

**FINANCIAL ASSISTANCE  
FUNDING OPPORTUNITY ANNOUNCEMENT**



**U. S. Department of Energy  
Office of Science  
Office of Biological and Environmental Research**

**Atmospheric System Research Program**

**Funding Opportunity Number: DE-FOA-0000885  
Announcement Type: Initial  
CFDA Number: 81.049**

<b>Issue Date:</b>	<b>03/15/2013</b>
<b>Letter of Intent Due Date:</b>	<b>Not Applicable</b>
<b>Pre-Application Due Date:</b>	<b>04/15/2013 at 5:00 PM Eastern Time (A Pre-Application is required)</b>
<b>Application Due Date:</b>	<b>05/29/2013 at 11:59 PM Eastern Time</b>

## REGISTRATIONS

### Required Registrations

There are several one-time actions you must complete in order to submit an application in response to this Announcement. Applicants not currently registered with SAM and Grants.gov should allow **at least 44 days** to complete these requirements. You are encouraged to start the process as soon as possible.

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

Applicants must register with the System for Award Management (SAM) at <http://www.sam.gov/>. If you had an active registration in the Central Contractor Registry (CCR), you should have an active registration in SAM. More information about SAM registration for applicants is found at [https://www.sam.gov/sam/transcript/Quick\\_Guide\\_for\\_Grants\\_Registrations\\_v1.7.pdf](https://www.sam.gov/sam/transcript/Quick_Guide_for_Grants_Registrations_v1.7.pdf).

Applicants must register with Grants.gov. There are 3 steps to this process.

1. The Authorized Organizational Representative (AOR) must register at: <https://apply07.grants.gov/apply/OrcRegister>
2. An email is sent to the E-Business (E-Biz) POC listed in SAM. The E-Biz POC must approve the AOR registration using their MPIN from their SAM registration.
3. AOR verifies that registration was completed at: [http://grants.gov/applicants/applicant\\_profile.jsp](http://grants.gov/applicants/applicant_profile.jsp).

More information about the above steps is provided at:

[http://www.grants.gov/applicants/organization\\_registration.jsp](http://www.grants.gov/applicants/organization_registration.jsp).

Applicants must register with FedConnect at [www.fedconnect.net](http://www.fedconnect.net). If an award is made, the full and binding version of the assistance agreement between your institution and DOE will be posted to FedConnect.

Recipients must register with the Federal Funding Accountability and Transparency Act Subaward Reporting System at <https://www.fsr.gov>. This registration must be completed before an award may be made: you are advised to register while preparing your application.

### DOE Office of Science Portfolio Analysis and Management System (PAMS)

Many functions for grants and cooperative agreements with the DOE Office of Science are performed in the Portfolio Analysis and Management System (PAMS), which is available at <https://pamspublic.science.energy.gov>.

Preapplications and letters of intent are submitted through PAMS. Formal grant applications are submitted through grants.gov, which will transfer the application into PAMS. This solicitation is available through grants.gov, fedconnect.net, and PAMS. You will receive various notifications from PAMS during the application receipt and review process. Additional functionalities will be added to PAMS in the near future.

You must register in PAMS to submit a pre-application or a letter of intent.

To access PAMS, you may use Internet Explorer, Firefox, Google Chrome, or Safari browsers.

Registering to PAMS is a two-step process; once you create an individual account, you must associate yourself with (“register to”) your institution. Detailed steps are listed below.

### **Create PAMS Account:**

- To register, click the “Create New PAMS Account” link on the website <https://pamspublic.science.energy.gov/>.
- Click the “No, I have never had an account” link and then the “Create Account” button.
- You will be prompted to enter your name and email address, create a username and password, and select a security question and answer. Once you have done this, click the “Save and Continue” button.
- On the next page, enter the required information (at least one phone number and your mailing address) and any optional information you wish to provide (e.g., FAX number, website, mailstop code, additional email addresses or phone numbers, Division/Department). Click the “Create Account” button.
- Read the user agreement and click the “Accept” button to indicate that you understand your responsibilities and agree to comply with the rules of behavior for PAMS.
- PAMS will take you the “Having Trouble Logging In?” page.

### **Register to Your Institution:**

- Click the link labeled “Option 2: I know my institution and I am here to register to the institution.” (Note: If you previously created a PAMS account but did not register to an institution at that time, you must click the Institutions tab and click the “Register to Institution” link.)
- PAMS will take you to the “Register to Institution” page.
- Type a word or phrase from your institution name in the field labeled, “Institution Name like,” choose the radio button next to the item that best describes your role in the system, and click the “Search” button. (Hint: If your institution has an acronym, such as ANL for Argonne National Laboratory or UCLA for the Regents of the University of California, Los Angeles, you may search for the acronym under “Institution Name like.” Many institutions with acronyms are listed in PAMS with their acronyms in parentheses after their names.)
- Find your institution in the list that is returned by the search and click the “Actions” link in the Options column next to the institution name to obtain a dropdown list. Select “Add me to this institution” from the dropdown. PAMS will take you to the “Institutions – List” page.
- If you do not see your institution in the initial search results, you can search again by clicking the “Cancel” button, clicking the Option 2 link, and repeating the search.

- If, after searching, you think your institution is not currently in the database, click the “Cannot Find My Institution” button and enter the requested institution information into PAMS. Click the “Create Institution” button. PAMS will add the institution to the system, associate your profile with the new institution, and return you to the “Institutions – List” page when you are finished.

For help with PAMS, click the “External User Guide” link on the PAMS website, <https://pamspublic.science.energy.gov/>. You may also contact the PAMS Help Desk, which can be reached Monday through Friday, 9AM – 5:30 PM Eastern Time. Telephone: (855) 818-1846 (toll free) or (301) 903-9610, Email: [sc.pams-helpdesk@science.doe.gov](mailto:sc.pams-helpdesk@science.doe.gov). All submission and inquiries about this Funding Opportunity Announcement should reference **DE-FOA-0000885**.

## Questions

Questions relating to the registration process, **system requirements, or how an application form works** must be directed to Grants.gov at 1-800-518-4726 or [support@grants.gov](mailto:support@grants.gov).

## Application Preparation and Submission

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

## Where to Submit

Applications must be submitted through Grants.gov to be considered for award. You cannot submit an application through Grants.gov unless you are registered. Please read the registration requirements carefully and start the process immediately. Remember you have to update your SAM registration annually. If you have any questions about your registration, you should contact the Grants.gov Helpdesk at 1-800-518-4726 to verify that you are still registered in Grants.gov.

**IMPORTANT NOTICE TO POTENTIAL APPLICANTS:** When you have completed the process, you should call the Grants.gov Helpdesk at 1-800-518-4726 to verify that you have completed the final step (i.e., Grants.gov registration).

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## **Section I – FUNDING OPPORTUNITY DESCRIPTION**

### **GENERAL INQUIRIES ABOUT THIS FOA SHOULD BE DIRECTED TO:**

#### **Technical/Scientific Program Contact:**

**Program Manager:** Dr. Ashley Williamson  
**Phone:** (301) 903-3120  
**E-mail:** Ashley.Williamson@science.doe.gov

**Program Manager:** Dr. Sally McFarlane  
**Phone:** (310) 903-0943  
**E-mail:** Sally.McFarlane@science.doe.gov

#### **STATUTORY AUTHORITY**

Public Law 95-91, US Department of Energy Organization Act  
Public Law 109-58, Energy Policy Act of 2005

#### **APPLICABLE REGULATIONS**

U.S. Department of Energy Financial Assistance Rules, codified at 10 CFR 600  
U.S. Department of Energy, Office of Science Financial Assistance Program Rule, codified at 10 CFR 605

#### **SUMMARY**

The Atmospheric System Research Program (ASR) in the Climate and Environmental Sciences Division (CESD), Office of Biological and Environmental Research (BER) of the Office of Science (SC), U.S. Department of Energy (DOE), supports research on key cloud, aerosol, precipitation, and radiative transfer processes that has the potential to improve the accuracy of regional and global climate models. The ASR program hereby announces its interest in research grant applications for observational, data analysis, and/or modeling studies that use data from the Atmospheric Radiation Measurement (ARM) or ASR programs to address current scientific uncertainties in the properties of boundary layer and mixed phase clouds, ice nucleation processes, and aerosol processes; that make use of new ARM field campaign data to address ASR science goals; or that develop new integrated datasets or new algorithms from ARM observations that can be used to address ASR science questions.

## SUPPLEMENTARY INFORMATION

### Program Objective

The goal of the ASR program is to improve the treatment of clouds, aerosols, and radiative transfer processes in atmospheric models, that in turn are combined with ocean, terrestrial, and ice sheet models to make projections of climate change. ASR conducts research to: determine the properties of, and interactions among, aerosols, clouds, precipitation, and radiation that are most critical to understand in order to improve their representation in climate models; ascertain the roles of atmospheric dynamics, thermodynamic structure, radiation, surface properties, and chemical and microphysical processes in the life cycles of aerosols and clouds, and develop and evaluate models of these processes; and identify and quantify processes along the aerosol-cloud-precipitation continuum that affect the radiative fluxes at the surface and top of the atmosphere and the radiative and latent heating rate profiles, and improve the ability to accurately model these processes.

More information on the ASR program is available on

<http://science.energy.gov/ber/research/cesd/atmospheric-system-research-program/>

and background material on ASR science objectives is available through the ASR Science Plan at:

[http://science.energy.gov/~media/ber/pdf/Atmospheric\\_system\\_research\\_science\\_plan.pdf](http://science.energy.gov/~media/ber/pdf/Atmospheric_system_research_science_plan.pdf).

The ASR program utilizes the long-term cloud, aerosol, precipitation, and background meteorological data sets from the ARM Climate Research Facility. ARM provides a unique climatic observational database that is in turn used to advance the predictability of regional and global climate models. ARM has established and currently operates three fixed site facilities, each representing uniquely different climate regimes (<http://www.arm.gov/sites>) -- the Southern Great Plains (SGP), the Tropical Western Pacific (TWP), and the North Slope of Alaska (NSA). In addition, ARM has also developed two ARM Mobile Facility (AMF) units able to operate in a variety of climatic regimes, on shorter durations up to one year. To provide spatial coverage, the ARM climate research facility includes aerial measurement platforms that can be used to support experiments at the fixed sites and/or in conjunction with the mobile facility. ARM is in the process of establishing a fourth fixed site – the Eastern North Atlantic (ENA) in the Azores and a third mobile facility (AMF3) that will have an initial extended-term deployment at Oliktok Point, Alaska. Both of these facilities are expected to be operational by the end of 2013. Recently, measurement capabilities at all ARM sites were expanded by acquisition of an extensive suite of new instruments under the American Recovery and Reinvestment Act of 2009 (<http://www.arm.gov/about/recovery-act>).

This Funding Opportunity Announcement (FOA) invites applications for grant research support that address the ASR goal of advancing the science of clouds, aerosols, precipitation and their interactions, with the potential to improve confidence in regional and global climate model projections.

Priority consideration under this FOA will be given to research that:

- Conducts observational and/or modeling studies that focus on the dynamic, thermodynamic, and/or aerosol processes that control the macrophysical and microphysical properties (including precipitation development, phase partitioning, lifetime, and radiative impact) of boundary layer or mixed phase clouds.
- Improves understanding of aerosol and environmental processes controlling ice nucleation and growth and how they impact ice microphysical and optical properties
- Improves understanding and model representation of aerosol processes limiting the predictive capability of climate models, such as formation/growth/removal mechanisms, radiative absorption/energy transfer, and droplet/crystal nucleation. Priority consideration will be given to projects judged most likely to have near-term (within five years) impact on regional and global climate models.
- Makes significant use of data from recently completed and/or ongoing ARM field campaigns listed at <http://www.arm.gov/campaigns/table>. **Particular campaigns of interest include the Marine ARM GCPI Investigation of Clouds (MAGIC) and the Two-Column Aerosol Project (TCAP). Note that a separate FOA will be released for the Green Ocean Amazon 2014 (GOAmazon2014) campaign and that studies focusing primarily on the GOAmazon2014 campaign should be submitted to that FOA.**
- Develops new integrated data sets that combine multiple ARM instruments to retrieve atmospheric state, aerosol, cloud, and precipitation properties in order to address ASR science goals. Retrievals of entrainment rate, ice habit and optical properties, drizzle microphysical properties, precipitation susceptibility, and precipitation efficiency are high priorities. Use of the new Raman lidar (at Darwin), Doppler lidars, and/or high spectral resolution lidars (HSRL) is strongly encouraged. **Projects focused on algorithm and dataset development should include methods for estimating uncertainty on retrieved variables. Investigator-generated data products should be provided to the ARM data archive as PI Data Products (<http://www.arm.gov/data/pi>) and methods/algorithms provided to ARM (<http://www.arm.gov/data/docs/procedure>) so that improved retrievals and analyses may be incorporated into ARM products. Plans for delivery must be addressed in the Data Sharing section of the application.**

Proposed research is intended to fill critical knowledge gaps, including the exploration of some high-risk approaches. BER encourages the submission of innovative “high-risk” applications with potential for future high impact on cloud and aerosol research. The probability of success and the risk-reward balance will be considered when making funding decisions.

**ASR funded research must use DOE data (i.e., ARM and/or ASR measurements) as the primary observational data sources; use of additional observational data from other sources (e.g. satellite observations) is encouraged to the extent that these complement ARM data and that they are used to address ASR science objectives. Applications that require a special field campaign, which has not already been planned and approved by the ARM Program Managers, will not be accepted for consideration. Applications for new instrument development will not be considered.**

### **Progress from DOE funded research:**

As described under Merit Review, applicants will also be evaluated on past performance from previously funded related research, i.e., funded by ASR or its predecessor programs (ARM Science or Atmospheric Science Programs). Previously funded applicants will therefore be required to submit as an Appendix to the Project Narrative section a description of past research funded by ASR and/or its predecessor programs, results obtained, participation in ASR focus or working groups, and notable accomplishments of the research. Also relevant to this section are collaborative or programmatic contributions of benefit to these programs. The Appendix should be titled “Progress from DOE funded research” and should be appended immediately to the end of the Project Narrative. This section should be no longer than 4 pages and will not count towards the 20 page limit of the Project Narrative.

### **Data Sharing Policy:**

Research data obtained through public funding are a public trust. As such, these data must be publicly accessible. To be in compliance with the data policy of the U.S. Global Change Research Program of full and open access to global change research data, **applications submitted in response to this FOA must include a description of the researcher's data sharing plans if the proposed research involves the acquisition of data in the course of the research that would be of use to the climate research and assessment communities.** This includes data from extensive, long-term observations and experiments and from long-term model simulations of climate that would be costly to duplicate. **The description must include plans for sharing the data that are to be acquired in the course of the proposed research, particularly how the acquired data will be preserved, documented, and quality assured, and where it will be archived for access by others.** Data of potentially broad use in climate change research and assessments should be archived, when possible, in data repositories for subsequent dissemination. For projects funded under this FOA the relevant DOE-funded data repository is the ARM data archive; details may be found at <http://www.archive.arm.gov/>. If data are to be archived at the researcher's home institution or in some other location, the application must describe how, where, and for how long the data will be documented and archived for access by others. Researchers are allowed an initial period of exclusive use of the acquired data to quality assure it and to publish papers based on the data, but they are strongly encouraged to make the data openly available as soon as possible after this period. DOE's Office of Biological and Environmental Research defines the exclusive use period to be one year after the end of the data acquisition period for the proposed performance period of the award but exceptions to extend this period may be justified for unique or extenuating circumstances. **Explicit data management and data sharing plans are required and should be included as an appendix (i.e., not counted in the page limitation) to the Project Narrative.**

### **Participation in ASR Meetings:**

To ensure that the program meets the broadest needs of the research community and the specific needs of the DOE CESD, successful applicants are expected to attend the annual science team meeting and to participate as ASR program members in the appropriate working group(s) relevant to their efforts.

Costs for participation in ASR annual and working group meetings should be included in the budget. For budgeting purposes, costs for ASR meeting travel need **not exceed \$5000 per project year. Estimated costs should be based on a one week meeting in Washington, DC, and a one week meeting in the Midwest (e.g., Chicago, Illinois).**

## **Section II – AWARD INFORMATION**

### **A. TYPE OF AWARD INSTRUMENT**

DOE anticipates awarding grants under this FOA.

### **B. ESTIMATED FUNDING**

Research Grant Awards (typically single-investigator projects) are expected to be made for a period of two or three years at a funding level appropriate for the proposed scope, with out-year support contingent on the availability of funds and satisfactory progress. Total funding up to \$6,000,000 annually is expected to be available to support this FOA subject to appropriation of funds by the Congress. DOE is under no obligation to pay for any costs associated with the preparation or submission of an application. DOE reserves the right to fund, in whole or in part, any, all, or none of the applications submitted in response to this FOA.

### **C. MAXIMUM AND MINIMUM AWARD SIZE**

The award size will depend on the number of meritorious applications and the availability of appropriated funds.

#### **Ceiling**

\$300,000 per year

#### **Floor**

\$50,000 per year

### **D. EXPECTED NUMBER OF AWARDS**

Approximately 25 to 35 awards are expected.

### **E. ANTICIPATED AWARD SIZE**

It is anticipated that award sizes will range from \$50,000 per year to \$300,000 per year, typically less than \$250,000 per year.

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

Research Grant Awards are expected to be made for a period of up to three years as befitting the project.

Out-year funding will depend upon suitable progress and the availability of appropriated funds.

### **G. TYPE OF APPLICATION**

DOE will accept new applications under this FOA.

### **Section III – ELIGIBILITY INFORMATION**

#### **A. ELIGIBLE APPLICANTS**

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

#### **B. COST SHARING**

Cost sharing is not required.

#### **C. ELIGIBLE INDIVIDUALS**

N/A

## **Section IV – APPLICATION AND SUBMISSION INFORMATION**

### **A. ADDRESS TO REQUEST APPLICATION PACKAGE**

Application forms and instructions are available at Grants.gov. To access these materials, go to <http://www.grants.gov>, select "Apply for Grants", and then select "Download Application Package." Enter the CFDA number (81.049) and/or the funding opportunity number (DE-FOA-0000885) shown on the cover of this FOA and then follow the prompts to download the application package.

Applications submitted through [www.FedConnect.net](http://www.FedConnect.net) will not be accepted.

### **B. LETTER OF INTENT AND PRE-APPLICATION**

#### **1. Letter of Intent**

A Letter of Intent is not required

#### **2. Pre-application**

PRE-APPLICATION DUE DATE: **04/15/2013**

A pre-application is required and must be submitted by **5:00 PM Eastern, April 15, 2013**.

Preapplications will be reviewed for responsiveness of the proposed work to the research topics identified in this FOA. DOE will send a response by email to each applicant encouraging or discouraging the submission of a formal application by Monday, April 29, 2013. Applicants who have not received a response regarding the status of their preapplication by this date are responsible for contacting the program to confirm this status. **Only those applicants that receive notification from DOE encouraging a formal application may submit full applications.** No other formal applications will be considered.

The preapplication attachment should include, at the top of the first page, the following information:

Title of Preapplication  
Principal Investigator Name, Job Title  
Institution  
PI Phone Number, PI Email Address  
Funding Opportunity Announcement Number: DE-FOA-0000885

This information should be followed by a clear and concise description of the objectives and technical approach of the proposed research. The preapplication may not exceed two pages, with a minimum text font size of 11 point and margins no smaller than one inch on all sides. Figures and references, if included, must fit within the two-page limit.

Those preapplications that are encouraged will be used to help the Office of Science begin planning for the formal application peer review process. The intent of the Office of Science in discouraging submission of certain full applications is to save the time and effort of applicants in preparing and submitting formal applications not responsive to this funding opportunity announcement.

To help the Office of Science avoid conflicts of interest in identifying potential reviewers, a one-page list of the Principal Investigator's collaborators, co-editors, and graduate/postdoctoral advisors and advisees must be submitted with the preapplication. The one-page list should be the last page in the pdf preapplication file and will not count against the two-page limit for the preapplication. Further guidance on how to prepare this list is included in the next two paragraphs:

**Collaborators and Co-editors:** List, in alphabetical order, all persons, including their current organizational affiliations, who are, or who have been, collaborators or co-authors with the Principal Investigator on a research project, book or book article, report, abstract, or paper during the 48 months preceding April 2013. For publications or collaborations with more than 10 authors or participants, only list those individuals in the core group with whom the Principal Investigator interacted on a regular basis while the research was being done. Also, list any individuals who are currently or have been in the past co-editors with the Principal Investigator on a special issue of a journal, compendium, or conference proceedings during the 24 months preceding April 2013. If there are no collaborators or co-editors to report, state "None."

**Graduate and Postdoctoral Advisors and Advisees:** List the names of the Principal Investigator's own graduate advisor(s) and principal postdoctoral sponsor(s) and their current organizational affiliations. Also list the names of the Principal Investigator's graduate students and postdoctoral associates during the past five years and their current organizational affiliations.

It is important that the pre-application be a single file with extension .pdf, .docx, or .doc. The pre-application must be submitted electronically through the DOE Office of Science Portfolio Analysis and Management System (PAMS) website <https://pamspublic.science.energy.gov/>. The Principal Investigator and anyone submitting on behalf of the Principal Investigator must register for an account in PAMS before it will be possible to submit a letter of intent. All PIs and those submitting LOIs on behalf of PIs are encouraged to establish PAMS accounts as soon as possible to avoid submission delays.

To access PAMS, you may use Internet Explorer, Firefox, Google Chrome, or Safari browsers.

Registering to PAMS is a two-step process; once you create an individual account, you must associate yourself with ("register to") your institution. Detailed steps are listed below.

**Create PAMS Account:**

- To register, click the “Create New PAMS Account” link on the website <https://pamspublic.science.energy.gov/>.
- Click the “No, I have never had an account” link and then the “Create Account” button.
- You will be prompted to enter your name and email address, create a username and password, and select a security question and answer. Once you have done this, click the “Save and Continue” button.
- On the next page, enter the required information (at least one phone number and your mailing address) and any optional information you wish to provide (e.g., FAX number, website, mailstop code, additional email addresses or phone numbers, Division/Department). Click the “Create Account” button.
- Read the user agreement and click the “Accept” button to indicate that you understand your responsibilities and agree to comply with the rules of behavior for PAMS.
- PAMS will take you the “Having Trouble Logging In?” page.

**Register to Your Institution:**

- Click the link labeled “Option 2: I know my institution and I am here to register to the institution.” (Note: If you previously created a PAMS account but did not register to an institution at that time, you must click the Institutions tab and click the “Register to Institution” link.)
- PAMS will take you to the “Register to Institution” page.
- Type a word or phrase from your institution name in the field labeled, “Institution Name like,” choose the radio button next to the item that best describes your role in the system, and click the “Search” button. (Hint: If your institution has an acronym, such as ANL for Argonne National Laboratory or UCLA for the Regents of the University of California, Los Angeles, you may search for the acronym under “Institution Name like.” Many institutions with acronyms are listed in PAMS with their acronyms in parentheses after their names.)
- Find your institution in the list that is returned by the search and click the “Actions” link in the Options column next to the institution name to obtain a dropdown list. Select “Add me to this institution” from the dropdown. PAMS will take you to the “Institutions – List” page.
- If you do not see your institution in the initial search results, you can search again by clicking the “Cancel” button, clicking the Option 2 link, and repeating the search.
- If, after searching, you think your institution is not currently in the database, click the “Cannot Find My Institution” button and enter the requested institution information into PAMS. Click the “Create Institution” button. PAMS will add the institution to the system, associate your profile with the new institution, and return you to the “Institutions – List” page when you are finished.

**Submit Your Pre-Application:**

- Create your pre-application outside the system and save it as a file with extension .docx, .doc, or .pdf. Make a note of the location of the file on your computer so you can browse for it later from within PAMS.
- Log into PAMS and click the Proposals tab. Click the “View / Respond to Funding Opportunity Announcements” link and find the current announcement in the list. Click the “Actions/Views” link in the Options column next to this announcement to obtain a dropdown menu. Select “Submit Pre-Application” from the dropdown.

- On the Submit Pre-Application page, select the institution from which you are submitting this pre-application from the Institution dropdown. If you are associated with only one institution in the system, there will only be one institution in the dropdown.
- Note that you must select one and only one Principal Investigator (PI) per pre-application; to do so, click the “Select PI” button on the far right side of the screen. Find the appropriate PI from the list of all registered users from your institution returned by PAMS. (Hint: You may have to sort, filter, or search through the list if it has multiple pages.) Click the “Actions” link in the Options column next to the appropriate PI to obtain a dropdown menu. From the dropdown, choose “Select PI.”
- If the PI for whom you are submitting does not appear on the list, it means he or she has not yet registered in PAMS. For your convenience, you may have PAMS send an email invitation to the PI to register in PAMS. To do so, click the “Invite PI” link at the top left of the “Select PI” screen. You can enter an optional personal message to the PI in the “Comments” box, and it will be included in the email sent by PAMS to the PI. You must wait until the PI registers before you can submit the pre-application. Save the pre-application for later work by clicking the “Save” button at the bottom of the screen. It will be stored in “My Pre-applications” for later editing.
- Enter a title for your pre-application.
- Select the appropriate technical contact from the Program Manager dropdown.
- To upload the pre-application file into PAMS, click the “Attach File” button at the far right side of the screen. Click the “Browse” (or “Choose File” depending on your browser) button to search for your file. You may enter an optional description of the file you are attaching. Click the “Attach” button to upload the file.
- At the bottom of the screen, click the “Submit to DOE” button to save and submit the pre-application to DOE.
- Upon submission, the PI will receive an email from the PAMS system acknowledging receipt of the pre-application.

You are encouraged to register for an account in PAMS at least a week in advance of the pre-application submission deadline so that there will be no delays with your submission.

For help with PAMS, click the “External User Guide” link on the PAMS website, <https://pamspublic.science.energy.gov/>. You may also contact the PAMS Help Desk, which can be reached Monday through Friday, 9 AM – 5:30 PM Eastern Time. Telephone: (855) 818-1846 (toll free) or (301) 903-9610, Email: [sc.pams-helpdesk@science.doe.gov](mailto:sc.pams-helpdesk@science.doe.gov). All submission and inquiries about this Funding Opportunity Announcement should reference **DE-FOA-0000885**.

### **C. CONTENT AND APPLICATION FORMS**

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

## LETTERS

Letters of collaboration from unfunded collaborators should also be included, if applicable, and should be placed in Appendix 6 (Other Attachments). These letters should state the intention to participate in the proposed research, with a brief description of the activities to be undertaken by the collaborator. Do not submit general letters of support as these are not used in making funding decisions and can interfere with the selection of peer reviewers.

### 1. SF-424 (R&R)

Complete this form first to populate data in other forms. Complete all the required fields in accordance with the pop-up instructions on the form. The list of certifications and assurances referenced in Field 17 is available on the DOE Financial Assistance Forms Page at <http://energy.gov/management/office-management/operational-management/financial-assistance/financial-assistance-forms> under Certifications and Assurances.

## CERTIFICATIONS

By submitting an application in response to this FOA the Applicant certifies that:

- It is **not** a corporation that has been convicted (or had an officer or agent of such corporation acting on behalf of the corporation convicted) of a felony criminal violation under any Federal law within the preceding 24 months,
- It is **not** a corporation that has any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability,
- If the Applicant's financial assistance application is chosen for award and the award is in excess of \$1,000,000, the applicant will, by the end of the fiscal year, upgrade the efficiency of their facilities by replacing any lighting that does not meet or exceed the energy efficiency standard for incandescent light bulbs set forth in Section 325 of the Energy Policy and Conservation Act (42 USC 6295).

## PUBLIC POLICY REQUIREMENTS

The applicant further certifies its compliance with the following public policy requirements:

- Animal Welfare as required by the Animal Welfare Act of 7 USC 2131 et seq. and regulated by 10 CFR 600 and 10 CFR 602
- “Blocking Property and Prohibiting Transactions with Persons Who Commit, Threaten to Commit, or Support Terrorism,” EO 13224 of September 23, 2001, published at 66 FR 49079
- The Buy American Act of 1933, codified at 41 USC 10 et seq.
- The Cargo Preference Act, codified at 46 USC 55305 and regulated by 46 CFR 381.7
- Civil Rights Protections including but not limited to the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, the Rehabilitation Act of 1973, and the Age Discrimination Act of 1975, all of which are regulated by 10 CFR 1040 and 10 CFR 600
- “Creating a National Women’s Business Enterprise Policy and Prescribing Arrangements for Developing, Coordinating and Implementing a National Program for Women’s Business Enterprise,” EO 12138 of May 18, 1979, published at 44 FR 29637
- Debarment and Suspension, as regulated at 10 CFR 600, 2 CFR 180 and 2 CFR 901
- The Drug-Free Workplace Act of 1988 (41 USC 701) as regulated by 10 CFR 607
- Environmental protection, including but not limited to
  - The Clean Air Act, codified at 42 USC 7401 et seq. and regulated by 10 CFR 600
  - The Clean Water Act, codified at 33 USC 1251 et seq. and regulated by 10 CFR 600
  - The National Environmental Policy Act of 1969, codified at 42 USC 4321 et seq. and regulated by 10 CFR 600
- The False Claims Acts (civil at 31 USC 3729 et seq. and criminal at 18 USC 287 and 18 USC 1001) regulated by 10 CFR 1013
- The Federal Funding Accountability and Transparency Act (Public Law 109-282) as regulated by 2 CFR 170
- The Fly America Act, codified at 49 USC 40118, which generally requires that travel supported by Federal funds be conducted on US-flag carriers
- The Hatch Act of 1939, codified at 5 USC 1501 et seq. and regulated by 10 CFR 600
- Health and Safety Regulations including but not limited to
  - OSHA’s guidance at 29 CFR 1910
  - NRC safety regulations at 10 CFR 20
  - Sections of the Public Health Service Act, codified at 42 USC 300f
  - New Drug rules of 10 CFR 35.7
  - The Drug Abuse Office and Treatment Act, codified at 42 USC 290dd
  - Safe handling of etiological agents, as regulated at 49 CFR 171.1
  - Safe handling of recombinant DNA, as regulated at 10 CFR 600.3 and 10 CFR 602.10(b)
- Human Research Subjects Protection as regulated by 10 CFR 745 and 10 CFR 600
- The Lead-Based Paint Poisoning Prevention Act, codified at 42 USC 4831 and regulated by 10 CFR 600
- The Lobbying Disclosure Act of 1995, codified at 2 USC 1601 et seq.
- Lobbying Prohibitions of 31 USC 1352 and regulated by 10 CFR 601
- Metric System use as encouraged by EO 12770 of July 25, 1991

- Non-delinquency on Federal Debt as required by the Federal Debt Collection Procedures Act of 1990, codified at 28 USC 3201
- The Paperwork Reduction Act, codified at 44 USC 3501 et seq. and regulated by 10 CFR 600
- Prohibition on benefiting Members of Congress as required by 41 USC 6306
- Protection of Significant pre-historical, historical, or archeological data as required by the National Historic Preservation Act of 1966, codified at 16 USC 470f, the Archeological and Historic Preservation Act of 1966, codified at 16 USC 469 et seq., EO 11593, published at 36 FR 8921 (May 13, 1971), and Protection of Historic and Cultural Properties, 36 CFR 800, all of which are regulated by 10 CFR 600
- Seat Belt Use, as required by EO 13043 of April 16, 1997
- Select agent registration as regulated by 7 CFR 331, 9 CFR 121 and 42 CFR 73
- Text Messaging While Driving, as required by EO 13513 of October 1, 2009, published at 74 FR 51225
- Trafficking in Persons, as required by the Trafficking Victims Protection Act of 2000 (codified at 22 USC 7104) and regulated by 2 CFR 175

## **2. Research and Related Other Project Information**

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

### **PROJECT SUMMARY/ABSTRACT (FIELD 7 ON THE FORM)**

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

The abstract may be used to prepare publicly accessible reports about DOE-supported research.

## DOE COVER PAGE

(PART OF PROJECT NARRATIVE ATTACHED TO FIELD 8 ON THE FORM)

The application narrative should begin with a cover page that will not count toward the project narrative page limitation. The cover page must include the following items:

- The project title
- Applicant/Institution:
- Street Address/City/State/Zip:
- Postal Address:
- Lead PI name, telephone number, email:
- Administrative Point of Contact name, telephone number, email:
- Funding Opportunity FOA Number: DE-FOA-0000885
- DOE/Office of Science Program Office: Climate and Environmental Sciences Division
- DOE/Office of Science Program Office Technical Contact: Dr. Ashley Williamson/Dr. Sally McFarlane
- DOE Grant Number (if Renewal Application):
- PAMS Pre-application tracking number (if applicable):

## COVER PAGE SUPPLEMENT FOR COLLABORATIONS

(PART OF PROJECT NARRATIVE ATTACHED TO FIELD 8 ON THE FORM)

Collaborative applications submitted from different institutions should clearly indicate they are part of a collaborative project/group. Every partner institution must submit an application through its own sponsored research office. Each application within the collaborative group, including the narrative and all required appendices and attachments, should be identical with one exception: The exception is that each application should contain unique budget and budget justification documents corresponding to the expenditures for that application's submitting institution only. Each collaborative group can have only one lead institution, which should be identified in the common narrative. The common narrative should also contain a summary table describing the budget breakdown by institution for all participants.

Each application belonging to a collaborative group should have the same title in Block 11 of the SF 424 (R&R) form.

Our intent is to create from the various applications associated with a collaborative group one document for merit review that consists of the common, identical application materials combined with a set of detailed budgets from the partner institutions. Thus, it is very important that every application in the collaborative group be exactly identical (including the title) with the exception of the budget and budget justification pages.

If the project is a collaboration, provide the following information on a separate page as a supplement to the cover page.

- List all collaborating institutions by name with each institution's principal investigator on the same line.

- Indicate the lead PI who will be the point of contact and coordinator for the combined research activity.
- Include a table modeled on the following chart providing summary budget information from all collaborating institutions. Provide the total costs of the budget request in each year for each institution and totals for all rows and columns.

Example budget table (\$ in thousands)

<b>Partnership</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Total</b>
(Start by Lead Institution) Name of the Institution and the Principal Investigator	\$	\$	\$	\$
Name of the Institution and the Principal Investigator	\$	\$	\$	\$
Name of the Institution and the Principal Investigator	\$	\$	\$	\$
<b>Total</b>	\$	\$	\$	\$

\* Note that collaborating applications must be submitted separately.

#### PROJECT NARRATIVE (FIELD 8 ON THE FORM)

The project narrative **must not exceed 20 pages** of technical information, including 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). The font must not be smaller than 11 point.

Do not include any Internet addresses (URLs) that provide supplementary or additional information that constitutes a part of the application. References posted to an Internet-based archive or publication are permitted in a list of references. See Part VIII.D for instructions on how to mark proprietary application information. To attach a Project Narrative, click “Add Attachment.”

**Background/Introduction:** Explanation of the importance and relevance of the proposed work as well as a review of the relevant literature.

**Proposed Research and Methods:** Identify the hypotheses to be tested (if any) and details of the methods to be used including the integration of experiments with theoretical and computational research efforts.

**Timetable of Activities:** Timeline for all major activities including milestones and deliverables.

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

The Project Narrative comprises the research plan for the project. It should contain enough background material in the Introduction, including review of the relevant literature, to demonstrate sufficient knowledge of the state of the science. The major part of the narrative should be devoted to a description and justification of the proposed project, including details of the method to be used. It should also include a timeline for the major activities of the proposed project, and should indicate which project personnel will be responsible for which activities.

It is important that the 20-page project narrative section provide a complete description of the proposed work. Applications exceeding these page limits may be rejected without review or the first 20 pages may be reviewed without regard to the remainder. The page count of 20 does not include the Cover Page and Budget Pages, the Title Page, the biographical material and publication information, or any Appendices.

## APPENDIX 1: BIOGRAPHICAL SKETCH

Provide a biographical sketch for the project director/principal investigator (PD/PI) and each senior/key person listed in Section A on the R&R Budget form.

- Provide the biographical sketch information as an appendix to your project narrative.
- Do not attach a separate file.
- The biographical sketch appendix will not count in the project narrative page limitation.
- The biographical information (curriculum vitae) for each person must not exceed 2 pages when printed on 8.5” by 11” paper with 1 inch margins (top, bottom, left, and right) with font not smaller than 11 point and must include:

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

**Research and Professional Experience:** Beginning with the current position list, in chronological order, professional/academic positions with a brief description.

**Publications:** Provide a list of up to 10 publications most closely related to the proposed project. For each publication, identify the names of all authors (in the same sequence in which they appear in the publication), the article title, book or journal title, volume number, page numbers, year of publication, and website address if available electronically. Patents, copyrights and software systems developed may be provided in addition to or substituted for publications.

**Synergistic Activities:** List no more than 5 professional and scholarly activities related to the effort proposed.

**Identification of Potential Conflicts of Interest or Bias in Selection of Reviewers:** Provide the following information in this section:

**Collaborators and Co-editors:** List in alphabetical order all persons, including their current organizational affiliation, who are, or who have been, collaborators or co-authors with you on a research project, book or book article, report, abstract, or paper during the 48 months preceding the submission of this application. For publications or collaborations with more than 10 authors or participants, only list those individuals in the core group with whom the Principal Investigator interacted on a regular basis while the research was being done. Also, list any individuals who are currently, or have been, co-editors with you on a special issue of a journal, compendium, or conference proceedings during the 24 months preceding the submission of this application. If there are no collaborators or co-editors to report, state “None.”

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

## APPENDIX 2: CURRENT AND PENDING SUPPORT

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

- Do not attach a separate file.
- This appendix will not count in the project narrative page limitation.

## Appendix 3: Bibliography & References Cited

Provide a bibliography of any references cited in the Project Narrative. Each reference must include the names of all authors (in the same sequence in which they appear in the publication), the article and journal title, book title, volume number, page numbers, and year of publication. For research areas where there are routinely more than ten coauthors of archival publications, you may use an abbreviated style such as the Physical Review Letters (PRL) convention for citations (listing only the first author). For example, your paper may be listed as, "A Really Important New Result," A. Aardvark et. al. (MONGO Collaboration), PRL 999. You may also use this convention in the proposal bibliography. Include only bibliographic citations. Applicants should be especially careful to follow scholarly practices in providing citations for source materials relied upon when preparing any section of the application. Provide the Bibliography and References Cited information as an appendix to your project narrative.

- Do not attach a separate file.
- This appendix will not count in the project narrative page limitation.

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#### APPENDIX 4: FACILITIES & OTHER RESOURCES

This information is used to assess the capability of the organizational resources, including subawardee resources, available to perform the effort proposed. Identify the facilities to be used (Laboratory, Animal, Computer, Office, Clinical and Other). If appropriate, indicate their capacities, pertinent capabilities, relative proximity, and extent of availability to the project. Describe only those resources that are directly applicable to the proposed work. Describe other resources available to the project (e.g., machine shop, electronic shop) and the extent to which they would be available to the project. For proposed investigations requiring access to experimental user facilities maintained by institutions other than the applicant, please provide a document from the facility manager confirming that the researchers will have access to the facility. Please provide the Facility and Other Resource information as an appendix to your project narrative.

- Do not attach a separate file.
- This appendix will not count in the project narrative page limitation.

#### APPENDIX 5: EQUIPMENT

List major items of equipment already available for this project and, if appropriate identify location and pertinent capabilities. Provide the Equipment information as an appendix to your project narrative.

- Do not attach a separate file.
- This appendix will not count in the project narrative page limitation.

#### APPENDIX 6: OTHER ATTACHMENT

If you need to elaborate on your responses to questions 1-6 on the “Other Project Information” document, please provide the Other Attachment information as an appendix to your project narrative. Information not easily accessible to a reviewer may be included in this appendix, but do not use this appendix to circumvent the page limitations of the application. Reviewers are not required to consider information in an appendix, and reviewers may not have time to read extensive appendix materials with the same care they would use with the application proper.

- Do not attach a separate file.
- This appendix will not count in the project narrative page limitation.
- **Do not attach any of the requested appendices described above as files for fields 9, 10, 11, and 12.**
- **Follow the above instructions to include the information as appendices to the project narrative file.**
- **These appendices will not count toward the project narrative’s page limitation.**

### 3. Research And Related Budget

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

#### BUDGET JUSTIFICATION (FIELD K ON THE FORM)

Provide the required supporting information for the following costs (See R&R Budget instructions): equipment; domestic and foreign travel; participant/trainees; materials and supplies; publication; consultant services; ADP/computer services; subaward/consortium/contractual; equipment or facility rental/user fees; alterations and renovations; and indirect cost type. Provide any other information you wish to submit to justify your budget request. **Attach a single budget justification file for the entire project period in field K.** The file automatically carries over to each budget year.

### 4. R&R Subaward Budget Attachment(s) Form

**Budgets for Subawardees, other than DOE FFRDC Contractors:** You must provide a separate cumulative R&R budget for each subawardee that is expected to perform work estimated to be more than \$100,000 or 50 percent of the total work effort (whichever is less). If you are selected for award, you must submit a multi-year budget for each of these subawardees (See Section IV.D for submission of Subawardees' multi-year budgets). Download the R&R Budget Attachment from the R&R SUBAWARD BUDGET ATTACHMENT(S) FORM and e-mail it to each subawardee that is required to submit a separate budget. After the subawardee has e-mailed its completed budget back to you, attach it to one of the blocks provided on the form. Use up to 10 letters of the subawardee's name (plus.xfd) as the file name (e.g., ucla.xfd or energyres.xfd).

## 5. Project/Performance Site Location(s)

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

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

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

## 6. Summary of Required Forms/Files

Your application must include the following items:

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

## D. SUBMISSIONS FROM SUCCESSFUL APPLICANTS

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

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

## **E. SUBMISSION DATES AND TIMES**

### **1. Letter of Intent Due Date**

None

### **2. Pre-application Due Date**

April 15, 2013, 5:00 PM Eastern

### **3. Application Due Date**

May 29, 2013, 11:59 PM Eastern

You are encouraged to transmit your application well before the deadline. Applications received after the deadline will not be reviewed or considered for award.

## **F. INTERGOVERNMENTAL REVIEW**

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

## **G. FUNDING RESTRICTIONS**

Funding for all awards and future budget periods are contingent upon the availability of funds appropriated by Congress for the purpose of this program and the availability of future-year budget authority.

**Cost Principles:** Costs must be allowable, allocable and reasonable in accordance with the applicable Federal cost principles referenced in 10 CFR 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 600 and 2 CFR 215. Recipients must obtain the prior approval of the contracting officer for any pre-award costs that are for periods greater than this 90 day calendar period.

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

## **H. OTHER SUBMISSION AND REGISTRATION REQUIREMENTS**

### **1. Where to Submit**

Applications must be submitted through grants.gov to be considered for award.

Submit electronic applications through the “Apply for Grants” function at [www.Grants.gov](http://www.Grants.gov). If you have problems completing the registration process or submitting your application, call Grants.gov at 1-800-518-4726 or send an email to [support@grants.gov](mailto:support@grants.gov).

### **2. Registration Process**

#### **ONE-TIME REGISTRATION PROCESS**

You must complete the one-time registration process (all steps) before you can submit your first application through Grants.gov (See [http://www.grants.gov/applicants/get\\_registered.jsp](http://www.grants.gov/applicants/get_registered.jsp)). We recommend that you start this process at least six weeks before the application due date. It may take 44 days or more to complete the entire process. Use the Grants.gov Organizational Registration Checklists at <http://www.grants.gov/assets/OrganizationRegCheck.pdf> to guide you through the process. During the SAM registration process, you will be asked to designate an E-Business Point of Contact (EBIZ POC). The EBIZ POC must obtain a special password called "Marketing Partner Identification Number" (MPIN). When you have completed the process, you should call the Grants.gov Helpdesk at 1-800-518-4726 to verify that you have completed the final step (i.e., Grants.gov registration).

### **3. Application Receipt Notices**

After an application is submitted, the Authorized Organization Representative (AOR) will receive a series of four e-mails. It is extremely important that the AOR watch for and save each of the emails. It may take up to two (2) business days from application submission to receipt of email Number 2. The titles of the four e-mails are:

Number 1 - Grants.gov Submission Receipt Number

Number 2 - Grants.gov Submission Validation Receipt for Application Number

Number 3 - Grants.gov Grantor Agency Retrieval Receipt for Application Number

Number 4 - Grants.gov Agency Tracking Number Assignment for Application Number

## **Section V - APPLICATION REVIEW INFORMATION**

### **A. CRITERIA**

#### **1. Initial Review Criteria**

Prior to a comprehensive merit evaluation, DOE will perform an initial review in accordance with 10 CFR 605.10(b) to determine that (1) the applicant is eligible for the award; (2) the information required by the FOA has been submitted; (3) all mandatory requirements are satisfied; (4) the proposed project is responsive to the objectives of the funding opportunity announcement, and (5) the proposed project is not duplicative of programmatic work. Applications that fail to pass the initial review will not be forwarded for merit review and will be eliminated from further consideration.

#### **2. Merit Review Criteria**

Applications will be subjected to scientific merit review (peer review) and will be evaluated against the following criteria, listed in descending order of importance as found in 10 CFR 605.10 (d), the Office of Science Research Financial Assistance Program Rule.

- Scientific and/or Technical Merit of the Project;
- Appropriateness of the Proposed Method or Approach;
- Competency of Applicant's Personnel and Adequacy of Proposed Resources; and
- Reasonableness and Appropriateness of the Proposed Budget.

The evaluation process will include program policy factors such as the relevance of the proposed research to the terms of the FOA and the agency's programmatic needs. Note that external peer reviewers are selected with regard to both their scientific expertise and the absence of conflict-of-interest issues. Both Federal and non-Federal reviewers may be used, and submission of an application constitutes agreement that this is acceptable to the investigator(s) and the submitting institution.

The questions below are provided to the merit reviewers to elaborate the criteria established by regulation:

#### **SCIENTIFIC AND/OR TECHNICAL MERIT OF THE PROPOSED RESEARCH**

- What is the scientific innovation of proposed effort?
- How does the proposed work compare with other efforts in its field, both in terms of scientific and/or technical merit and originality?
- What is the likelihood of achieving influential results?

#### APPROPRIATENESS OF THE PROPOSED METHOD OR APPROACH

- Are the conceptual framework, methods, and analyses well justified, adequately developed, and likely to lead to scientifically valid conclusions?
- Does the applicant recognize significant potential problems and consider alternative strategies?

#### COMPETENCY OF APPLICANT'S PERSONNEL AND ADEQUACY OF PROPOSED RESOURCES

- How well qualified is the team to carry out the proposed work?
- Are the environment and facilities adequate for performing the proposed effort?

#### REASONABLENESS AND APPROPRIATENESS OF THE PROPOSED BUDGET

- Are the proposed staffing levels adequate to carry out the proposed work?
- Is the budget reasonable and appropriate for the scope?

In addition, applicants will be evaluated on their progress from DOE funded research, i.e., funded by ASR or its predecessor programs (ARM Science or Atmospheric Science Programs) as documented in the Progress from DOE-Funded Research section.

- Rate applicants' performance – scientific quality and productivity – on previous DOE-funded research.
- What programmatic contributions has applicant made to ARM or ASR research?

## **B. REVIEW AND SELECTION PROCESS**

### **1. Merit Review**

Applications that pass the initial review will be subjected to a formal merit review and will be evaluated based on the criteria codified at 10 CFR 605.10(d) in accordance with the guidance provided in the “Office of Science Merit Review System for Financial Assistance,” which is available at: <http://www.sc.doe.gov/grants/merit.asp>.

### **2. Selection**

The Selection Officials will consider merit review recommendations as well as program policy factors, such as ensuring a programmatically appropriate balance within the program areas, and quality of previous performance. Selection of applications for award will be based upon the findings of the technical evaluations, the importance and relevance of the proposed research to the SC mission, and funding availability.

### **3. Discussions and Award**

The Government may enter into discussions with a selected applicant for any reason deemed necessary, including but not limited to: (1) the budget is not appropriate or reasonable for the requirement; (2) only a portion of the application is selected for award; (3) the Government needs additional information to determine that the recipient is capable of complying with the requirements in 10 CFR 600 and 10 CFR 605; and/or (4) special terms and conditions are required. Failure to resolve satisfactorily the issues identified by the Government will preclude award to the applicant.

#### **C. ANTICIPATED NOTICE OF SELECTION AND AWARD DATES**

It is anticipated that the award selection will be completed by 9/30/2013. It is expected that awards will be made in Fiscal Year 2014.

## **Section VI - AWARD ADMINISTRATION INFORMATION**

### **A. AWARD NOTICES**

#### **1. Notice of Selection**

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

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

#### **2. Notice of Award**

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

### **B. ADMINISTRATIVE AND NATIONAL POLICY REQUIREMENTS**

#### **1. Administrative Requirements**

The administrative requirements for DOE grants and cooperative agreements are contained in 10 CFR 600 and 10 CFR 605. Grants and cooperative agreements made to universities, non-profits and other entities subject to 2 CFR 215 are subject to the Research Terms and Conditions located on the National Science Foundation web site at <http://www.nsf.gov/bfa/dias/policy/rtc/index.jsp>.

#### **DUNS AND CCR REQUIREMENTS**

Additional administrative requirements for DOE grants and cooperative agreements are contained in 2 CFR 25 (See: <http://www.ecfr.gov>). Prime awardees must keep their data at the System for Award Management (SAM) current at <http://www.sam.gov>. SAM is the government-wide system that replaced the Central Contractor Registry (CCR). If you had an active registration in the CCR, you have an active registration in SAM. Subawardees at all tiers must obtain DUNS numbers and provide the DUNS to the prime awardee before the subaward can be issued.

## SUBAWARD AND EXECUTIVE REPORTING

Additional administrative requirements necessary for DOE grants and cooperative agreements to comply with the Federal Funding and Transparency Act of 2006 (FFATA) are contained in 2 CFR 170. (See: <http://www.ecfr.gov>). Prime awardees must register with the new FSRS database and report the required data on their first tier subawardees. Prime awardees must report the executive compensation for their own executives as part of their registration profile in the System for Award Management (SAM).

## PROHIBITION ON LOBBYING ACTIVITY

By accepting funds under this award, you agree that none of the funds obligated on the award shall be expended, directly or indirectly, to influence congressional action on any legislation or appropriation matters pending before Congress, other than to communicate to Members of Congress as described in 18 USC 1913. This restriction is in addition to those prescribed elsewhere in statute and regulation.

### **2. Terms and Conditions**

The DOE Special Terms and Conditions for Use in Most Grants and Cooperative Agreements are located at <http://energy.gov/management/office-management/operational-management/financial-assistance/financial-assistance-forms> under Award Terms.

The standard DOE financial assistance intellectual property provisions applicable to various types of recipients are located at:  
<http://energy.gov/gc/standard-intellectual-property-ip-provisions-financial-assistance-awards>

### **3. National Policy Assurances**

The National Policy Assurances To Be Incorporated As Award Terms are located at <http://www.nsf.gov/bfa/dias/policy rtc/appc.pdf> and at <http://energy.gov/management/office-management/operational-management/financial-assistance/financial-assistance-forms> under Award Terms.

## **C. REPORTING**

Reporting requirements are identified on the Federal Assistance Reporting Checklist, DOE F 4600.2, attached to the award agreement. The checklist is available at <http://energy.gov/management/office-management/operational-management/financial-assistance/financial-assistance-forms> under Award Forms.

## Section VII - QUESTIONS/AGENCY CONTACTS

### A. QUESTIONS

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

Please only contact the grants.gov help desk for questions related to grants.gov.

For help with PAMS, click the “External User Guide” link on the PAMS website, <https://pamspublic.science.energy.gov/>. You may also contact the PAMS Help Desk, which can be reached Monday through Friday, 9AM – 5:30 PM Eastern Time. Telephone: (855) 818-1846 (toll free) or (301) 903-9610, Email: [sc.pams-helpdesk@science.doe.gov](mailto:sc.pams-helpdesk@science.doe.gov). All submission and inquiries about this Funding Opportunity Announcement should reference **DE-FOA-000XXXX**.

Please contact the PAMS help desk for technological issues with the PAMS system.

Questions regarding the specific program areas and technical requirements may be directed to the technical contacts listed for each program within the FOA or below.

Please contact the program staff with all questions not directly related to the grants.gov or PAMS systems.

### B. AGENCY CONTACTS

Grants.gov Customer Support	800-518-4726 (toll-free) <a href="mailto:support@grants.gov">support@grants.gov</a>
PAMS Customer Support	855-818-1846 (toll-free) 301-903-9610 <a href="mailto:sc.pams-helpdesk@science.doe.gov">sc.pams-helpdesk@science.doe.gov</a>
Program Manager Scientific Contact	Dr. Ashley Williamson (301) 903-3120 E-mail: <a href="mailto:Ashley.Williamson@science.doe.gov">Ashley.Williamson@science.doe.gov</a>  Dr. Sally McFarlane (301) 903-0943 E-mail: <a href="mailto:Sally.McFarlane@science.doe.gov">Sally.McFarlane@science.doe.gov</a>

## **Section VIII - OTHER INFORMATION**

### **A. MODIFICATIONS**

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

### **B. GOVERNMENT RIGHT TO REJECT OR NEGOTIATE**

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

### **C. COMMITMENT OF PUBLIC FUNDS**

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

### **D. PROPRIETARY APPLICATION INFORMATION**

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

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

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

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

## **E. EVALUATION AND ADMINISTRATION BY NON-FEDERAL PERSONNEL**

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

## **F. INTELLECTUAL PROPERTY DEVELOPED UNDER THIS PROGRAM**

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

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

## **G. NOTICE OF RIGHT TO REQUEST PATENT WAIVER**

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

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

## **H. NOTICE REGARDING ELIGIBLE/INELIGIBLE ACTIVITIES**

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

## **I. AVAILABILITY OF FUNDS**

Funds are not presently available for this award. The Government's obligation under this award is contingent upon the availability of appropriated funds from which payment for award purposes can be made. No legal liability on the part of the Government for any payment may arise until funds are made available to the Contracting Officer for this award and until the awardee receives notice of such availability, to be confirmed in writing by the Contracting Officer.