# FINANCIAL ASSISTANCE FUNDING OPPORTUNITY ANNOUNCEMENT (FOA)



# **U. S. Department of Energy Idaho Operations Office**

Consent-Based Siting for Interim Storage Program -- Community Engagement Opportunities

Funding Opportunity Number: DE-FOA-0002575
Announcement Type: Initial
CFDA Number: 81.121

**FOA Issue Date: September 20, 2022** 

Amendment 007 issue date: January 19, 2023

Letter of Intent Due Date: October 20, 2022

Question(s) Due Date: January 16, 2023

Application Due Date: January 31, 2023, no later than 8:00 PM Eastern Daylight Time

#### Amendment 007

This amendment adds an updated Questions and Answers document as an attachment.

This amendment also adds \$10 million of additional funding and increases the anticipated number of financial assistance awards that will be awarded by DOE. The total amount of funds available for all awards is now \$26 million. The anticipated total number of awards is now between six (6) and sixteen (16) awards. The maximum and minimum individual award sizes remain at \$2,000,000 and \$1,000,000 respectively.

The following two sections on page 12 are changed as follows:

Paragraph **B. ESTIMATED FUNDING** is changed from: Contingent upon the availability of funds appropriated by Congress, DOE expects to make available up to \$16,000,000 of federal funding over a period of 18 to 24 months for multiple individual awards under this FOA. - to the following: Contingent upon the availability of funds appropriated by Congress, DOE expects to make available up to \$26,000,000 of federal funding over a period of 18 to 24 months for multiple individual awards under this FOA.

Paragraph **D. EXPECTED NUMBER OF AWARDS** is changed from: DOE anticipates making six (6) to eight (8) awards under this FOA. – to the following: DOE anticipates making six (6) to sixteen (16) awards under this FOA.

Page 6, second paragraph, third sentence, changed from: To that end, DOE is planning to competitively award one financial assistance agreement each to approximately six to eight awardees, to the following: To that end, DOE is planning to competitively award one financial assistance agreement each to approximately six to sixteen awardees.

#### **Amendment 006**

- This amendment adds an updated Questions and Answers document as an attachment.
- On page 18 under section 2.2.8, changes the first sentence wording from "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" to "Provide a biographical sketch for the project director/principal investigator (PD/PI) and each senior/key person".
- On page 17 under section 2.2.1, the fourth bullet, removes the reference to Attachment C: Point of Contact Sheet.

#### Amendment 005

- This amendment adds an updated Questions and Answers document as an attachment.
- The application due date is revised from December 19, 2022, to January 31, 2023.
- The FOA question(s) submittal due date is revised from December 04, 2022, to January 16, 2023.
- Section II. E. Period of Performance (page 13). The anticipated project start date is changed from March 2023 to May 2023.
- Section IV E. Submission Dates and Times (page 28). The wording is changed from Applications must be received by December 19,2022 to Applications must be received by January 31, 2023.

- Section IV H 1. Other Submission and Registration Requirements (page 29). The wording is changed from Applications must be emailed to the DOE Contracts Specialist at <a href="mailto:consent-based-siting-project@id.doe.gov">consent-based-siting-project@id.doe.gov</a> on or before the application due date of December 19, 2022 to Applications must be emailed to the DOE Contracts Specialist at <a href="mailto:consent-based-siting-project@id.doe.gov">consent-based-siting-project@id.doe.gov</a> on or before the application due date of January 31, 2023.
- Section V. C. Anticipated Notice of Selection and Award Dates (page 34). The wording for this section is changed from: DOE anticipates notifying applicants selected for award no later than February 2023 and making awards in March 2023 to DOE anticipates notifying applicants selected for award no later than March 2023 and making awards in May 2023.

#### **Amendment 004**

This amendment uploads the FOA document that failed to upload correctly onto the FedConnect website under amendment 003. There are no changes to the FOA document's wording.

#### Amendment 003

This amendment adds an updated Questions and Answers document as an attachment. The FOA document is changed starting at the bottom of page 19 and the top of page 20 under section "4. DELIVERABLES".

#### Amendment 002

This amendment adds an updated Questions and Answers document as an attachment. There are no changes to the FOA document.

#### Amendment 001

This amendment corrects the Program Title in FedConnect. There are no changes to the FOA document.

### **Registration Requirements**

There are a few one-time actions applicants must complete to submit an application in response to this Funding Opportunity Announcement (FOA). These one-time actions consist of: (e.g., obtaining a Unique Entity Identifier (UEI) number and registering with the System for Award Management (SAM)). Applicants, who must obtain a UEI number and/or who are not registered with SAM should allow at <u>least 30 days</u> to complete these requirements. It is suggested that the process be started as soon as possible.

<u>Note</u>: There are a few requirements each applicant must accomplish before submitting their application package to DOE:

- 1. On April 4, 2022, the Federal government stopped using the Data Universal Numbering System (DUNS) number to uniquely identify entities. Now, entities doing business with the federal government use the Unique Entity ID (UEI) created in <a href="http://www.sam.gov">http://www.sam.gov</a>. Entities no longer have to go to a third-party website to obtain their identifier. This transition allows the government to streamline the entity identification and validation process, making it easier and less burdensome for entities to do business with the federal government.
- 2. Applicants must obtain a UEI number. Applicants must first be registered with the SAM website: <a href="http://www.sam.gov">http://www.sam.gov</a>. All SAM registrants will be assigned a UEI and can view the number in the website <a href="http://www.sam.gov">http://www.sam.gov</a>. If you had an active registration in the Central Contractor Registration (CCR) system, you should have an active registration in SAM. More information about SAM registration for applicants is found at:

  <a href="https://www.sam.gov/SAM/pages/public/loginFAQ.jsf">https://www.sam.gov/SAM/pages/public/loginFAQ.jsf</a>.
- 3. Applicants must disclose foreign government ownership interests. This disclosure shall include foreign government ownership at any level in the corporate structure. Applicants with no foreign (non-U.S.) government ownership at any level in the corporate structure shall affirmatively indicate the same.

#### **FOA Questions**

See Section VII for procedures on submitting question to DOE concerning this FOA document or application submittal procedures.

Any required changes to the FOA resulting from questions submitted will be incorporated into the FOA via written amendment to the FOA. No changes to the FOA are to be assumed. Changes must be incorporated by written amendment to the FOA to be applicable.

# **Application Preparation and Submission**

Instructions are provided in Section IV of this FOA.

## **FOA Webinar and Logon Instructions**

DOE is planning to host a webinar shortly after issuance of the FOA to further discuss the scope of this FOA and answer questions about the FOA application process. The date of the webinar will tentatively be 12 to 20 calendar days from the date of issuance of the FOA. The webinar registration information will be available at <a href="https://www.energy.gov/ne/consent-based-siting">https://www.energy.gov/ne/consent-based-siting</a>.

# Review of Risk Posed and Responsibility Determination

Applicants selected for negotiation will be subject to a review of risk posed and responsibility determination in accordance with Title 2 of the *Code of Federal Regulations* (CFR) Part 200.205 (2 CFR 200.205) and DOE's Guide to Financial Assistance located at: <a href="https://www.energy.gov/management/downloads/department-energy-guide-financial-assistance">https://www.energy.gov/management/downloads/department-energy-guide-financial-assistance</a>

This process may involve a review of the applicant's business management systems (i.e., accounting, financial, procurement, property, etc.) and a review of financial statements. Other information may be requested to support this review and determination based on the amount of previous experience the applicant and any sub-recipient(s) have in successfully performing other Federal awards.

### Section I - FUNDING OPPORTUNITY DESCRIPTION

#### 1. BACKGROUND AND DESCRIPTION

The Nuclear Waste Policy Act of 1982, as amended (NWPA), makes the U.S. Department of Energy (DOE or the Department) responsible for the management and disposal of high-level waste (HLW) and spent nuclear fuel (SNF) to protect public health, safety, and the environment. In the Consolidated Appropriations Act, 2021, Congress appropriated funds to the Department for federal interim storage activities, including preliminary work towards the development of a federal consolidated interim storage facility (CISF)<sup>1</sup>. Interim storage is an important component of a nuclear waste management system. It will allow for the removal of SNF from reactor sites, provide useful research opportunities, and build trust and confidence with stakeholders and the public by demonstrating a consent-based siting approach.

To inform this iterative and adaptive approach, DOE is planning to provide resources to communities within the continental United States interested in learning more about consent-based siting, nuclear waste management, interim storage, and siting considerations to foster the development of innovative community ideas and feedback related to the interim management of SNF and HLW. For the purposes of this FOA, nuclear waste management means the storage, transportation, and disposal of SNF and HLW, and the interfaces between each of those elements. To that end, DOE is planning to competitively award one financial assistance agreement each to approximately six to sixteen awardees. The selected awardees will represent a consent-based siting consortia. Each awardee will support community engagement, inclusively involve stakeholders, build relationships, and develop innovative forms of mutual learning and public capacity to participate in the consent-based siting process for a CISF.

Awardees will serve as an entity that will host collaboration hubs that support engagement and dialogue activities. In addition, awardees will act as the central clearinghouse for all funding opportunity-related engagement and provision of resources to communities. Federal agencies have a long, stable history of funding collaborative centers and collaborative networks that focus on building new topic-specific capacity (i.e., funded by the National Science Foundation and U.S. Department of Interior). Each awardee will, over a single project and budget period not to exceed 24 months, organize, lead, and maintain meaningful and inclusive community and stakeholder engagement activities related to nuclear waste management, as described below in the Statement of Objectives. Upon completion of those activities, each awardee will provide documentation that adequately and appropriately describes: 1) the activities that were conducted and how they meaningfully engaged communities, with special emphasis on Tribal communities and historically disadvantaged and underserved communities; 2) how resources were distributed to support participating communities equitably and fairly; and 3) the impacts of those activities and resources. DOE is not soliciting volunteer sites to host a CISF as part of this FOA. Rather, through the work of FOA awardees, efforts under this FOA are expressly limited to building relationships between interested stakeholders, communities, and DOE. Interested stakeholders,

6

<sup>&</sup>lt;sup>1</sup> U.S. Department of Energy. 2021. "Agency Financial Report Fiscal Year 2021." 47. https://www.energy.gov/sites/default/files/2021-11/fy-2021-doe-agency-financial-report 0.pdf

communities, and DOE can explore mutual learning efforts and increase the collective abilities of communities and stakeholders to participate in the consent-based siting process.

#### 2. STATEMENT OF OBJECTIVES

Through the selection of multiple geographically and institutionally diverse awardees, this FOA will encourage and support a diverse and constructive dialogue with communities and stakeholders within the continental United States who are interested in learning more about consent-based siting. Specifically, awardees are intended to advance mutual learning involving public participation and provide ease of access to information-sharing. In addition, these objectives are expected to foster open discussions about consent-based siting, nuclear waste management, interim storage, siting considerations, and the role a waste management facility (or facilities) may play in a community. Furthermore, it is expected that the awardees would: 1) develop and build new stakeholder engagement capacity; 2) strengthen existing stakeholder relationships with one or more communities; and 3) conduct activities to identify equitable community decision-making processes; and 4) provide feedback aimed at increasing a collaborative relationship with DOE.

Through the collaboration hubs, awardees will represent a consent-based siting consortia and will support the activities in this FOA by providing new and unique ideas and approaches aimed at maximizing meaningful community engagement in support of a consent-based siting process for a CISF located within the continental United States. This engagement should be driven by community well-being and community needs, and the applicant should place special emphasis on ensuring that principles of equity and environmental justice are factored into the activities and clearly reflected in the application.

Environmental justice is the fair treatment and meaningful involvement of all people, regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no population bears a disproportionate share of negative environmental consequences resulting from industrial, municipal, and commercial operations or from the execution of federal, state, and local laws, regulations, and policies. Meaningful involvement requires effective access to decision makers for all, and the ability in all communities to make informed decisions and take positive actions to produce environmental justice for themselves.

Environmental justice is a key principle of the consent-based siting process and, as such, the successful applicant will need to have an awareness of the sociocultural, economic, and environmental context of the community, including the recognition of any past injustices, the current status of the harm, remediation, and/or repair, and ensure that every reasonable effort is made to remove barriers to meaningful participation consistent with Section V.A.2, especially for historically overburdened and underserved communities. For example, collaboration hub engagement efforts should be aware and sensitive to the fact that the siting process will respect Tribal sovereignty and self-determination, lands, assets, resources, and treaty and other federally recognized and reserved rights.

Each awardee through their hub may provide grants to subrecipient communities and other stakeholders within the continental United States who wish to undertake community-based initiatives in support of the overall objectives of this FOA and DOE's consent-based siting process for a CISF. Each FOA awardee should maximize awards and manage sub-recipient grants in a manner that optimizes funding to communities and is supportive of diverse and inclusive community-based initiatives.

Tasks supported by the FOA will be divided into the following three focus areas (Applicants must address all three areas in their application):

# **FOA Focus Areas**

- 1. Organize, lead, and maintain meaningful, inclusive community and stakeholder engagement processes related to nuclear waste management. This includes:
  - 1.1. Develop, implement, and report on engagement processes (such as townhall meetings, exploratory committees, written and verbal communication strategies, technical information sharing, strategic and/or economic community planning efforts, presentations to communities by subject matter experts, etc.) and metrics (such as qualitative and quantitative insights that demonstrate broad engagement and progress toward better informed communities) that successfully include diverse communities and stakeholders.
  - 1.2. Develop and implement engagement strategies for identifying and including underrepresented, overburdened, underserved, disadvantaged, and hard-to-reach stakeholders. This includes ensuring multi-lingual avenues are available to reduce/remove barriers for participation.
  - 1.3. Create and test community-oriented communication and knowledge-sharing approaches that support mutual learning. These approaches elevate and include indigenous traditional ecological knowledge (ITEK) in a substantive and respectful way.
  - 1.4. Distill best practices for this focus area to expand collective capacity:
    - 1.4.1. For elements 1.1 1.3: Document rationales, approaches, results. Discuss implications of applying these strategies for engaging communities.
    - 1.4.2. Describe how resources (see second bullet under "Objectives" below for examples of resources) were distributed to support participating communities and evaluate the impacts of those resources.
    - 1.4.3. Share results, lessons learned, and impact evaluations with other awardees at quarterly consent-based siting consortia meetings during the life of the project.
- 2. Elicit and map public values, interests, concerns, and goals to promote and enable effective collaboration and community-driven insights and feedback towards the refinement of a consent-based siting process aimed at siting a potential federal CISF.
  - 2.1. Develop and report on different and innovative ways of identifying and assessing goals, risks, costs, and benefits of hosting a CISF in collaborative community settings. This includes innovative ideas and coordination for engagement with States and Tribal Nations.

- 2.2. Create, implement, and test approaches for communities to deliberate over values, needs and goals; consider multi-objective decision-making as well as trade-offs.
- 2.3. Empower innovative community-based ideas as to how the hosting of a facility and/or related infrastructure may act as a vehicle for creating, advancing new and existing community planning efforts, and securing public benefits and to ensure long-term community well-being.
- 2.4. Distill best practices for this focus area to expand collective capacity:
  - 2.4.1. For elements 2.1 2.3: Document rationales, approaches, results. Discuss implications of applying these strategies with engaged communities.
  - 2.4.2. Describe how resources (see second bullet under "Objectives" below for examples of resources) were distributed to support participating communities and evaluate the impacts of those resources.
  - 2.4.3. Share results, lessons learned, and impact evaluations with other awardees at quarterly consent-based siting consortia meetings during the life of the project.
- 3. Develop, implement, and report outcomes and strategies that support mutual learning among stakeholders, communities, and experts on nuclear waste-related topics.
  - 3.1. Increase and expand the sharing of public and expert knowledge and understanding of nuclear waste-related topics and other issues.
  - 3.2. Provide mechanisms and "resource kits" that help communities access and engage with information and with subject matter experts. This includes ensuring multi-lingual avenues are available to reduce/remove barriers for participation.
  - 3.3. Distill best practices for this focus area to expand collective capacity:
    - 3.3.1. For elements 3.1 3.2: Document rationales, approaches, results. Discuss implications of applying these strategies with engaged communities.
    - 3.3.2. Describe how resources (see second bullet under "Objectives" below for examples of resources) were distributed to support participating communities and evaluate the impacts of those resources.
    - 3.3.3. Share results, lessons learned, and impact evaluations with other awardees at quarterly consent-based siting consortia meetings during the life of the project.

#### Objectives and outcomes for each award:

- 1. Report on the success or challenges of stakeholder engagement efforts and relationship building, mutual learning and capacity building, and the level of diversity and inclusiveness of stakeholders (with attention to which groups participated and which did not). Awardees will also report on the approaches to community decision-making and provide feedback on their successes and challenges, including feedback on the level of trust built between participants, the awardee, and DOE.
- 2. Report and document how awardees via the collaboration hubs used award funds to equitably support participating communities within the continental United States and evaluate the

- impacts of those resources. Resources may include services to support stakeholder engagement, education and training tools, and grants to communities.
- 3. Participate in DOE-organized and led quarterly program reviews (referred to as the consentbased siting consortia meetings) to cover the progress related to the focus areas described in Section 2 "Statement of Objectives." DOE-led activities will be consistent with Section VI.B.7 "Statement of Substantial Involvement". The consent-based siting consortia meetings are expected to cover discussion of topics such as: actual versus planned progress and results, significant lessons learned to date, best practices, conclusions reached, and discussion of the remaining steps necessary to accomplish the objectives of the FOA. These quarterly program reviews will include any updates to original assumptions and any revised approaches that may be necessary. In general, the consent-based siting consortia meetings are expected to foster cohort development among awardees and lay the foundation for a broader community of practice around consent-based siting practices and concepts for which capacity is developed under this FOA. Participants may vary for each consent-based siting consortia meeting but will typically include awardee staff, DOE staff, sub-awardees, partners, and other stakeholders including members of the general public. DOE is planning on the consent-based siting consortia meetings to occur quarterly but may adjust frequency as needed.
- 4. Generate information on stakeholder perceptions about the barriers and benefits to specific methods of management of SNF and HLW with a focus on a CISF. This will include recommendations of innovative ideas to remove identified barriers and increase benefits and well-being of siting such a facility in a community.
- 5. Clarify resource requirements and governance structures to effectively collaborate with communities and stakeholders at the local, State, and Tribal levels in future Consent-Based Siting initiatives.
- 6. Determine additional areas where stakeholders could be better served as DOE moves forward with a consent-based siting process. Areas of particular interest include:
  - Prioritization of safety
  - Environmental responsibility
  - Regulatory requirements
  - State engagement
  - Trust relationship with Tribal Nations
  - Environmental justice
  - Informed participation
  - Equal treatment and Full consideration of impacts
  - Incorporating indigenous and Community-based knowledge
  - Community well-being
  - Voluntariness/Right to withdraw
  - Transparency
  - Stepwise and collaborative decision-making that is objective and science-based

#### 3. PROJECT DELIVERABLES AND MEETINGS

With DOE approval, award recipient(s) may revise any relevant sections of their project deliverables or objectives by including any new details, if necessary. Any revisions must be consistent with Section VI.B.7 "Statement of Substantial Involvement." A key deliverable for the awardees will be to provide documentation that adequately and appropriately describes how award funds were used to equitably support participating communities and evaluate the impacts of those resources.

Award recipient(s) shall participate in quarterly program reviews (consent-based siting consortia meetings) to report progress. Meetings may be held in person, virtually, or a combination thereof. A presentation should be prepared by the successful applicant to support the project review and should include a high-level summary on the status of the project. In addition, the award recipient(s) may be invited to attend monthly conference calls with DOE to discuss issues and status.

# **Section II - AWARD INFORMATION**

#### A. TYPE OF AWARD INSTRUMENT

DOE will award multiple cooperative agreements under this FOA.

#### B. ESTIMATED FUNDING

Contingent upon the availability of funds appropriated by Congress, DOE expects to make available up to \$26,000,000 of federal funding over a period of 18 to 24 months for multiple individual awards under this FOA.

#### C. MAXIMUM AND MINIMUM AWARD SIZE

The maximum total amount of government funds for an individual award made under this announcement is \$2,000,000.

The minimum total amount (floor) of government funds for an individual award made under this announcement is \$1,000,000.

## D. EXPECTED NUMBER OF AWARDS

DOE anticipates making six (6) to sixteen (16) awards under this FOA.

## E. PERIOD OF PERFORMANCE

DOE anticipates making an award for an estimated project period up to 24 months with an anticipated start date of May 2023. Applicants may propose project periods of less than 24 months. Once the period of performance ends (which includes any no-cost extensions that DOE has the discretion to grant), there could be a re-competition or a new FOA based on program needs at that time.

# F. TYPE OF APPLICATION

DOE will accept only new applications under this announcement. Only one award will be made to each individual winning applicant.

#### G. COST SHARING

There is no cost sharing requirement for these new financial assistance awards.

# **Section III - ELIGIBILITY INFORMATION**

## A. ELIGIBLE APPLICANTS

All U.S. entities are eligible for award as the prime award recipient, with the exception of Federally Funded Research and Development Centers (FFRDCs), performing as the prime awardee. However, FFRDCs may participate in this DOE project. This financial assistance award is a "covered program" (as defined in 2 CFR 910.124(b)) and must be accomplished in the economic interest of the United States as stated in 2 CFR 910.124. Eligible entities include, but are not limited to teams, consortia, or other partnership arrangements.

## B. QUESTIONS REGARDING ELIGIBILITY

Questions regarding eligibility should be directed to the Agency contact identified in Section VII.B.

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

## A. CONTENT AND APPLICATION FORMS

All application forms required for the application process are attached to this FOA announcement.

## **B.** LETTER OF INTENT (LOI)

Applicants are encouraged, but not required, to submit a LOI by October 20, 2022. This LOI should include the name of the applicant, the title of the project, the name of the Project Director/Principal Investigator(s), estimated project cost, and a one-page abstract. The LOI will be used by DOE to inform, organize, and expedite the merit review selection process. The LOI should be sent by electronic mail to <a href="mailto:consent-based-siting-project@id.doe.gov">consent-based-siting-project@id.doe.gov</a>. In the subject line type: Letter of Intent for DE-FOA-0002575. All LOI submissions will remain confidential.

## C. APPLICATION PROCESS

DOE performs an initial eligibility review of applicant submissions to determine whether they meet the eligibility requirements of Section III of the FOA. Submissions that do not meet the eligibility requirements of Section III may be rejected without review.

### **Document Format Requirements**

All submissions must conform to the following form and content requirements, including maximum page lengths (described below) and must be submitted as specifically stated. DOE will not review or consider submissions submitted through means other than specifically stated in the FOA and may elect not to review or consider incomplete submissions.

Applications must conform to the following requirements:

- Each document must be submitted in Adobe Portable Document Format (PDF) format, except for spreadsheets.
- All spreadsheets are to be created in a Microsoft Excel file format. Do not lock any cells in the spreadsheet.
- Each document must be written in English.
- All non-budget documentation (use templates where provided) is to be prepared using standard 8.5" by 11" paper with 1" margins (top, bottom, left, right), using a font size no smaller than Times New Roman 11 point. Each submission must not exceed the specified maximum page limit, including cover page, charts, graphs, maps, and photographs when printed using the formatting requirements set forth above and single spaced. If applicants exceed the maximum page lengths indicated below, **DOE** will review only the first authorized number of pages and disregard any additional pages.

Applicants must submit an application to be considered for funding under this FOA. Applicants must complete all forms **not** marked "if applicable" and any applicable optional forms (e.g., SF-

LLL- Disclosure of Lobbying Activities) in accordance with the instructions on the forms and the additional instructions below. Files must be in PDF format unless otherwise specified in this announcement.

Applications must submit the following documents in their FOA application package.

	Name of Document	Format	Required From
1	SF 424 (Application)	Form	Lead Applicant
2	Required Project Application Information		Lead Applicant
2.1	Project Summary/Abstract (1-page limit)	PDF	Lead Applicant
2.2	Project Narrative File (20-page limit)	PDF	Lead Applicant
2.3	Other Attachments – if applicable	PDF	Lead Applicant
3	Project Management Plan (10-page limit)	PDF	Lead Applicant
4	Resume / Vitae – Programmatic Expertise and	PDF	Leads Applicant and
	Qualifications (2-page limit each)		Sub-recipient(s)
5	Benefit of Collaborations (4-page limit)	PDF	Lead Applicant
6	Capabilities (5-page limit)	PDF	Lead Applicant
7	Budget Information – Non-Construction	Form	Lead Applicant and
	Programs		Sub-recipient(s)
7a	Instructions for Budget Information – Non-		
	Construction Programs document		
8	Budget Justification	PDF	Lead Applicants and
			Sub-recipient(s)
9	Current and Pending Support ( <b>5-page limit</b> )	PDF	Lead Applicants and
			Sub-recipient(s)
10	Project/Performance Site Location(s)	Form	Include document(s)
			for all sites performing
			work on project
11	SF-LLL Disclosure of Lobbying Activities (if applicable)	Form	Lead Applicant
12	Conflict of Interest Acknowledgement	PDF	Affirmed by Lead
			Applicant for all
			Participants
13	Waiver Requests: Performance of Work in the	PDF	Lead Applicant
	United States (if applicable)		
14	Past Performance	PDF	Lead Applicant and
			Sub-recipient(s)
15	Foreign Government Ownership Disclosure (if	PDF	Lead Applicant and
	applicable)		Sub-recipient(s)
16	Certifications and Assurances	Form	Lead Applicant only
17	Budget for DOE/NNSA FFRDC Contractor (if	Forms	Collaborators
	applicable)	Provided by	
		FFRDC	

Note: Documents listed with a "Form" format are provided in the FOA application package. All PDF documents are created by the applicant in a Word Format and saved as a PDF document.

Note: The maximum file size that can be sent through the consent-based-siting-project@id.doe.gov web server is 45MB. This is the largest electronic mail with all attachments that can pass through the web server. This includes any attached zip files. The server will count the compressed and un-compressed zip file sizes as part of the 45MB limit. If required, send more than one electronic mail with attachments in order to submit your application package through the web server. Webservers have restrictions on file names. In order to electronic mail zip files, name the file "file name.doe.zip".

DOE will not accept late submissions that resulted from technical difficulties due to exceeding the 45MB e-mail limitation.

Detailed guidance on the content and form of each application component is listed below.

#### 1. SF 424

This is the cover page for application for Federal Assistance. Complete all required fields.

# 2. REQUIRED PROJECT APPLICATION INFORMATION

The documents must comply with the following instructions:

# 2.1. Project Summary/Abstract

The project summary/abstract document 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 manager(s), the project title, the objectives of the project, a description of the project, including methods to be employed, the potential impact of the project (i.e., benefits, outcomes), and major participants (for collaborative projects). This document must not include any proprietary or sensitive business information as DOE may make it available to the public. The project summary must not exceed one (1) page when printed using standard 8.5" by 11" paper with 1" margins (top, bottom, left and right) single-spaced with font no smaller than Time New Roman 11 point. Save this information in a file named "Summary.pdf," and click on "Add Optional Other Attachment" to attach.

# 2.2. Project Narrative File

The project narrative document must include:

# 2.2.1. Narrative Cover Page which must indicate:

- The name and type of organization.
- The FOA number.
- The project title.

- The technical and business points of contact for the applicant, denoting the names, titles, addresses, telephone and electronic mail addresses;
- Project Manager's name, telephone number, electronic mail address, and organization name/unit; and
- Names of team/partnership/consortium members and funding split.

# 2.2.2. Project Objectives.

 This section should provide a clear, concise statement of the specific objectives/aims of the proposed project and a concise description on the proposed project.

## 2.2.3. Merit Review Criterion and Program Policy Selection Factors Discussion:

This section should be formatted to address each of the merit review criterion and sub-criterion listed in Section V, as well as Program Policy Selection Factors. In addressing the merit review criterion and sub-criterion, applicants are encouraged to reference any correlation between the responses provided under this item and the responses provided for other information requests, including Technical Concept Descriptions (item 4 below) and applicable elements of the technical description as discussed below. Applicants shall provide enough information so that reviewers will be able to evaluate the application in accordance with these merit review criteria and program policy factors. DOE will evaluate and consider those applications that address separately each of the merit review criterion and sub-criterion and program policy factors in accordance with the instructions specified in the FOA.

## 2.2.4. Relevance and Outcomes/Impacts:

 Should explain the relevance of the project and expected outcomes and/or impacts. The justification for the proposed project should include a clear statement of the importance of the project in terms of the utility of the outcomes.

## 2.2.5. Roles of Participants and Key Personnel:

Describe the roles and the work to be performed by each organization (including estimates of percentages of total project effort to be accomplished by each participant), business agreements between the applicant and participants, and how the various efforts will be integrated and managed. This will include identification of information and/or materials to be provided by DOE or its technical experts (which may include National Laboratories), if applicable.

# 2.2.6. If applicable, Multiple Principal Investigators (PI):

- The applicant, whether a single organization or team/partnership/consortium, must indicate if the project will include multiple PIs. While DOE's preference is to have only one PI specified, this decision is solely the responsibility of the applicant; having multiple PIs specified will not affect the selection for award of applications submitted in response to this FOA.
- If multiple PIs will be designated, the application must identify the Contact PI/Project Coordinator and provide a "Coordination and Management Plan" that describes the organization structure of the project as it pertains to the designation of multiple PIs. This plan, at a minimum, will include:
  - process for making decisions on administrative, technical, and scientific direction,
  - publications,
  - intellectual property issues,
  - communication plans,
  - procedures for resolving conflicts; and
  - PIs' roles and administrative, technical, and scientific responsibilities for the project.

#### 2.2.7. Facilities and Other Resources:

Identify the facilities and resources (e.g., office, laboratory, computer, testing, etc.) to be used at each performance site listed and, if appropriate, indicate capacities, pertinent capabilities, relative proximity, and extent of availability to the project. Describe only those resources that are directly applicable to the proposed work.

# 2.2.8. Biographical Sketch Appendix:

- Provide a biographical sketch for the project director/principal investigator (PD/PI) and each senior/key person. Provide the biographical sketch information as an appendix to your project narrative. Do not attach a separate file. The biographical sketch appendix will not count in the project narrative page limitation. The biographical information for each person must not exceed two 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:
  - <u>Education and Training</u>: Technical, undergraduate, graduate, and postdoctoral training as applicable. Provide institution, major/area, degree, and year of graduation.
  - Research and Professional Experience: Beginning with the

- current position, list in chronological order professional/academic positions with a brief description.
- Publications: If applicable, 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.
- <u>Patents, copyrights, and software systems</u> developed may be provided in addition to or substituted for publications.
- Synergistic Activities: List no more than five professional and scholarly activities related to the effort proposed.

# 2.2.9. Statement of Project Objectives:

The project narrative must contain a single, detailed Statement of Project Objectives (SOPO) that addresses how the near-term, short-term, and overall project objectives will be met. The SOPO must contain a clear, concise description of all activities to be completed during project performance and follow the structure discussed below. The SOPO may be released to the public by DOE in whole or in part at any time. It is, therefore, required that the SOPO shall not contain proprietary or confidential business information.

Applicants shall prepare the SOPO in the following format:

#### TITLE OF WORK TO BE PERFORMED

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

#### 1. OBJECTIVES

Include one paragraph on the overall objective(s) of the work.

## 2. SCOPE OF WORK

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

#### 3. TASKS TO BE PERFORMED

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

## 4. DELIVERABLES

The periodic quarterly report(s), and the final report(s) shall be submitted in accordance with the "Federal Assistance Reporting Checklist" and the instructions accompanying the checklist. Reporting requirements are identified on the Federal Assistance Reporting Checklist and Instructions, DOE F 4600.2, and will be attached to the award agreement. A blank checklist for

review is available at: https://www.energy.gov/management/downloads/federal-assistance-reporting-checklist-and-instructions-projects

If applicable the Recipient shall provide a list of deliverables other than those identified on the "Federal Assistance Reporting Checklist" that will be delivered at a future date(s), including the expected delivery date(s). These deliverables shall also be identified within the text of the Statement of Project Objectives.

#### 2.3 Other Attachments

- 1) Should you need to elaborate on any of your responses include additional document(s) as required.
- 2) Conflict of Interest Statement (Required for National Laboratories, DOE, and non-DOE FFRDCS Applicants and Sub-Applicants).

Conflicts of interest may exist due to previous efforts performed by the National Laboratories or assistance provided in program direction and other mission-related activities. Accordingly, for each applicant (or sub-applicant) that is a National Laboratory or DOE and/or non-DOE FFRDCs, identify any potential conflicts of interest, fully explain the conflict, whether you feel it is significant or not, along with your rationale, and if significant, how you will avoid, neutralize, or mitigate the potential conflict.

#### 3. PROJECT MANAGEMENT PLAN:

The plan document should be formatted to include the following sections with each of the sections to include the information as described below:

- A. Executive Summary: Provide a description of the project that includes the objective, project goals, and expected results. For purposes of the application, this information is included in the Project Narrative and should be copied to this document for completeness, such that the Project Management Plan is a stand-alone document.
- B. Risk Management: Provide a summary description of the proposed approach to identify, analyze, and respond to perceived risks associated with the proposed project. Project risk events are uncertain future events that, if realized, impact the success of the project. As a minimum, include the initial identification of significant technical, resource, and management issues that have the potential to impede project progress and strategies to minimize impacts from those issues.
- C. Milestone Log: Provide milestones for each phase of the project. Each milestone should include a title and planned completion date. Milestones should be quantitative and show progress toward project goals.

<u>Note</u>: During project performance, the award Recipient will report the Milestone Status as part of the required quarterly Progress Report as prescribed under the Reporting Requirements Checklist (part of the financial assistance award package). The Milestone Status will present actual performance in comparison with Milestone Log, and include:

- the actual status and progress of the project,
- specific progress made toward achieving the project's milestones, and,
- any proposed changes in the project's schedule required to complete milestones.
- D. Funding and Costing Profile: Provide a table (the Project Funding Profile) that shows the amount of Government funding going to each project team member. Also provide a table (the Project Costing Profile) that projects, by month, the expenditure of Government funds for the first budget period, at a minimum.
- E. Project Timeline: Provide a timeline of the project (similar to a Gantt chart) broken down by each task and subtask, as described in the Statement of Project Objectives. The timeline should include for each task, a start date and end date. The timeline should show interdependencies between tasks and include the milestones that are identified in the Milestone Log (Section C).
- F. Success Criteria at Decision Points: Provide success criteria for each decision point in the project, including go/no-go decision points and the conclusions of budget periods and the entire project. The success criteria should be objective and stated in terms of specific, measurable, and repeatable data. Usually, the success criteria pertain to desirable outcomes, results, and observations from the project.

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

## 4. RESUME / VITAE-TECHNICAL EXPERTISE AND QUALIFICATIONS

The applicant shall name all teaming partners by name and organization, as well as their proposed roles and responsibilities. For collaborators (including senior key persons), who will contribute in a substantial, measurable way to the project (including for subrecipients and consultants), the applicant shall provide a brief resume that lists the following:

- Contact information.
- Education and Training: provide institution, major/area, degree, and year for any undergraduate, graduate, and postdoctoral training.
- Research and Professional Experience: beginning with the current position list, in chronological order, professional/academic positions with a brief description.

- Publications: if applicable, provide a list of up to 10 publications most closely related to the proposed project. For each publication, identify the names of all authors (in the same sequence in which they appear in the publication), the article title, book or journal title, volume number, page numbers, year of publication, and website address if available electronically.
- Patents, copyrights, and software systems developed may be provided in addition to or substituted for publications.
- Synergistic Activities: list no more than five professional and scholarly activities related to the effort proposed.

Socio-technical expertise and qualifications are to be provided for individual participants, whether the participant is receiving funding or not (including consultants or National Laboratory personnel). All socio-technical participants making a defined, material contribution that is critical to the success of the project must be listed on the online application. A separate resume for each individual collaborator must be uploaded to the application website. Note that members from a community or from the public participating in task activities as directed by the awardees are not to be considered technical experts.

## 5. BENEFIT OF COLLABORATORS

The applicant shall provide a narrative that includes an explanation of the contribution that will be made by the collaborating organizations and/or facilities to be utilized. Please indicate within this section if the application has benefit or influence on other ongoing or proposed projects of a similar nature.

#### 6. CAPABILITIES

Infrastructure Requirements: The applicant shall identify the infrastructure (e.g., facilities, equipment, instrumentation, and other resources) required to execute the proposed scope of work, including its location, availability, capabilities, and how it will be used in the project. Describe the non-labor (e.g., facilities, equipment, and instrumentation) resources that are available and accessible to the applicant and are required to execute the scope of work. Describe any unique equipment and facilities that are needed, are accessible, and will be used to execute the scope of work. Discuss the adequacy of these resources and identify any gaps and how these will be addressed. This FOA allows the applicant to propose the purchase of any needed equipment to conduct the proposed work. If equipment purchases are proposed, describe comparable equipment, if any, already available and explain why it cannot be used. If new equipment is to be purchased, it must be part of the applicant's budget. DOE will negotiate with the applicant on the value/price of the equipment.

Facilities & Other Resources: Describe the capability of the organizational resources, including subrecipient resources, available to perform the effort proposed. Identify the facilities to be used (Laboratory, Computer, Office, and Other). If appropriate, indicate 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 it would be available to the project.

Equipment Appendix: If applicable provide a list of major items or equipment already available for this project and, if appropriate, identify location and pertinent capabilities.

#### 7. BUDGET INFORMATION – NON-CONSTRUCTION FORM

Complete the form in accordance with the provided instructions in this FOA. You must complete separate budget amounts for each single year of support requested. The form will generate a cumulative budget for the total project period(s). You may request funds under any of the categories listed if 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 funding announcement.

### a. SUBAWARD BUDGET(S)

Provide a separate budget for each sub-recipient, other than a DOE National Laboratory or FFRDC contractors, expected to perform work estimated to be more than \$250,000 or 50 percent of the total work effort (whichever is less). Use the same budget information – non-construction form that the prime applicant uses. E-mail the form to each subrecipient that is required to submit a separate budget. Include the completed sub-awardee's form in the prime's application package.

If an FFRDC is a subcontractor on your project, the FFRDC will review its required scope of work that it will need to accomplish and will provide the prime applicant a "field work order" document outlining its DOE contracted costs to support the project.

#### 8. BUDGET JUSTIFICATION DOCUMENT

Provide the required supporting information for the following costs if applicable: equipment; domestic and foreign travel; participant/trainees; material and supplies; publication; consultant services; ADP/computer services; subaward/consortium/contractual; equipment or facility rental/user fees; alterations and renovations; and indirect cost type. Provide any other information you wish to submit to justify your budget request. Attach a single budget justification document file for the entire project period. The file automatically carries over to each budget year. Therefore, only attach one budget justification document to cover all the award budget periods.

The budget is the financial plan for the proposed project. Following selection of applications for award consideration, but prior to award being made, DOE will perform a budget review to determine whether the proposed activities are supported by adequate resources in this plan, as well as to verify cost data, including verifying the specific elements of the proposed budget are allowable, allocable, reasonable, and are consistently treated in accordance with generally accepted accounting principles and applicable cost

principles. Both the applicant's budget, as well as all sub-recipient's budgets (over \$250,000), will be reviewed from both a technical and cost perspective. This evaluation will provide a comparison between the budget and the project narrative. Sub-recipient budget justifications must also be submitted for sub-recipient proposed budgets over \$250,000.

A budget review of sub-contractor costs will not be accomplished by DOE. However, prime award recipients will be required to explain how they determined sub-contractor costs to be fair and reasonable. The technical review will also include reviewing sub-contractor proposals and scope-of-works to determine if the proposed scope to be performed by the sub-contractor supports the award's overall project scope. All award amounts for sub-contracts will have a technical review of the proposed scope of work. Please ensure the scope-of-work to be performed by sub-contractors is discussed in the project narrative.

In order to permit DOE to accomplish this budget review, and to ensure that the issuance of the award will not be delayed, the applicant must provide a budget justification, including supporting information. Provide the following for the budget justification:

#### 1. General

- a. Applicant assessment of how the total project cost is reasonable for the effort. Applicant assurance that all costs proposed are:
  - i. In accordance with any limitations, exclusions, or special conditions set forth in the FOA; and
  - ii. In accordance with generally accepted accounting principles and the applicable costs principles, as well as being allocable and allowable.
- b. Specify whether your proposed indirect rates have been audited and approved. Include a copy of the audit or information on where the audit can be obtained by DOE.
- c. If the applicant is in a partnership or consortium, describe the relationships among each member and specify how this is included in the budget.

## 2. Personnel

- a. Identify individuals or positions, describe the different levels of personnel required (experience/skill/education, etc.), and state time commitment percentages for individuals and/or positions working on the forthcoming DOE award.
- b. State hourly rates/compensation to be paid to individuals or positions. In the budget justification document explain how each labor rate is established. Also explain how the labor rates were determined to be fair and reasonable.

#### 3. Other Direct Costs.

- a. If travel is proposed, provide the following data on a Microsoft Excel spreadsheet:
  - i. Identify the proposed trips; specify the purpose of the trip, as well as the number of people traveling on each trip, the number of days per trip, and an explanation of why the specified number of travelers is required for each trip.
  - ii. Specify whether the travel costs proposed are consistent with the

- applicant's established travel policy. Include a copy of the relevant portions of the travel policy or specify where DOE can access the travel policy.
- iii. Estimated airline cost and an explanation on how airline ticket cost was estimated for each trip. If business or first-class airfares are included, provide a complete justification for the additional cost.
- iv. Identify city pairs to include departure cities and destination cities.
- v. Federal travel regulation daily approved per diem rates for each destination city (travel day costs can't be higher than 75% of the destination city per diem rate).
- vi. Federal travel regulation daily incidental rates for each destination city.
- vii. Federal travel regulation maximum hotel rates for each destination city.
- viii. If applicable, estimated car rental costs, estimated car fuel costs for each trip, estimated parking fees or other costs such as tolls.
- ix. If applicable, estimated train, taxi, or other transportation costs.
- 4. For proposed equipment (if required), provide the following:
  - a. Explain the need for the equipment and clearly indicate the unit cost for each item to be purchased.
  - b. Explain how the cost estimates for equipment purchases are established and how the cost estimates were determined to be fair and reasonable.
- 5. Other direct costs: If any other direct costs are proposed, identify such costs and provide an explanation/justification for each cost above.
- 6. Sub-recipients: See Section IV 8. above for a discussion of sub-recipient budget justifications. The budget justification for sub-recipients has the same requirements as the prime applicant.
- 7. Sub-contractors: Describe the goods or services to be acquired and justify how the costs were determined fair and reasonable in accordance with the awardee's 2 CFR 200 Procurement Standards. Prime awardees must have a DOE approved procurement standard as outlined in 2 CFR 200.317 thru 200.326. If the prime awardee does not possess an approved procurement standards document at time of award selection, the prime award recipient will be given time before the award is approved to create the procurement standard document. Award selection cannot be completed until the prime recipient's procurement standard document is submitted to DOE (the award administrator) and then reviewed and approved by DOE.

#### 9. CURRENT AND PENDING SUPPORT

Provide a list of all current and pending support (both federal and non-federal) for the Project Director/Project Manager (PD/PM) and senior/key persons, including sub-recipients, 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 persons. Concurrent submission of an application to other organizations for simultaneous consideration will not prejudice its review.

### 10. PROJECT/PERFORMANCE SITE LOCATION(S) FORM

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.

# 11. DISCLOSURE OF LOBBYING ACTIVITIES (SF-LLL) FORM

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

#### 12. CONFLICT OF INTEREST ACKNOWLEDGEMENT

(Required for National Laboratories, DOE and non-DOE FFRDC Applicants and Sub-Applicants).

Conflicts of interest may exist due to previous efforts performed by the National Laboratories or assistance provided in program direction and other mission related activities. Accordingly, for each applicant (or sub-applicant) that is a National Laboratory or DOE and/or non-DOE FFRDCs, identify any potential conflicts of interest, fully explain the conflict, whether you feel it is significant or not, along with your rationale, and how you will avoid, neutralize, or mitigate the potential conflict.

#### 13. WAIVER REQUEST: PERFORMANCE OF WORK IN THE UNITED STATES

All work under DOE funding agreements must be performed in the United States. This requirement does not apply to the purchase of supplies and equipment, so a waiver is not required for foreign purchases of these items. However, the Prime Recipient should make every effort to purchase supplies and equipment within the United States. There may be limited circumstances where it is in the interest of the project to perform a

portion of the work outside the United States. To seek a waiver of the Performance of Work in the United States requirement, the applicant must submit an explicit waiver request in the Application. A separate waiver request must be submitted for each entity proposing performance of work outside of the United States.

Overall, a waiver request must demonstrate to the satisfaction of DOE that it would further the purposes of this FOA and is otherwise in the economic interests of the United States to perform work outside of the United States. A request to waive the *Performance of Work in the United States* requirement must include the following:

- The rationale for performing the work outside the United States ("foreign work"),
- A description of the work proposed to be performed outside the United States,
- An explanation as to how the foreign work is essential to the project,
- A description of the anticipated benefits to be realized by the proposed foreign work and the anticipated contributions to the U.S. economy,
- The associated benefits to be realized and the contribution to the project from the foreign work,
- How the foreign work will benefit U.S. research, development, and manufacturing, including contributions to employment in the United States and growth in new markets and jobs in the United States,
- How the foreign work will promote domestic American manufacturing of products and/or services,
- A description of the likelihood of Intellectual Property (IP) being created from the foreign work and the treatment of any such IP,
- The total estimated cost (DOE and recipient cost share) of the proposed foreign work,
- The countries in which the foreign work is proposed to be performed; and
- The name of the entity that would perform the foreign work.

DOE may require additional information before considering the waiver request. The applicant does not have the right to appeal DOE's decision concerning a waiver request.

#### 14. PAST PERFORMANCE

Applicants must submit data, if applicable, on past performance that demonstrates the applicant team has demonstrated successful experience/past performance, knowledge and understanding of projects of similar size (i.e.: comparable amount of funds managed), scope (i.e., comparable length and objectives that is not limited to just Consent-Based Siting) and complexity in achieving project success within budget and on time.

#### 15. FOREIGN GOVERNMENT OWNERSHIP DISCLOSURE

Applicants must disclose to DOE all foreign interest in applicant's company or corporation, as defined in this FOA. In this FOA, foreign interest is defined as: all *foreign government* ownership, investment, interest, and/or influence, as well as *foreign nongovernment public*, private ownership, interest, and/or investment in an applicant's company or corporation.

Foreign interest applies at all levels of the corporate structure, including the executive and board levels, from parent (i.e., trust, holding company, corporation, etc.) to subsidiary, as well as ancillary levels, regardless of the applicant entity's place of incorporation and operation. Moreover, foreign interest includes, but is not limited to, political influence and participation in foreign talent recruitment programs. A foreign government is defined as a non-U.S. government. Applicants with no foreign interest, as defined in this FOA, shall certify to DOE, in writing, that they have none.

#### 16. CERTIFICATIONS AND ASSURANCES

The Certifications and Assurances form is one of the attachments. Fill out as required.

#### 17. BUDGET FOR DOE/NNSA FFRDC CONTRACTOR

If a DOE/NNSA FFRDC/National Laboratory contractor is applying as a collaborator, it must provide a DOE Field Work Proposal in accordance with the requirements in DOE Order 412.1A, Administrative Change 1, Work Authorization System, dated May 21, 2014. Include an FFRDC budget justification and a breakdown of the cost categories and rationale regarding the necessity of the expenditures, as well as the basis of estimate for each of the budget cost categories (i.e., labor, travel, materials, etc.). Note that normally no justification is required for FFRDC rates (direct costs, indirect rates and costs, and fees) as these are already pre-established on the FFRDC contract. FWPs will be provided by the respective National Laboratory financial administrators. FFRDC/NL are permitted to propose costs in accordance with their established DOE contracts (i.e., overhead, fees, etc.).

#### 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:

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

# E. SUBMISSION DATES AND TIMES

Applications must be received by January 31, 2023, no later than 8:00 PM Eastern Daylight Time in accordance with paragraph H below. Applicants are encouraged to transmit applications 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 2 CFR 200 as amended by 2 CFR 910 [DOE Financial Assistance Regulation (FAR)]. The cost principles for commercial organization are set forth 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 2 CFR 200 as amended by 2 CFR 910 [DOE FAR]. 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, the award is made for a lesser amount than the applicant expected or if the DOE decides to cancel the award.

# H. OTHER SUBMISSION AND REGISTRATION REQUIREMENTS

#### 1. WHERE TO SUBMIT

Applications must be emailed to the DOE Contracts Specialist at <u>consent-based-siting-project@id.doe.gov</u> on or before the application due date of January 31, 2023. See the second note in Section IV "C" for the MB size limit for submitting the application package as an electronic mail with attachments.

# 2. APPLICATION VALIDITY TIMEFRAME

Upon submitting an application in response to this FOA, applicants agree that their applications are valid for at least two years from the date set forth for receipt of applications to this FOA.

#### I. DOE FOA WEBINAR and LOGIN INSTRUCTIONS

DOE is planning to host a webinar shortly after issuance of the FOA to further discuss the scope of this FOA and answer questions about the FOA application process. The date of the webinar will tentatively be 12 to 20 calendar days from the date of issuance of the FOA. The

webinar registration information will be available at <a href="https://www.energy.gov/ne/consent-based-siting">https://www.energy.gov/ne/consent-based-siting</a>.

### Section V - APPLICATION REVIEW INFORMATION

## A. APPLICATION REVIEW CRITERIA

#### 1. Initial Review Criteria

Prior to a comprehensive merit evaluation, DOE will perform an initial review to determine that (1) the applicant is eligible for an award; (2) the information required by the announcement has been submitted; (3) all mandatory requirements are satisfied; and (4) the proposed project is responsive to the objectives and stated goals of the FOA. If the application fails to meet these requirements, it may be deemed ineligible and eliminated from full merit review.

#### 2. Merit Review Criteria

A merit review will be conducted in accordance with the following criteria. All applications that pass the initial review will be evaluated using a rating.

Criterion 1 - Overall approach and feasibility of supporting the implementation of consent-based siting efforts with interested communities and stakeholders.

DOE will evaluate the technical merit of the application that includes the potential for new and unique ideas and approaches aimed at maximizing and optimizing engagement with communities, relevant levels of local, Tribal and State governments, and stakeholder engagement in the consent-based siting process. This criterion includes consideration of the following:

- How are community well-being and community needs identified and addressed in the proposal?
- The degree to which the communities that may engage with the awardees have been historically disadvantaged and/or represent minorities such as Tribal Nations.
- How does the proposal ensure that issues of equity and environmental justice are factored into approaches and activities?
- How does the proposal encourage the participation of the most-impacted stakeholders and those that are overburdened or underserved socio-culturally, economically, or environmentally?
- How does the proposal identify obstacles, opportunities, strengths, and weaknesses affecting implementation of the consent-based siting process and develops relevant concepts and solutions?

# Criterion 2 - Application's Conformance to the FOA.

DOE will evaluate the adequacy of the application and how closely it meets the tasks, within the 24-month period of performance described in Section II.E, described in the Statement of Objectives. DOE will also consider the following:

- The degree to which the proposed approach is logical, well planned, and consistent with the proposed consent-based siting community engagement objectives, such as efforts to promote increased trust, and strengthen working relationships between DOE and entities within the nuclear waste management community. This can include, for example, letter(s) of support to the applicant from community leaders, environmental justice groups, representatives of disadvantaged community leaders, Tribal representatives, etc. that indicate the applicant is a trusted entity in the community.
- The degree to which milestones, scope, and risks are clearly described, and how risks and contingency plans will be managed as the project proceeds.
- The manner in which applicants propose to distribute resources to interested subrecipient communities located in the continental United States, the description of how those resources will be distributed equitably and how the awardee intends to evaluate the impacts of those resources on program effectiveness.
- The degree to which applicants have existing organizational capabilities to fulfill and carry out proposed activities.

#### Criterion 3 - Applicant Team Capabilities and Experience

DOE will evaluate the applicant's team capabilities and experience, including subrecipients, vendors, subcontractors, and any other team members necessary to complete the scope of the project. Specifically, DOE will also consider the following:

- The relevance and depth of the team's experience and capabilities, together with that of key personnel, will be evaluated as it relates to the likely successful completion of the project activities.
- The knowledge and experience of the applicant and the team to foster engagement, diversity and inclusion, innovation by stakeholders, support community learning about SNF issues, and create opportunities for community knowledge in SNF planning.

# Criterion 4 - Focus Area Development

DOE will evaluate the applicant's approach to focus area development as described in the Statement of Objectives. Specifically, DOE will consider the following:

- The degree to which the application describes how the applicant will organize, lead, and maintain meaningful, inclusive community and stakeholder engagement processes related to nuclear waste management.
- The degree to which the application describes how the applicant will elicit and map public values, interests, and goals to promote and enable effective collaboration and community-driven co-design related to a potential federal CISF.
- The degree to which the application describes how the applicant will develop, implement, and report outcomes and strategies that support mutual learning among stakeholders, communities, and experts on nuclear waste-related topics.
- The degree to which the application describes how the applicant will report findings related to building and iterating an equitable, inclusive community decision-making process to constitute community consent.
- 3. The Selection Official may also consider the following program policy factors in the selection process:
  - The degree to which an applicant maximizes the use of available DOE funding to achieve DOE program goals and objectives including how a proposed collaboration hub awards and manages sub-recipient grants to optimize funding that is supportive of diverse and inclusive community-based initiatives. Additional review criteria may also include the relative geographic distribution of applicants so that they represent a diverse sample and avoid or reduce geographic overlap, and/or how the applicant and its collaboration hub support DOE's other complementary efforts.
  - Application selection may optimize an appropriate mix of projects to best achieve DOE goals and objectives.
  - Cost/budget considerations, including availability of funding; and,
  - Demonstrated ability of the applicant to successfully complete projects (including relevant prior projects) and to do so within budget and within the specified timeframe of the award.

The above program policy factors may be used by the Selection Official to assist in determining the optimum mix of applicants that receive DOE funding support. These factors, while not indicators of the Application's merit (i.e., technical excellence, applicant's ability, etc.), may be essential to the process of selecting the application that, individually or collectively, will best achieve the program objectives. Such factors are often beyond the control of the Applicant. **Applicants should recognize that some very good applications may not receive an award because of program priorities and available funding.** Therefore, the above factors may be used by the Selection Official to assist in determining which applications shall receive DOE funding support.

#### B. REVIEW AND SELECTION PROCESS

#### 1. Merit Review

Applications that pass the initial review will be subjected to a merit review in accordance with the guidance provided in the "Department of Energy Merit Review Guide for Financial Assistance and Unsolicited Proposals." This guide is available at <a href="http://energy.gov/management/financial-assistance">http://energy.gov/management/financial-assistance</a> under Financial Assistance Policy and Guidance.

#### 2. Selection Official Consideration

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

## 3. Discussions and Award

The Government may enter into discussions with a selected applicant for any reason deemed necessary, including but not limited to: (1) the budget is not appropriate or reasonable for the requirement; (2) only a portion of the application is selected for award; (3) the Government needs additional information to determine that the recipient is capable of complying with the requirements in 2 CFR 200 and 2 CFR 910; and/or (4) special terms and conditions are required. Failure to resolve satisfactorily the issues identified by the Government will preclude award to the applicant.

## C. ANTICIPATED NOTICE OF SELECTION AND AWARD DATES

DOE anticipates notifying applicants selected for award no later than March 2023 and making awards in May 2023. DOE reserves the right to make additional award selections using applications submitted in response to this FOA for up to two years after the initial award selection date, if agreed to by the applicant(s) selected for additional award(s). Award(s) for this project are subject to the availability of Federal funding.

### Section VI - AWARD ADMINISTRATION INFORMATION

#### A. AWARD NOTICES

#### 1. Notice of Selection

DOE will notify the applicant selected for award. This notice of selection is not an authorization to begin performance.

Organizations whose applications have not been selected will be advised as promptly as possible. The 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) certain sections of 2 CFR 200 and 2 CFR 910 [DOE FAR]; (5) National Policy Assurances to be incorporated as award terms; (6) Budget Summary; and (7) Federal Assistance Reporting Checklist, which identifies the reporting requirements.

For grants and cooperative agreements made to universities, non-profits, and other entities subject to Title 2 of the CFR, award packages made under this funding opportunity will include the Government-wide Research Terms and Conditions, as applicable. A new version of the Terms and Conditions based on the changes to 2 CFR 200 is available. The Terms and Conditions will be located at <a href="http://www.nsf.gov/bfa/dias/policy/rtc/index.jsp">http://www.nsf.gov/bfa/dias/policy/rtc/index.jsp</a>.

# 3. Nondisclosure and Confidentiality Agreement Representations

In submitting an application in response to this FOA, the Applicant represents that it will not require its employees or contractors seeking to report fraud, waste, or abuse to sign internal nondisclosure or confidentiality agreements or statements prohibiting or otherwise restricting such employees or contactors from lawfully reporting such fraud, waste, or abuse to a designated investigative or law enforcement representative of a Federal department or agency authorized to receive such information.

# B. ADMINISTRATIVE AND NATIONAL POLICY REQUIREMENTS

## 1. Administrative Requirements

The administrative requirements for DOE grants and cooperative agreements are contained in 2 CFR 200 as amended by 2 CFR 910 [DOE FAR].

## 2. UEI number and SAM Requirements

Additional administrative requirements for DOE grants and cooperative agreements are contained in 2 CFR 25 (see <a href="http://www.eCFR.gov">http://www.eCFR.gov</a>). Prime awardees must keep their data at the SAM current. The website is located at <a href="http://www.sam.gov">http://www.sam.gov</a>. SAM is the government-wide system that replaced the Central Contractor Registration (CCR). If you had an active registration in the CCR you have an active registration in SAM. Sub-awardees at all tiers must also obtain a UEI number and provide this number to the prime awardee before the subaward can be issued.

### 3. Subaward and Executive Reporting

Additional administrative requirements necessary for DOE grants and cooperative agreements to comply with the Federal Funding Accountability and Transparency Act of 2006 (FFATA) are contained in 2 CFR 170 (see <a href="http://www.eCFR.gov">http://www.eCFR.gov</a>). Prime awardees must also register with the new Federal Funding Accountability and Transparency Act Subaward Reporting System (FSRS) database and report the required data on their first-tier sub-awardees. The FSRS web site is located at <a href="https://www.fsrs.gov">https://www.fsrs.gov</a>. Prime awardees must report the executive compensation for their own executives as part of their registration profile in SAM.

- 4. 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: <a href="https://www.energy.gov/management/downloads/special-terms-and-conditions-use-most-grants-and-cooperative-agreements">https://www.energy.gov/management/downloads/special-terms-and-conditions-use-most-grants-and-cooperative-agreements</a>
  - The National Policy Assurances to be incorporated as award terms are located at <a href="https://www.nsf.gov/bfa/dias/policy/rtc/appc.pdf">https://www.nsf.gov/bfa/dias/policy/rtc/appc.pdf</a>.
  - Intellectual Property Provisions: the standard DOE financial assistance intellectual property provisions applicable to the various types of recipients are located at the following website: <a href="https://www.energy.gov/gc/standard-intellectual-property-ip-provisions-financial-assistance-awards">https://www.energy.gov/gc/standard-intellectual-property-ip-provisions-financial-assistance-awards</a>. The appropriate IP provision will be determined by the DOE and will be part of the award documents.
- 5. Lobbying Restrictions: 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 U.S.C. § 1913. This restriction is in addition to those prescribed elsewhere in statute and regulation.
- 6. Corporate Felony Conviction and Federal Tax Liability Representations

In submitting an application in response to this FOA, the Applicant represents that:

- It is not a corporation that has been convicted of a felony criminal violation under any Federal law within the preceding 24 months; and
- 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.

<u>Note</u>: For purposes of these representations, the following definition applies: A Corporation includes any entity that has filed articles of incorporation in any of the 50 states, the District of Columbia, or the various territories of the United States (but not foreign corporations). It includes both for-profit and non-profit organizations.

#### 7. Statement of Substantial Involvement

DOE anticipates having substantial involvement during the project period, through technical assistance, advice, intervention, and integration with other awardees performing related activities. The Statement of Substantial Involvement may be negotiated with the recipient prior to award. It will be something like the following:

The recipient's responsibilities are listed in paragraph "a" below and DOE's responsibilities are listed in paragraph "b".

- a. Recipient Responsibilities: The recipient is responsible for:
  - Performing the activities supported by this award, including providing the required personnel, facilities, equipment, supplies, and services;
  - Defining approaches and plans, submitting the plans to DOE for review, and incorporating DOE's comments;
  - Attending program review meetings and reporting project status;
  - Providing DOE appropriate levels of proprietary and non-proprietary information on an as-needed basis to assist in response to external and internal private inquiry. DOE will protect information in accordance with the agreements set forth in the contract agreement language.
  - Submitting technical reports as stated in the Federal Assistance Reporting Checklist, and incorporating DOE comments; and
  - Presenting the project results at appropriate technical or meetings as directed by the DOE Project Officer.
- b. DOE Responsibilities: DOE's involvement will consist of the following normal Federal stewardship responsibilities (see Section 1) below, as well as Substantial Involvement activities (see Section 2 below).

# 1. Normal Federal Stewardship Activities:

- Approving recipient plans prior to award.
- Providing technical assistance prior to the start of the activity, if requested by the recipient and agreed to by DOE.
- Providing technical assistance to correct deficiencies in project or financial performance when reports or monitoring indicates some sort of problem.
- Performing site visits.
- Reviewing financial, performance, and audit reports.

- Performing technical reviews to determine whether to continue funding the next budget period.
- Reviewing performance to ensure that the objectives, terms, and conditions of the award are accomplished.
- Providing general administrative requirements, such as prior approvals required by the financial assistance regulations and/or OMB Circulars.
- Reviewing performance after completion.

## 2. Substantial Involvement Activities:

- Reviewing project plans and redirecting the work effort if the plans do not address critical programmatic issues.
- Conducting program review meetings quarterly to ensure adequate progress and that the work accomplishes the program and project activities. Redirecting work or shifting work emphasis, if needed. Recommending continued funding.
- Promoting and facilitating technology awareness activities, including disseminating program results and technical discussions through presentations and publications.
- Serving as scientific/technical liaison between awardees and other project stakeholders.
- Additional monitoring to permit specified kinds of direction or redirection of the work because of interrelationships with other projects.
- The power to immediately halt an activity if detailed performance specifications are not met.
- c. There are limitations on recipient and DOE responsibilities and authorities in the performance of the project activities. Performance of the project activities must be within the scope of the Statement of Objectives, the terms and conditions of the cooperative agreement, and the funding and schedule constraints.

## C. REPORTING REQUIREMENTS

Reporting requirements will be identified on the Federal Assistance Reporting Checklist, DOE F 4600.2, attached to the award agreement. An example of the checklist is available at <a href="https://www.energy.gov/sites/prod/files/FA">https://www.energy.gov/sites/prod/files/FA</a> RepReqChecklist RDD 031711 final 2.pdf

# D. SYSTEM FOR AWARD MANAGEMENT AND UNIQUE ENTITY IDENTIFIER REQUIREMENTS

Applicants that do not have an exemption under 2 CFR 25.110 must:

- (1) Be registered in the SAM at http://www.sam.gov prior to submitting an application or plan;
- (2) Provide its unique entity identifier in each application or plan it submits to DOE.
- (3) Maintain an active SAM registration with current information, including information on its immediate and highest-level owner and subsidiaries, as well as on all predecessors that have been awarded a Federal contract or financial assistance award within the last three

- years, if applicable, at all times during which it has an active Federal award or an application or plan under consideration by a Federal awarding agency;
- (4) Remain registered in the SAM database after the initial registration;
- (5) Update its information in the SAM database as soon as it changes;
- (6) Review its information in the SAM database on an annual basis from the date of initial registration or subsequent updates to ensure it is current, accurate and complete; and
- (7) Not make a subaward to any entity unless the entity has provided its unique entity identifier. Subrecipients are not required to obtain an active SAM registration but must obtain a Unique Entity Identifier; and
- (8) For purposes of this FOA provision:
  - a. SAM means the Federal repository into which an applicant must provide information required for the conduct of business as a recipient of Federal funds. Additional information about registration procedures may be found at the SAM internet site (currently at <a href="https://www.sam.gov">https://www.sam.gov</a>).
  - b. Unique Entity Identifier means the identifier assigned by SAM to uniquely identify business entities.
  - c. Entity includes non-Federal entities as defined at 2 CFR 200.1 and includes all of the following for purposes of this part:
    - i. A foreign organization;
    - ii. A foreign public entity;
    - iii. A domestic for-profit organization; and
    - iv. A Federal agency.
  - d. Subaward has the meaning given in 2 CFR 200.1.
  - e. Subrecipient has the meaning given in 2 CFR 200.1.

#### **Section VII - QUESTIONS/AGENCY CONTACTS**

## A. FOA QUESTIONS

Telephonic questions shall not be answered. Questions regarding the content of this FOA must be submitted through the <a href="consent-based-siting-project@id.doe.gov">consent-based-siting-project@id.doe.gov</a>. Questions must clearly specify the FOA areas (section, page, etc.) to which they refer. DOE will try to respond to a question within five business days unless a similar question and answer has already been posted on the website. Answers will be posted through the FedConnect portal. Offerors are encouraged to periodically check FedConnect to ascertain the status of any answers to questions. All questions and comments concerning this FOA are due no later than 118 days after FOA issuance. Questions submitted after that date may not allow the Government and other applicant's enough time to respond.

Any required changes to the FOA resulting from questions submitted will be incorporated into the FOA via written amendment to the FOA. No changes to the FOA are to be assumed. Changes must be incorporated by written amendment to the FOA to be applicable.

#### **B. DOE AGENCY CONTACT**

## PRIMARY CONTACT:

Mark Payne Contracts Specialist

E-mail: consent-based-siting-project@id.doe.gov

#### SECONDARY CONTACT:

Trevor Bluth Contracting Officer

E-mail: consent-based-siting-project@id.doe.gov

#### **Section VIII - OTHER INFORMATION**

#### 1. MODIFICATIONS

Notices of any modifications to this announcement will be posted on the FedConnect portal. Applicants can receive an electronic mail when a modification or an announcement message is posted by registering with FedConnect as an interested party for this FOA. It is recommended that applicants register as soon after release of the FOA as possible to ensure applicants receive timely notice of any modifications or other announcements.

## 2. GOVERNMENT RIGHT TO REJECT OR NEGOTIATE

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

## 3. 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.

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.

#### 4. 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 [*Insert 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 that it not be released to persons outside the Government, except for purposes of review and evaluation."

#### 5. 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.

# 6. INTELLECTUAL PROPERTY PROVISIONS (NRD-821) NONRESEARCH AND DEVELOPMENT

Intellectual property rights are subject to 2 CFR 200.315 (i.e., institution of higher education or nonprofit organizations) or 2 CFR 910.362 (i.e., for-profit).

#### 7. CONFERENCE SPENDING

The recipient shall not expend funds for the purpose of: 1) defraying the cost to the Government of a conference held by any Executive Branch department, agency, board, commission, or office for which the cost to the Government was more than \$20,000; or 2) circumventing the required notification by the head of any such Executive Branch department, agency, board, commission, or office to the Inspector General or senior ethics official for any entity without an Inspector General, of the date, location, and number of employees attending such conference that is not directly and programmatically related to the purpose for which the grant or cooperative agreement was awarded.

# 8. NOTICE REGARDING ELIGIBLE/INELIGIBLE ACTIVITIES

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