in the proposal if the project will include multiple PIs. (See Part III) The decision to use multiple PIs for a project is the sole responsibility of the offeror. If multiple PIs will be designated, the proposal 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
- PIs’ roles and administrative, technical and scientific responsibilities for the project

PROPOSAL REVIEW INFORMATION

A. REVIEW CRITERIA

1. Initial Review Criteria

- Prior to a comprehensive merit evaluation, DOE will perform an initial review to determine that (1) the offeror 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 program announcement. If a proposal fails to meet these requirements, it may be deemed non-responsive and eliminated from full Merit Review.

2. Merit Review Criteria

The following criteria are proposed to be used to evaluate Proposals within Topic Area 2: Environmental Assessment and Mitigation Methods for Marine and Hydrokinetic Energy

Criterion 1: Technical Merit and Innovation**Weight: [30%]**

- Extent to which the proposed research project addresses technical areas of interest, as outlined in the solicitation, and likelihood for substantial progress relative to existing scientific knowledge or capabilities (high-gain, high-risk outcomes warrant consideration).
- Credibility of the proposal based on sound engineering and scientific principles and defensible assumptions; including experimental data and prior results indicative of the viability of the concept. This includes how well the proposal demonstrates a clear understanding of the current state of the science.
- Likelihood of the project to help further industry-wide development of the relevant technologies and provide innovative solutions beyond current industry capabilities.

Criterion 2: Technical Approach and Project Research Plan**Weight: [30%]**

- Viability of technical approach and the project research plan to achieve objectives of this PA.
- Degree to which proposed plan is clearly stated, organized, achievable, and technically feasible, including the adequacy and completeness of proposed tasks and the resources identified to successfully address all elements of the technical plan.
- Viability, completeness, and timeliness of offeror's decision points and deliverables in ensuring objective evaluation of progress against the proposed plan.
- Strength of vision and strategy for producing results that will benefit specifically identified industry users and how results will address current needs, barriers, or limiting factors.

Criterion 3: Qualifications and Resources**Weight: [25%]**

- Capabilities, experience, qualifications, and credentials of team members, including the strength of all offerors' and team members' (if applicable) experience and record of success in technical innovation and performance.
- Availability and applicability of required equipment, laboratories and demonstration facilities, analytic support, and other necessary resources for performing the proposed project.
- Demonstrated support of each team member's participation and/or partners' cost share via letter of commitment.

Criterion 4: Project Management and Technology Transfer Plan**Weight: [15%]**

- Quality, completeness, and probability of success of the project management plan for coordinating research activities among team members and organizations.
- Level, variety, and comprehensiveness of plan to disseminate results of research to others in the industry (may include conferences, papers, workshops, and web-based information sharing), including likelihood that project will result in technology deployment and commercial development – proposal should contain a clear explanation of intended market impact by 2015.

3. Other Selection Factors

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

1. Technical diversity of projects
2. Complementarity of projects both within and across proposals, and within and across Topic Areas
3. Breadth and depth of teaming arrangements
4. Cost share from industry partners or others, above minimum amount required (no cost share is required from Labs)

B. REVIEW AND SELECTION PROCESS

1. Merit Review

Proposals 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 at <http://www.management.energy.gov/documents/meritrev.pdf>.

It is very important that those documents, Project Abstract and Project Narrative file, that will be used during the Merit Review Process do not contain any Personally Identifiable Information as described in Appendix B.

2. Selection

The Selection Official may 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 offeror 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 proposal 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 offeror.

C. ANTICIPATED NOTICE OF SELECTION AND AWARD DATES

- DOE anticipates notifying offerors selected for award by 07/15/2009 and making awards by 09/30/2009.

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 PA. It is recommended that you register as soon after release of the PA as possible to ensure you receive timely notice of any modifications or other announcements.

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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 PROPOSAL INFORMATION

Patentable ideas, trade secrets, proprietary or confidential commercial or financial information, disclosure of which may harm the offeror, should be included in a proposal 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 offeror includes the following legend on the first page of the project narrative and specifies the pages of the proposal which are to be restricted:

“The data contained in pages _____ of this proposal 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 offeror receives an award as a result of or in connection with the submission of this proposal, 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 offeror.”

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 offeror) 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 offeror, by submitting its proposal, consents to the use of non-Federal reviewers/administrators. Non-Federal reviewers

must sign conflict of interest and non-disclosure agreements prior to reviewing a proposal. Non-Federal personnel conducting administrative activities must sign a non-disclosure agreement.

F. INTELLECTUAL PROPERTY DEVELOPED UNDER THIS PROGRAM

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

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

Special Protected Data Statutes. This program is covered by a special protected data statute. The provisions of the statute provide for the protection from public disclosure, for a period of up to five years from the date of its development, of first-produced data that would be trade secret, or commercial or financial information that is privileged or confidential, if the information had been obtained from a non-Federal party. For National Laboratories and FFRDCs, the data rights clause in the Offeror’s Management and Operating (M&O) Contract will apply. For other types of organizations (e.g., private industry) that partner with Labs, the data resulting from the testing and evaluation will be protected from public disclosure for up to five years, with some exceptions for data of a general nature that demonstrates progress toward DOE’s programmatic goals. DOE will have the right to use the data for Government purposes. The exact terms and conditions of the data use and public release will be set forth in the Lab subcontract and will be based on 10 C.F.R. 600.325, Appendix A, “Rights in Data – Programs Covered by Special Data Statutes.” This provision will identify data or categories of data first produced in the performance of the award that will be made available to the public, notwithstanding the statutory authority to withhold data from public dissemination, and may also identify data that will be recognized by the parties as protected data. Labs must consult with the Golden Field Office Patent Counsel to obtain the data rights clause to use in their subcontracts under this Announcement.

G. NOTICE OF RIGHT TO REQUEST PATENT WAIVER

Offerors 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. NOTICE OF RIGHT TO CONDUCT A REVIEW OF FINANCIAL CAPABILITY

DOE reserves the right to conduct an independent third party review of financial capability for offerors that are selected for negotiation of award (including personal credit information of principal(s) of a small business if there is insufficient information to determine financial capability of the organization).

J. NOTICE OF POTENTIAL DISCLOSURE UNDER FREEDOM OF INFORMATION ACT

Offerors should be advised that identifying information regarding all offerors, including offeror names and/or points of contact, may be subject to public disclosure under the Freedom of Information Act, whether or not such offerors are selected for negotiation of award.

Topic Area 3: Supporting Research and Testing for Hydropower

AWARD INFORMATION

A. BACKGROUND

Objectives: The specific objective of Topic Area 3 is to develop, demonstrate, and test new technologies that can improve on existing hydropower capabilities in the dual areas of energy efficiency and environmental performance. The projects that are funded should assist industry in reducing capital and O&M costs, increasing unit availability and plant capacity factors, mitigating risk through enhanced system reliability, and improved quality and quantity of energy produced. Quality of energy includes environmental performance attributes as well as ancillary power benefits. Partnering is strongly encouraged with private industry, other FFRDCs, federal agencies, non-governmental organizations, and/or university centers of expertise. Although this topic area is similar to the 2009 FOA being issued to industry-led teams, the emphasis in this PA is on longer-term, higher risk R&D, with broad applicability across the industry.

Projects proposed under Topic Area 3 may address one or more of the following subjects:

- ***Water-Use Optimization*** -- Development and demonstration of new tools to improve how available water is used within hydropower units, plants, and river systems with multiple hydropower facilities, to generate more electricity with less water, and to increase environmental benefits of hydropower systems; for example, applications of optimization-based automated generation control (AGC) to real-time control systems that maintain multiple turbine-generator sets at peak efficiency in response to the continuously varying load on the whole plant and other hydraulic conditions; development of baseline or benchmarking methodologies that can be used in assessing incremental power development.
- ***Modeling and Prediction of Water Power Grid Services*** – development and demonstration of methods for quantifying the benefits and costs of enhanced and expanded grid services from water power, including predictive models of alternative modes of operation, at levels ranging from individual generation units to large-scale, integrated power systems.
- ***Application of Advanced Materials and Manufacturing Methods*** – identification and testing of new materials and manufacturing techniques that offer improved performance and lower costs; for example, materials or coatings resistant to cavitation, erosion, and abrasion that would reduce life-cycle cost of turbine runners, draft tubes, and penstocks (e.g., ceramic overlays, thermal plasma, and intake liner systems); identification and testing of ways to improve generator efficiency and prevent failures, such as materials suitable for use as stator core.

Offerors are required to submit a letter of intent by the due date set forth on the cover page of this FOA. This letter should include the name of the offeror, a brief description of the project (maximum of 1 paragraph), the Topic Area of interest, and a point of contact for the proposal. Letters of intent will be used by DOE to organize and expedite the merit review process. Letters of intent does not commit an offeror to submit a proposal. They should not contain any proprietary or sensitive business information. The letter of intent should be sent by E-mail to Water2009@go.doe.gov.

Offerors who have not submitted a letter of intent will not be considered for an award.

B. TYPE OF AWARD INSTRUMENT

- DOE anticipates providing funding for selected projects to DOE National Laboratories through Field Work Proposals.

C. ESTIMATED FUNDING

- Approximately \$4 million is expected to be available for new awards in FY 2009 for Topic Area 3, with an additional \$4 million expected to be available for awards made under this announcement in FY 2010 and 2011, respectively (subject to available appropriations).

D. MAXIMUM AND MINIMUM AWARD SIZE

- Ceiling (i.e., the maximum amount for an individual award made under this announcement): \$6 million
- Floor (i.e., the minimum amount for an individual award made under this announcement): none

E. EXPECTED NUMBER OF AWARDS

- DOE anticipates making up to 2 awards under this announcement, depending on the size of the awards.

F. ANTICIPATED AWARD SIZE

- DOE anticipates that awards will be up to \$6 million for the total project period.

G. PERIOD OF PERFORMANCE

- DOE anticipates making awards that will run for up to 3 years.

H. TYPE OF PROPOSAL

- Only new proposals will be accepted under this announcement (i.e., proposals for renewals of existing DOE funded projects will not be considered).

ELIGIBILITY INFORMATION

A. ELIGIBLE OFFERORS

- Eligibility is restricted to DOE National Laboratories or DOE National Laboratory-led Consortia.

Topic Area 3: Partnering is strongly encouraged among DOE FFRDCs. Other non-DOE federal labs may participate as partners but not as the lead. Partnering is also encouraged with National Marine Renewable Energy Centers established under DOE's FY 2008 FOA, other universities, and private industry.

No single team member or sub-awardee can exceed the value/funding of the primary Offeror.

B. COST SHARING

- **Cost sharing is not required by National Laboratories.** However, cost share will be required for institutions of higher education, nonprofit or for-profit private entities, and state and local governments who team with the National Lab primary applicant. The non-National Lab portion

of the budget will require 20% cost sharing of the sub-recipient's cost for applied research and/or development from non-federal sources. Federally Funded Research and Development Centers (FRRDCs) that partner with the primary National Lab applicant, who are not included in the list of National Labs under Section 2 of the Energy Policy Act of 2005, are not required to cost share.

C. OTHER ELIGIBILITY REQUIREMENTS

Primary Offeror

- DOE FFRDC's are eligible to apply for funding under this announcement if their contracting officer provides written authorization and this authorization is submitted with the proposal. If a DOE Federal Laboratory is selected for award, the proposed work will be authorized under the DOE work authorization process and performed under the laboratory's M&O contract. The following wording is acceptable for the authorization:

“Authorization is granted for the _____ Laboratory to participate in the proposed project. The work proposed for the laboratory is consistent with or complementary to the missions of the laboratory and will not adversely impact execution of the DOE assigned programs at the laboratory.”

DOE prefers that the authorization is submitted with the proposal; however the authorization will be accepted up to 30 days after the proposal closing date. If the authorization is not submitted with the proposal, please submit written notification with the proposal that the authorization from the cognizant contracting officer is in progress and will be submitted no later than 30 days after the proposal closing date.

- The offeror, 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 offeror and team members if applicable.
- Value/Funding: The value of, and funding for, the federal laboratory contractor portion of the work will not normally be included in the award to a successful offeror. Usually, DOE will fund a DOE FFRDC contractor through the DOE field work proposal system and other Federal laboratory contractors through an interagency agreement with the sponsoring agency.
- Cost Share: **Cost sharing is not required by National Laboratories.** However, cost share will be required for institutions of higher education, nonprofit or for-profit private entities, and state and local governments who team with the National Lab primary applicant. The non-National Lab portion of the budget will require 20% cost sharing of the sub-recipient's cost for applied research and/or development from non-federal sources. Federally Funded Research and Development Centers (FRRDCs) that partner with the primary National Lab applicant, who are not included in the list of National labs under Section 2 of the Energy Policy Act of 2005, are not required to cost share.

Federal Laboratory Contractors (Team Members or Sub-Awardees)

- If DOE FFRDCs are partnering with the primary offeror:

- Authorization: A federal laboratory or other federal agency must provide an authorization from an appropriate authorizing official that it can perform work for other federal entities in a manner consistent with this funding opportunity. Save the authorization in a single file named “Lab_Auth.pdf”.
- Effort: **No single team member or sub-awardee can exceed the value/funding of the primary offeror.**
- If Non DOE federal laboratories are partnering with the primary offeror:
 - The federal agency contracting officer sponsoring the federal laboratory contractor must authorize in writing the use of the federal laboratory contractor on the proposed project and this authorization must be submitted with the application. The use of a federal laboratory contractor must be consistent with the contractor’s authority under its award.

D. MULTIPLE PRINCIPAL INVESTIGATORS

The assignment and use of multiple Principal Investigators (PIs) in projects awarded under this PA is allowed. The offeror, whether a single organization or team/partnership/consortium, must however indicate in the proposal if the project will include multiple PIs. (See Part III) The decision to use multiple PIs for a project is the sole responsibility of the offeror. If multiple PIs will be designated, the proposal 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
- PIs’ roles and administrative, technical and scientific responsibilities for the project

PROPOSAL REVIEW INFORMATION

A. REVIEW CRITERIA

1. Initial Review Criteria

- Prior to a comprehensive merit evaluation, DOE will perform an initial review to determine that (1) the offeror 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 program announcement. If a proposal fails to meet these requirements, it may be deemed non-responsive and eliminated from full Merit Review.

2. Merit Review Criteria

The following criteria are proposed to be used to evaluate Proposals within Topic Area 3: Supporting Research and Testing for Hydropower

Criterion 1: Technical Merit and Innovation**Weight: [30%]**

- Extent to which the proposed research project addresses technical areas of interest, as outlined in the solicitation, and likelihood of substantial progress relative to existing scientific knowledge or capabilities (high-gain, high-risk outcomes warrant consideration).
- Credibility of the proposal based on sound engineering and scientific principles and defensible assumptions; including experimental data and prior results indicative of the viability of the concept. This includes how well the proposal demonstrates a clear understanding of the current state of the science.
- Likelihood of the project to help further industry-wide development of the relevant technologies and provide innovative solutions beyond current industry capabilities.

Criterion 2: Technical Approach and Project Research Plan**Weight: [30%]**

- Viability of technical approach and the project research plan to achieve objectives of this PA.
- Degree to which proposed plan is clearly stated, organized, achievable, and technically feasible, including the adequacy and completeness of proposed tasks and the resources identified to successfully address all elements of the technical plan.
- Viability, completeness, and timeliness of offeror's decision points and deliverables in ensuring objective evaluation of progress against the proposed plan.
- Strength of vision and strategy for producing results that will benefit specifically identified industry users and how results will address current needs, barriers, or limiting factors.

Criterion 3: Qualifications and Resources**Weight: [25%]**

- Capabilities, experience, qualifications, and credentials of team members, including the strength of all offerors' and team members' (if applicable) experience and record of success in technical innovation and performance.
- Availability and applicability of required equipment, laboratories and demonstration facilities, analytic support, and other necessary resources for performing the proposed project.
- Demonstrated support of each team member's participation and/or partners' cost share via letter of commitment.

Criterion 4: Project Management and Technology Transfer Plan**Weight: [15%]**

- Quality, completeness, and probability of success of the project management plan for coordinating research activities among team members and organizations.
- Level, variety, and comprehensiveness of plan to disseminate results of research to others in the industry (may include conferences, papers, workshops, and web-based information sharing), including likelihood that project will result in technology deployment and

commercial development – proposal should contain a clear explanation of intended market impact by 2015.

3. Other Selection Factors

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

1. Technical diversity of projects
2. Complementarity of projects both within and across proposals, and within and across Topic Areas
3. Breadth and depth of teaming arrangements
4. Cost share from industry partners or others, above minimum amount required (no cost share is required from Labs)

B. REVIEW AND SELECTION PROCESS

1. Merit Review

Proposals 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 at <http://www.management.energy.gov/documents/meritrev.pdf>.

It is very important that those documents, Project Abstract and Project Narrative file, that will be used during the Merit Review Process do not contain any Personally Identifiable Information as described in Appendix B.

2. Selection

The Selection Official may 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 offeror 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 proposal 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 offeror.

C. ANTICIPATED NOTICE OF SELECTION AND AWARD DATES

- DOE anticipates notifying offerors selected for award by 07/15/2009 and making awards by

09/30/2009.

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 PA. It is recommended that you register as soon after release of the PA as possible to ensure you receive timely notice of any modifications or other announcements.

B. GOVERNMENT RIGHT TO REJECT OR NEGOTIATE

DOE reserves the right, without qualification, to reject any or all proposals received in response to this announcement and to select any proposal, 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 PROPOSAL INFORMATION

Patentable ideas, trade secrets, proprietary or confidential commercial or financial information, disclosure of which may harm the offeror, should be included in a proposal 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 offeror includes the following legend on the first page of the project narrative and specifies the pages of the proposal which are to be restricted:

“The data contained in pages _____ of this proposal 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 offeror receives an award as a result of or in connection with the submission of this proposal, 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 offeror.”

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 offeror) 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 offeror, by submitting its

proposal, consents to the use of non-Federal reviewers/administrators. Non-Federal reviewers must sign conflict of interest and non-disclosure agreements prior to reviewing a proposal. Non-Federal personnel conducting administrative activities must sign a non-disclosure agreement.

F. INTELLECTUAL PROPERTY DEVELOPED UNDER THIS PROGRAM

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

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

Special Protected Data Statutes. This program is covered by a special protected data statute. The provisions of the statute provide for the protection from public disclosure, for a period of up to five years from the date of its development, of first-produced data that would be trade secret, or commercial or financial information that is privileged or confidential, if the information had been obtained from a non-Federal party. For National Laboratories and FFRDCs, the data rights clause in the Offeror’s Management and Operating (M&O) Contract will apply. For other types of organizations (e.g., private industry) that partner with Labs, the data resulting from the testing and evaluation will be protected from public disclosure for up to five years, with some exceptions for data of a general nature that demonstrates progress toward DOE’s programmatic goals. DOE will have the right to use the data for Government purposes. The exact terms and conditions of the data use and public release will be set forth in the Lab subcontract and will be based on 10 C.F.R. 600.325, Appendix A, “Rights in Data – Programs Covered by Special Data Statutes.” This provision will identify data or categories of data first produced in the performance of the award that will be made available to the public, notwithstanding the statutory authority to withhold data from public dissemination, and may also identify data that will be recognized by the parties as protected data. Labs must consult with the Golden Field Office Patent Counsel to obtain the data rights clause to use in their subcontracts under this Announcement.

G. NOTICE OF RIGHT TO REQUEST PATENT WAIVER

Offerors 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. NOTICE OF RIGHT TO CONDUCT A REVIEW OF FINANCIAL CAPABILITY

DOE reserves the right to conduct an independent third party review of financial capability for offerors that are selected for negotiation of award (including personal credit information of principal(s) of a small business if there is insufficient information to determine financial capability of the organization).

J. NOTICE OF POTENTIAL DISCLOSURE UNDER FREEDOM OF INFORMATION ACT

Offerors should be advised that identifying information regarding all offerors, including offeror names and/or points of contact, may be subject to public disclosure under the Freedom of Information Act, whether or not such offerors are selected for negotiation of award.

Topic Area 4: Environmental Assessment and Mitigation Methods for Hydropower

AWARD INFORMATION

A. BACKGROUND

Objectives: The specific objective of Topic Area 4 is to design, develop, and test new ways to reduce the adverse environmental effects of conventional hydropower technologies. The projects that are funded should lead to better and more standardized practices that will be more cost-effective and protective of environmental quality. Research and development should address situations where environmental issues constrain project operations and reduce generation potential, such as spill flow requirements for downstream fish passage. Products should include improved methods for quantifying environmental impacts and predicting the overall performance of newer technologies.

Projects proposed under Topic Area 4 may address one or more of the following subjects, though other subjects may also be considered:

- ***Fish passage issues*** – basic research on the effect of hydraulic processes (velocity, pressure, shear) on fish movement including development of biocriteria for key species that can be used for improvements in civil structure (turbines, fishways, fish screens) to improve survival and passage efficiency; demonstrations of new technology to determine fishway effectiveness in real-world applications; methods to measure and predict indirect mortality rates and non-lethal injury
- ***Instream flow requirements*** -- studies to better understand and predict the effects of variable stream flows on fish and wildlife, especially those that occur below peaking hydropower projects; synthesis and integration studies to extract knowledge from experience across multiple, existing projects.
- ***Cumulative impact assessment*** – development and demonstration of new methods to predict the cumulative effects of multiple stresses on the fish and wildlife resources affected by hydropower projects, especially at the population level and above; methods for comprehensive evaluation of all possible routes of passage at dams (e.g., turbine passage, fishways, and spillage), for use in optimizing dam operations.
- ***Environmental performance measurement methods*** -- development and testing of improved methods for measuring fish passage mortality (direct and indirect), specifically as applied to evaluating the performance of advanced turbines;
- ***Greenhouse gas (GHG) emissions from reservoirs*** -- development, testing, and demonstration of methods to measure and predict GHG emissions from reservoirs at hydropower projects, at various scales from individual projects to regional and national assessments.

Offerors are required to submit a letter of intent by the due date set forth on the cover page of this FOA. This letter should include the name of the offeror, a brief description of the project (maximum of 1 paragraph), the Topic Area of interest, and a point of contact for the proposal. Letters of intent will be used by DOE to organize and expedite the merit review process. Letters

of intent does not commit an offeror to submit a proposal. They should not contain any proprietary or sensitive business information. The letter of intent should be sent by E-mail to Water2009@go.doe.gov.

Offerors who have not submitted a letter of intent will not be considered for an award.

B. TYPE OF AWARD INSTRUMENT

- DOE anticipates providing funding for selected projects to DOE National Laboratories through Field Work Proposals.

C. ESTIMATED FUNDING

- Approximately \$3 million is expected to be available for new awards in FY 2009 for Topic Area 4, with an additional \$3 million expected to be available for awards made under this announcement in FY 2010 and 2011, respectively (based on available appropriations).

D. MAXIMUM AND MINIMUM AWARD SIZE

- Ceiling (i.e., the maximum amount for an individual award made under this announcement): \$4.5 million
- Floor (i.e., the minimum amount for an individual award made under this announcement): none

E. EXPECTED NUMBER OF AWARDS

- DOE anticipates making up to 2 awards under this announcement depending on the size of the awards.

F. ANTICIPATED AWARD SIZE

- DOE anticipates that awards will be up to \$4.5 million for the total project period.

G. PERIOD OF PERFORMANCE

- DOE anticipates making awards that will run for up to 3 years.

H. TYPE OF PROPOSAL

- Only new proposals will be accepted under this announcement (e.g., proposals for renewals of existing DOE funded projects will not be considered).

ELIGIBILITY INFORMATION

A. ELIGIBLE OFFERORS

- Eligibility is restricted to DOE National Laboratories or DOE National Laboratory-led Consortia.

Topic Area 4: Partnering is strongly encouraged among DOE FFRDCs. Other non-DOE federal labs may participate as partners but not as the lead. Partnering is also encouraged with National Marine Renewable Energy Centers established under DOE's FY 2008 FOA, other universities, and private industry.

No single team member or sub-awardee can exceed the value/funding of the primary

Offeror.

B. COST SHARING

- **Cost sharing is not required by National Laboratories.** However, cost share will be required for institutions of higher education, nonprofit or for-profit private entities, and state and local governments who team with the National Lab primary applicant. The non-National Lab portion of the budget will require 20% cost sharing of the sub-recipient's cost for applied research and/or development from non-federal sources. Federally Funded Research and Development Centers (FRRDCs) that partner with the primary National Lab applicant, who are not included in the list of National Labs under Section 2 of the Energy Policy Act of 2005, are not required to cost share.

C. OTHER ELIGIBILITY REQUIREMENTS

Primary Offeror

- DOE FFRDC's are eligible to apply for funding under this announcement if their contracting officer provides written authorization and this authorization is submitted with the proposal. If a DOE Federal Laboratory is selected for award, the proposed work will be authorized under the DOE work authorization process and performed under the laboratory's M&O contract. The following wording is acceptable for the authorization:

“Authorization is granted for the _____ Laboratory to participate in the proposed project. The work proposed for the laboratory is consistent with or complementary to the missions of the laboratory and will not adversely impact execution of the DOE assigned programs at the laboratory.”

DOE prefers that the authorization is submitted with the proposal, however it will be accepted up to 30 days after the proposal closing date. If the authorization is not submitted with the proposal, please provide written notification submitted with the proposal that the authorization from the cognizant contracting officer is in progress and will be submitted no later than 30 days after the proposal closing date.

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applicant, who are not included in the list of National Labs under Section 2 of the Energy Policy Act of 2005, are not required to cost share.

Federal Laboratory Contractors (Team Members or Sub-Awardees)

- If DOE FFRDCs are partnering with the primary offeror:
 - Authorization: A federal laboratory or other federal agency must provide an authorization from an appropriate authorizing official that it can perform work for other federal entities in a manner consistent with this funding opportunity. Save the authorization in a single file named “Lab_Auth.pdf”.
 - Effort: **No single entity, team member or sub-awardee can exceed the value/funding of the primary offeror.**
- If Non DOE federal laboratories are partnering with the primary offeror:
 - The federal agency contracting officer sponsoring the federal laboratory contractor must authorize in writing the use of the federal laboratory contractor on the proposed project and this authorization must be submitted with the application. The use of a federal laboratory contractor must be consistent with the contractor’s authority under its award.

D. MULTIPLE PRINCIPAL INVESTIGATORS

The assignment and use of multiple Principal Investigators (PIs) in projects awarded under this PA is allowed. The offeror, whether a single organization or team/partnership/consortium, must however indicate in the proposal if the project will include multiple PIs. (See Part III) The decision to use multiple PIs for a project is the sole responsibility of the offeror. If multiple PIs will be designated, the proposal 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
- PIs’ roles and administrative, technical and scientific responsibilities for the project

PROPOSAL REVIEW INFORMATION

A. REVIEW CRITERIA

1. Initial Review Criteria

- Prior to a comprehensive merit evaluation, DOE will perform an initial review to determine that (1) the offeror 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 program announcement. If a proposal fails to meet these requirements, it may be deemed non-responsive and eliminated from full Merit Review.

2. Merit Review Criteria

The following criteria are proposed to be used to evaluate Proposals within
Topic Area 4: Environmental Assessment and Mitigation Methods for Hydropower

Criterion 1: Technical Merit and Innovation

Weight: [30%]

- Extent to which the proposed research project addresses technical areas of interest, as outlined in the solicitation, and likelihood of substantial progress relative to existing scientific knowledge or capabilities (high-gain, high-risk outcomes warrant consideration).
- Credibility of the proposal based on sound engineering and scientific principles and defensible assumptions; including experimental data and prior results indicative of the viability of the concept. This includes how well the proposal demonstrates a clear understanding of the current state of the science.
- Likelihood of the project to help further industry-wide development of the relevant technologies and provide innovative solutions beyond current industry capabilities.

Criterion 2: Technical Approach and Project Research Plan

Weight: [30%]

- Viability of technical approach and the project research plan to achieve objectives of this PA.
- Degree to which proposed plan is clearly stated, organized, achievable, and technically feasible, including the adequacy and completeness of proposed tasks and the resources identified to successfully address all elements of the technical plan.
- Viability, completeness, and timeliness of offeror's decision points and deliverables in ensuring objective evaluation of progress against the proposed plan.
- Strength of vision and strategy for producing results that will benefit specifically identified industry users and how results will address current needs, barriers, or limiting factors.

Criterion 3: Qualifications and Resources

Weight: [25%]

- Capabilities, experience, qualifications, and credentials of team members, including the strength of all offerors' and team members' (if applicable) experience and record of success in technical innovation and performance.
- Availability and applicability of required equipment, laboratories and demonstration facilities, analytic support, and other necessary resources for performing the proposed project.
- Demonstrated support of each team member's participation and/or partners' cost share via letter of commitment.

Criterion 4: Project Management and Technology Transfer Plan Weight: [15%]

- Quality, completeness, and probability of success of the project management plan for coordinating research activities among team members and organizations.
- Level, variety, and comprehensiveness of plan to disseminate results of research to others in the industry (may include conferences, papers, workshops, and web-based information sharing), including likelihood that project will result in technology deployment and commercial development – proposal should contain a clear explanation of intended market impact by 2015.

3. Other Selection Factors

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

1. Technical diversity of projects
2. Complementarity of projects both within and across proposals, and within and across Topic Areas
3. Breadth and depth of teaming arrangements
4. Cost share from industry partners or others, above minimum amount required (no cost share is required from Labs)

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It is very important that those documents, Project Abstract and Project Narrative file, that will be used during the Merit Review Process do not contain any Personally Identifiable Information as described in Appendix B.

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

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“The data contained in pages _____ of this proposal 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 offeror receives an award as a result of or in connection with the submission of this proposal, 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 offeror.”

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

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F. INTELLECTUAL PROPERTY DEVELOPED UNDER THIS PROGRAM

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

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

Special Protected Data Statutes. This program is covered by a special protected data statute. The provisions of the statute provide for the protection from public disclosure, for a period of up to five years from the date of its development, of first-produced data that would be trade secret, or commercial or financial information that is privileged or confidential, if the information had been obtained from a non-Federal party. For National Laboratories and FFRDCs, the data rights clause in the Offeror’s Management and Operating (M&O) Contract will apply. For other types of organizations (e.g., private industry) that partner with Labs, the data resulting from the testing and evaluation will be protected from public disclosure for up to five years, with some exceptions for data of a general nature that demonstrates progress toward DOE’s programmatic goals. DOE will have the right to use the data for Government purposes. The exact terms and conditions of the data use and public release will be set forth in the Lab subcontract and will be based on 10 C.F.R. 600.325, Appendix A, “Rights in Data – Programs Covered by Special Data Statutes.” This provision will identify data or categories of data first produced in the performance of the award that will be made available to the public, notwithstanding the statutory authority to withhold data from public dissemination, and may also identify data that will be recognized by the parties as protected data. Labs must consult with the Golden Field Office Patent Counsel to obtain the data rights clause to use in their subcontracts under this Announcement.

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Offerors 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. NOTICE OF RIGHT TO CONDUCT A REVIEW OF FINANCIAL CAPABILITY

DOE reserves the right to conduct an independent third party review of financial capability for offerors that are selected for negotiation of award (including personal credit information of principal(s) of a small business if there is insufficient information to determine financial capability of the organization).

J. NOTICE OF POTENTIAL DISCLOSURE UNDER FREEDOM OF INFORMATION ACT

Offerors should be advised that identifying information regarding all offerors, including offeror names and/or points of contact, may be subject to public disclosure under the Freedom of Information Act, whether or not such offerors are selected for negotiation of award.

PART III – PROPOSAL AND SUBMISSION INFORMATION (ALL TOPIC AREAS)

A. ADDRESS TO REQUEST PROPOSAL PACKAGE

Application forms are provided as separate attachments to this Program Announcement which is posted on the FedConnect website at <https://www.fedconnect.net/FedConnect>. The proposal forms are also available at <https://www.eere-pmc.energy.gov/forms.aspx>.

B. LETTER OF INTENT AND PRE-PROPOSAL

1. Letter of Intent

Only those Offerors who submit a letter of intent are eligible to submit final proposals under this announcement. Offerors are requested to submit a letter of intent by **May 6, 2009, 11:59 PM Eastern Time**. This letter should include the name of the offeror, a brief description of the project (maximum of 1 paragraph), the Topic Area of interest, and a point of contact for the proposal. Letters of intent will be used by DOE to organize and expedite the merit review process. Letters of intent do not commit an offeror to submit a proposal. They should not contain any proprietary or sensitive business information. The letter of intent should be sent by E-mail to Water2009@go.doe.gov.

Offerors who have not submitted a letter of intent will not be considered for an award.

2. Pre-proposal

A pre-proposal is not required.

C. CONTENT AND FORM OF PROPOSAL

Proposal forms are provided as separate attachments to this Program Announcement which is posted on the FedConnect website at <https://www.fedconnect.net/FedConnect>. The proposal forms are also available at <https://www.eere-pmc.energy.gov/forms.aspx>.

You must complete the proposal forms, in accordance with the instructions on the forms and the additional instructions below, as required by this PA.

Field Work Proposal (DOE Form No 412.1)

Offerors must complete and submit a DOE Field Work Proposal (FWP) for the proposed project. The FWP should be prepared in accordance with the requirements in DOE Order 412.1 Work Authorization System. DOE O 412.1 is available at (http://management.energy.gov/documents/DOE_O_412_1.doc). Save this FWP in a Word file named "Proposal.doc".

a. Project Summary/Abstract File

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 offeror, the project director/principal investigator, 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). **The project summary/abstract must specify the Topic Area to which the project is applying.** Offerors are cautioned that this document should not include any proprietary information, trade secrets, or other confidential business, financial or sensitive information, since this summary may be subject to public disclosure under the Freedom of Information Act (FOIA). 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. Save this information in a file named “Summary.doc”.

b. Project Narrative File - Mandatory Other Attachment

The project narrative must not exceed 20 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 REVIEW ONLY 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 proposal. See Part VIII.D for instructions on how to mark proprietary proposal information. Save the information in a single file named “Project.doc”.

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 Criteria Discussion.
This section should be formatted to address each of the merit review criteria and sub-criteria listed in Part II, PROPOSAL REVIEW INFORMATION, SECTION A (of the respective Topic Area section). Provide sufficient information so that reviewers will be able to evaluate the proposal in accordance with these merit review criteria. DOE WILL EVALUATE AND CONSIDER ONLY THOSE PROPOSALS THAT ADDRESS SEPARATELY EACH OF THE MERIT REVIEW CRITERIA AND SUB-CRITERIA.
For Topic Area 1, demonstrate credibility by supplying experimental data and prior results to illustrate the viability of the concept. Discussion should include end-user value, potential buyers/licensees and preliminary economic analysis.
- Project Timetable:
This section should outline as a function of time, year by year, all the important activities or phases of the project, including any activities planned beyond the project period. Successful offerors must use this project timetable to report progress.

The above listed components of your Project Narrative combined, must be within the Narrative page limit specified above. Documents listed below may be included as clearly marked appendices to your Narrative and will not count towards the Project Narrative page limit. Please note that some of the required documents listed below may have their own page limits to which you must adhere.

c. Resume File

Provide a resume for each key person proposed, including subawardees and consultants if they meet the definition of key person. A key person is any individual who contributes in a substantive, measurable way to the execution of the project. Save all resumes in a single file named “resume.doc”. Each resume 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 should include the following information, if applicable:

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

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.

Of the key personnel identified in this file, indicate the Principal Investigator(s) (PI). If multiple PIs are proposed, the offeror must provide the information indicated in the Eligibility Information section of this PA as part of this file.

The resume file does not have a page limitation.

d. Budget File

SF 424 A Excel, Budget Information – Non-Construction Programs File

You must provide a separate budget for each year of support requested and accumulative budget for the total project period. Use the SF 424 A Excel, “Budget Information – Non Construction Programs” form on the Offeror and Recipient Page at http://management.energy.gov/business_doe/business_forms.htm. You may request funds under any of the Object Class Categories 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 III). Save the information in a single file named “SF424A.xls”.

e. Letters of Commitment

You must have a letter from each third party contributing cost sharing (i.e., a party other than the organization submitting the proposal) that proposes to provide all or part of the required

cost sharing. **All Letters of Commitment must be attached to the Project Narrative File.** The letter must state that the third party is committed to providing a specific minimum dollar amount of cost sharing. In the budget justification, identify the following information for each third party contributing 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. Letters of Commitment from parties participating in the project, exclusive of vendors, who will not be contributing cost share, but will be integral to the success of the project must be included as part of this Appendix to the Narrative. Letters of Commitment will not count towards the Project Narrative page limit.

f. Subaward Budget File(s)

You must provide a separate budget (i.e., budget for each budget year and a cumulative 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). Use the SF 424 A Excel for Non Construction Programs or the SF 424 C Excel for Construction Programs. These forms are found on the Offeror and Recipient Page at <https://www.eere-pmc.energy.gov/forms.aspx>. Save each Subaward budget in a separate file. Use up to 10 letters of the subawardee's name (plus424.xls) as the file name (e.g., ucla424.xls or energyres424.xls).

A budget justification for the subaward budget is also required. If the SF 424A budget format is used for the proposal, the format provided as PMC 123.1, Budget Justification for SF 424A, on the Offeror and Recipient Page at http://management.energy.gov/business_doe/business_forms.htm is recommended but not required for use in providing this budget justification.

g. Budget for Federally Funded Research and Development Center (FFRDC) Sub-Awardee File, if applicable

If a FFRDC sub-awardee 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 the following link: <http://www.management.energy.gov/documents/o4121.pdf>. Use up to 10 letters of the FFRDC name (plus .doc) as the file name (e.g., lanl.doc or anl.doc).

h. Authorization for non-DOE or DOE FFRDCs

Save the Authorization for non-DOE or DOE FFRDCs, as specified in the Eligibility Information section of this PA, in a single file named "FFRDC_Auth.doc".

Summary of Required Forms/Files

Your proposal must include the following documents:

Name of Document	Format	File Name
Field Work Proposal (DOE Form No 412.1)	Word	Proposal.doc
Project Summary/Abstract File	Word	Summary.doc
Project Narrative File, including required appendices (Letters of Commitment)	Word	Project.doc
Resume File	Word	Resume.doc
SF 424A Excel - Budget Information for Non-Construction Programs File	Excel	SF424A.xls
Subaward Budget File(s), if applicable	Excel	See Instructions
Budget for Federally Funded Research and Development Center (FFRDC) Sub-awardee File, if applicable.	Word	See Instructions
Authorization from cognizant Contracting Officer for FFRDC, if applicable.	Word	FFRDC_Auth.doc

D. SUBMISSIONS FROM SUCCESSFUL OFFERORS

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

- Indirect cost information
- Other budget information
- Name and phone number of the Designated Responsible Employee for complying with national policies prohibiting discrimination (See 10 CFR 1040.5)

E. SUBMISSION DATES AND TIMES

Proposal Due Date

Proposals must be received by June 4, 2009, 11:59 PM Eastern Time. You are encouraged to transmit your proposal well before the deadline. **PROPOSALS RECEIVED AFTER THE DEADLINE WILL NOT BE REVIEWED OR CONSIDERED FOR AWARD. ALL OFFERORS MUST SUBMIT A LETTER OF INTENT BY THE DUE DATE AND TIME SPECIFIED ON THE FRONT PAGE OF THE PROGRAM ANNOUNCEMENT.**

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 offeror's risk. DOE is under no obligation to reimburse such costs if for any reason the offeror does not receive an award or if the award is made for a lesser amount than the offeror expected.

H. 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. 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 Application due date and time, to verify successful transmission.

2. Registration Process Requirements

To submit an application in response to this PA, Applicants must be registered with FedConnect. Before you can register with FedConnect, you will need the following:

- a. Your company's DUNS (including plus 4 extension if applicable). If you don't know your company's DUNS or if your company does not have a DUNS you can search for it or request one at <http://fedgov.dnb.com/webform/displayHomePage.do>.
- b. A federal Central Contractor Registration (CCR) account. If your company is not currently registered with CCR, please register at www.ccr.gov before continuing with your FedConnect registration.
- c. Possibly, your company's CCR MPIN. 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 FedConnect will let you know.

Offerors who are not registered with CCR and FedConnect, should allow at least 21 days to complete these requirements. It is suggested that the process be started as soon as possible. For those Applicants already registered in CCR, the CCR registration must be updated annually at <http://www.ccr.gov/Renew.aspx>.

PART IV - AWARD ADMINISTRATION INFORMATION (ALL TOPIC AREAS)

A. AWARD NOTICES

1. Notice of Selection

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

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

2. Notice of Award

Selected offerors will be contacted to revise the FWP if necessary and finalize the award.

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>), except for grants made to Federal Demonstration Partnership (FDP) institutions. The FDP terms and conditions and DOE FDP agency specific terms and conditions are located on the National Science Foundation web site at http://www.nsf.gov/awards/managing/fed_dem_part.jsp.

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://www.management.energy.gov/documents/specialtermsandcondition308.pdf>. The National Policy Assurances To Be Incorporated As Award Terms are located at http://management.energy.gov/business_doe/1374.htm.

3. 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 will be negotiated after selection and identified in the award agreement.

PART V - QUESTIONS/AGENCY CONTACTS (ALL TOPIC AREAS)

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 PA as possible to have the benefit of all responses. More information is available at https://www.fedconnect.net/FedConnect/PublicPages/FedConnect_Ready_Set_Go.pdf. 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.

REFERENCE MATERIAL

Appendix A – Definitions

“Amendment” means a revision to a Funding Opportunity Announcement

"Offeror" means the legal entity or individual signing the Proposal. This entity or individual may be one organization or a single entity representing a group of organizations (such as a Consortium) that has chosen to submit a single Proposal in response to a Funding Opportunity Announcement.

"Application" means the documentation submitted in response to a Funding Opportunity Announcement. NOTE: Application is referred to as Proposal in IIPS.

“Authorized Organization Representative (AOR)” is the person with assigned privileges who is authorized to submit grant applications through Grants.gov on behalf of an organization. The privileges are assigned by the organization’s E-Business Point of Contact designated in the CCR.

"Award" means the written documentation executed by a DOE Contracting Officer, after an Offeror is selected, which contains the negotiated terms and conditions for providing Financial Assistance to the Offeror. A Financial Assistance Award may be either a Grant or a Cooperative Agreement.

"Budget" means the cost expenditure plan submitted in the Application, including both the DOE contribution and the Offeror Cost Share.

"Consortium (plural consortia)" means the group of organizations or individuals that have chosen to submit a single Application in response to a Funding Opportunity Announcement.

"Contracting Officer" means the DOE official authorized to execute Awards on behalf of DOE and who is responsible for the business management and non-program aspects of the Financial Assistance process.

"Cooperative Agreement" means a Financial Assistance instrument used by DOE to transfer money or property when the principal purpose of the transaction is to accomplish a public purpose of support or stimulation authorized by Federal statute, and Substantial Involvement (see definition below) is anticipated between DOE and the Offeror during the performance of the contemplated activity.

"Cost Sharing" means the respective share of Total Project Costs to be contributed by the Offeror and by DOE. The percentage of Offeror Cost Share is to be applied to the Total Project Cost (i.e., the sum of Offeror plus DOE Cost Shares) rather than to the DOE contribution alone.

“Central Contractor Registry (CCR)” is the primary database which collects, validates, stores and disseminates data in support of agency missions. Funding Opportunity Announcements which require application submission through Grants.gov require that the organization first be registered in the CCR at <http://www.grants.gov/CCRRegister>.

“Credential Provider” is an organization that validates the electronic identity of an individual through electronic credentials, PINS, and passwords for Grants.gov. Funding Opportunity Announcements which require application submission through Grants.gov require that the individual applying on behalf of an organization first be registered with the Credential Provider at <https://apply.grants.gov/OrcRegister>.

“Data Universal Numbering System (DUNS) Number” is a unique nine-character identification number issued by Dun and Bradstreet (D&B). Organizations must have a DUNS number prior to registering in the CCR. Call 1-866-705-5711 to receive one free of charge. http://www.grants.gov/offerors/request_duns_number.jsp

“E-Business Point of Contact (POC)” is the individual who is designated as the Electronic Business Point of Contact in the CCR registration. This person is the sole authority of the organization with the capability of designating or revoking an individual’s ability to submit grant applications on behalf of their organization through Grants.gov.

“E-Find” is a Grants.gov webpage where you can search for Federal Funding Opportunities in FedGrants. <http://www.grants.gov/search/searchHome.do>

“Financial Assistance” means the transfer of money or property to an Offeror or Participant to accomplish a public purpose of support authorized by Federal statute through Grants or Cooperative Agreements and sub-awards. For DOE, it does not include direct loans, loan guarantees, price guarantees, purchase agreements, Cooperative Research and Development Agreements (CRADAs), or any other type of financial incentive instrument.

“Federally Funded Research and Development Center (FFRDC)” means a research laboratory as defined by Federal Acquisition Regulation 35.017.

“Funding Opportunity Announcement (FOA)” is a publicly available document by which a Federal agency makes known its intentions to award discretionary grants or cooperative agreements, usually as a result of competition for funds. Funding opportunity announcements may be known as program announcements, notices of funding availability, solicitations, or other names depending on the agency and type of program.

“Grant” means a Financial Assistance instrument used by DOE to transfer money or property when the principal purpose of the transaction is to accomplish a public purpose of support or stimulation authorized by Federal statute, and no Substantial Involvement is anticipated between DOE and the Offeror during the performance of the contemplated activity.

“Grants.gov” is the “storefront” web portal which allows organizations to electronically find and apply for competitive grant opportunities from all Federal grant-making agencies. Grants.gov is THE single access point for over 900 grant programs offered by the 26 Federal grant-making agencies. <http://www.grants.gov>

"Key Personnel" means the individuals who will have significant roles in planning and implementing the proposed Project on the part of the Offeror and Participants, including FFRDCs.

"Marketing Partner Identification Number (MPIN)" is a very important password designated by your organization when registering in CCR. The E-Business Point of Contact will need the MPIN to login to Grants.gov to assign privileges to the individual(s) authorized to submit applications on behalf of your organization. The MPIN must have 9 digits containing at least one alpha character (must be in capital letters) and one number (no spaces or special characters permitted).

"Participant" for purposes of this Funding Opportunity Announcement only, means any entity, except the Offeror substantially involved in a Consortium, or other business arrangement (including all parties to the Application at any tier), responding to the Funding Opportunity Announcement.

"Principal Investigator" refers to the technical point of contact/Project Manager for a specific project award.

"Project" means the set of activities described in an Application, State plan, or other document that is approved by DOE for Financial Assistance (whether such Financial Assistance represents all or only a portion of the support necessary to carry out those activities).

"Proposal" is the term used in IIPS meaning the documentation submitted in response to a Funding Opportunity Announcement. Also see Application.

"Recipient" means the organization, individual, or other entity that receives a Financial Assistance Award from DOE, is financially accountable for the use of any DOE funds or property provided for the performance of the Project, and is legally responsible for carrying out the terms and condition of the award.

"Selection" means the determination by the DOE Selection Official that negotiations take place for certain Projects with the intent of awarding a Financial Assistance instrument.

"Selection Official" means the DOE official designated to select Applications for negotiation toward Award under a subject Funding Opportunity Announcement.

"Substantial Involvement" means involvement on the part of the Government. DOE's involvement may include shared responsibility for the performance of the Project; providing technical assistance or guidance which the Offeror is to follow; and the right to intervene in the conduct or performance of the Project. Such involvement will be negotiated with each Offeror prior to signing any agreement.

"Technology Investment Agreement (TIA)" is a new type of assistance instrument for DOE, but they have been used by the Department of Defense for many years to support or stimulate research projects involving for-profit firms, especially commercial firms that do business primarily in the commercial marketplace. TIAs are different from grants and cooperative agreements in that the award terms may vary from the Government-wide standard terms (See DOE TIA regulations at 10 CFR Part 603). The primary purposes for including a TIA in the type of available award instruments are to encourage non-traditional Government contractors to participate in an R&D program and to facilitate new relationships

and business practices. A TIA can be particularly useful for awards to consortia (See 10 CFR 603.225(b) and 603.515, Qualification of a consortium).

"Total Project Cost" means all the funds to complete the effort proposed by the Offeror, including DOE funds (including direct funding of any FFRDC) plus all other funds that will be committed by the Offeror as Cost Sharing.

Appendix B – Personally Identifiable Information

In responding to this Announcement, Offerors must ensure that Protected Personally Identifiable Information (PII) is not included in the following documents: Project Abstract, Project Narrative, Biographical Sketches, Budget or Budget Justification. These documents will be used by the Merit Review Committee in the review process to evaluate each application. PII is defined by the Office of Management and Budget (OMB) and DOE as:

Any information about an individual maintained by an agency, including but not limited to, education, financial transactions, medical history, and criminal or employment history and information that can be used to distinguish or trace an individual's identity, such as their name, social security number, date and place of birth, mother's maiden name, biometric records, etc., including any other personal information that is linked or linkable to an individual.

This definition of PII can be further defined as: (1) Public PII and (2) Protected PII.

1. **Public PII:** PII found in public sources such as telephone books, public websites, business cards, university listing, etc. Public PII includes first and last name, address, work telephone number, email address, home telephone number, and general education credentials.
2. **Protected PII:** PII that requires enhanced protection. This information includes data that if compromised could cause harm to an individual such as identity theft.

Listed below are examples of Protected PII that Offerors must not include in the files listed above to be evaluated by the Merit Review Committee.

- Social Security Numbers in any form
- Place of Birth associated with an individual
- Date of Birth associated with an individual
- Mother's maiden name associated with an individual
- Biometric record associated with an individual
- Fingerprint
- Iris scan
- DNA
- Medical history information associated with an individual
- Medical conditions, including history of disease
- Metric information, e.g. weight, height, blood pressure
- Criminal history associated with an individual
- Employment history and other employment information associated with an individual
- Ratings
- Disciplinary actions
- Performance elements and standards (or work expectations) are PII when they are so intertwined with performance appraisals that their disclosure would reveal an individual's performance appraisal

- Financial information associated with an individual
- Credit card numbers
- Bank account numbers
- Security clearance history or related information (not including actual clearances held)

Listed below are examples of Public PII that Offerors may include in the files listed above to be evaluated by the Merit Review Committee:

- Phone numbers (work, home, cell)
- Street addresses (work and personal)
- Email addresses (work and personal)
- Digital pictures
- Medical information included in a health or safety report
- Employment information that is not PII even when associated with a name
- Resumes, unless they include a Social Security Number
- Present and past position titles and occupational series
- Present and past grades
- Present and past annual salary rates (including performance awards or bonuses, incentive awards, merit pay amount, Meritorious or Distinguished Executive Ranks, and allowances and differentials)
- Present and past duty stations and organization of assignment (includes room and phone numbers, organization designations, work email address, or other identifying information regarding buildings, room numbers, or places of employment)
- Position descriptions, identification of job elements, and those performance standards (but not actual performance appraisals) that the release of which would not interfere with law enforcement programs or severely inhibit agency effectiveness
- Security clearances held
- Written biographies (e.g. to be used in a program describing a speaker)
- Academic credentials
- Schools attended
- Major or area of study
- Personal information stored by individuals about themselves on their assigned workstation or laptop unless it contains a Social Security Number

Appendix C – Cost Share Information

The requirement for cost sharing included in Program announcements (PA) issued competitively by the Department of Energy (DOE) is either statutory, programmatic, or both. Certain federal statutes require a minimum cost share requirement, by either type of activities funded or by Program. This is known as statutory cost share. The Program may also, at its discretion, require a greater level of cost share than the statutory minimum, or require cost share when there is no minimum requirement, as it determines appropriate. This is called programmatic cost share.

Research and development (R&D) activities (other than R&D activities related to basic science) require Recipients (those receiving the financial assistance awards from DOE) to cost share at a minimum of 20% of total project costs. Demonstration and Deployment activities require Recipients to cost share at a minimum of 50% of total project costs.

These statutory requirements are prescribed in Section 988 of the Environmental Policy Act (EPA) of 2005. Any waiver of this requirement must be approved by the Secretary of Energy.

When responding to a DOE PA, an Offeror will have the opportunity to ask questions via the FedConnect portal. Specific questions as to the acceptability and allowability of intended cost share for a proposed project in response to a PA may be posed at this site during the time period when the PA is open for questions.

The regulations that govern Federal Financial Assistance for DOE are found at 10 Code of Federal Regulations (CFR) Part 600. Specifically, Section 600.313, “Cost sharing and matching” provides guidance on acceptable contributions toward cost share requirements, as well as guidance on the valuation and documentation of contributions, for “for profit” organizations. Below is a summary of these requirements as contained in the CFR. The full CFR section may be viewed using the following link: (<http://www.access.gpo.gov/nara/cfr/cfr-table-search.html>).

Acceptable contributions, including cash contributions and third party contributions, must be accepted as part of the recipient's cost sharing or matching if such contributions meet all of the following criteria:

- They are verifiable from the recipient's records.
- They are not included as contributions for any other federally-assisted project or program.
- They are necessary and reasonable for proper and efficient accomplishment of project or program objectives.
- They are allowable under 10 CFR 600.317.
- They are not paid by the Federal Government under another award unless authorized by Federal statute to be used for cost sharing or matching.
- They are provided for in the approved budget.
- They conform to other provisions of this part, as applicable.

General examples of allowable cost share are shown below. It is up to the offeror to ensure that the cost share proposed in response to this PA is allowable under 10 CFR 600.313.

- Cash provided directly by the recipient, or a sub-recipient;
- State or local government funds provided to support the proposed project, which were not provided to the State by the federal Government;
- Employees' salaries included in the budget, if paid by the employer (recipient or sub-recipient), and not reimbursed by the federal funding of the project;
- Rental value of buildings or equipment necessary to the success of the proposed project and the value of which is included in the budget for the project;
- Monetary value of SOPO activities to be performed by a third party which are included in the project budget and will not be reimbursed by federal funds.