

**Department of Energy (DOE)
Office of Science (SC)
Advanced Scientific Computing Research (ASCR)**



**Scientific Discovery through Advanced Computing
(SciDAC) Institutes**

DOE National Laboratory Program Announcement Number: LAB 25-3510.000001

Announcement Type: Amendment 000001

Amendment 000001 is issued to provide guidance for Laboratories submitting renewal proposals. See pages 22, 26, and 37.

Announcement Issue Date:	December 19, 2024
Submission Deadline for Pre-Proposal:	January 23, 2025 at 5 PM Eastern Time A Pre-Proposal is required Pre-Proposals must be submitted by an authorized institutional representative
Pre-Proposal Response Date:	February 13, 2025 at 5 PM Eastern Time
Submission Deadline for Proposals:	April 10, 2025 at 5 PM Eastern Time

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I. Basic Information

U.S. Department of Energy (DOE)
Office of Science (SC)

Executive Summary

The DOE Office of Science (SC) program in Advanced Scientific Computing Research (ASCR) hereby announces its interest in receiving proposals from large multi-disciplinary and multi-institutional teams for the Scientific Discovery through Advanced Computing (SciDAC) Institutes, as part of the SciDAC Program. This Announcement seeks proposals for SciDAC Institutes – Computer Science Institutes (CSIs) and Applied Mathematics Institutes (AMIs) – envisioned to collectively exemplify the computer science, applied mathematics, and scientific-software expertise and capabilities needed to form innovative partnerships to advance the science and technology mission of DOE.

Institute Funding Details

Expected total available funding	\$75 million
Expected number of awards	2 to 4
Expected dollar amount of individual awards	\$3 million to \$7.5 million per year
Expected award project period	5 years

Key Facts

Announcement Title	Scientific Discovery Through Advanced Computing (SciDAC) Institutes
Announcement Number	LAB 25-3510
Announcement Type	Amendment

Key Dates

Key dates are printed on the cover of this Announcement.

Agency Contact Information

PAMS Customer Support	855-818-1846 (toll-free) 301-903-9610 sc.pams-helpdesk@science.doe.gov
Technical/Scientific Program Contact	Kalyan Perumalla, kalyan.perumalla@science.doe.gov Steven Lee, steven.lee@science.doe.gov

Department of Energy, Office of Inspector General Hotline

The Office of Inspector General (OIG) maintains a Hotline to facilitate the reporting of allegations of fraud, waste, abuse, or mismanagement in DOE programs or operations. If you wish to report such allegations, you may call, send a letter, or email the OIG Hotline ighotline@hq.doe.gov. Allegations may be reported by DOE employees, DOE contractors, or the

general public. OIG contact information is available at <https://energy.gov/ig/services>.

Recommendation

SC encourages you to register in all systems as soon as possible. You are also encouraged to submit pre-proposals and proposals well before the deadline.

II. Eligibility

A. Eligible Applicants

This is a DOE National Laboratory-only Announcement. FFRDCs from other Federal agencies are not eligible to submit in response to this Program Announcement.

B. Cost Sharing

Cost sharing is not required.

C. Eligible Individuals

Eligible individuals with the skills, knowledge, and resources necessary to carry out the proposed research as a Principal Investigator (PI), heretofore referred to as an Institute Director (see Management Structure in Section III.A under SUPPLEMENTARY INFORMATION), are invited to work with their organizations to develop a proposal.

Individuals from underrepresented groups as well as individuals with disabilities are always encouraged to apply.

MULTI-INSTITUTIONAL PROPOSALS AND SUBAWARDS¹

Multi-institutional teams may submit one proposal from a designated lead institution (a DOE National Laboratory) with all other team members (including universities and national laboratories) proposed as subrecipients.

DOE/NNSA National Laboratories, other Federal agencies, and another Federal agency's FFRDCs may be proposed as subrecipients, but the value of any such proposed subaward may be removed from any such prime award: DOE will often make separate awards to Federally affiliated institutions.

A well-thought-out research plan and its associated budget(s) should leave no confusion about which institution will do which parts of the research.

D. Limitations on Submissions

LIMITATIONS ON LEAD INSTITUTION

Each applicant institution (DOE National Laboratory) is limited to no more than two pre-proposals or proposals as the lead institution. Each pre-proposal or proposal must propose only one of the two types of institutes specified in Section III.A of this Announcement. Collaborative proposals are not allowed in response to this Announcement.

¹ Subawards are made to subrecipients. Both terms are defined in 2 CFR 200.1 (<https://www.ecfr.gov>)

LIMITATIONS ON SUBRECIPIENTS

There is no limitation to the number of pre-proposals or proposals in which an institution (including universities and national laboratories) may participate as a subrecipient. DOE will consider the latest received submissions to be the institution's intended submissions. Should DOE receive submissions in excess of the applicable limits, DOE reserves the right, in its sole discretion, to request additional or clarifying information to ascertain the institution's intended submissions. Otherwise, DOE will consider the latest received submissions to be the institution's intended submissions.

- Pre-proposals in excess of the limited number of submissions may be discouraged.
- Proposals in excess of the limited number of submissions may be declined without review.

An individual (PI, Co-PI, senior/key personnel) may participate in no more than four pre-proposals or proposals.

LIMITATIONS ON INSTITUTE DIRECTOR

The Institute Director must be in a permanent or indefinitely extensible or long-term position at the applicant institution. Individuals in term-limited appointments, whether as adjunct, visiting faculty, fellows, or similar appointments, are not eligible to be proposed as an Institute Director. Individuals in part-time permanent positions are eligible to be proposed as an Institute Director.

An individual may be proposed as Institute Director on no more than one pre-proposal or proposal. The Institute Director must be employed by, or have a written agreement in place to be hired by, the Lead Institution. If the proposed Institute Director will not be employed by the Lead Institution at the time of award, the proposal may be declined without further review.

Individuals in a joint appointment are eligible to be proposed as an Institute Director if work will be performed at the applicant institution and if the Institute Director is a paid employee of the applicant institution. Individuals paid by another institution may not be named as the Institute Director but may be named in other senior/key roles. For the purposes of this determination, a paid employee is one that is on the applicant institution's payroll, receiving wages and benefits in accordance with the applicant institution's normal wage and benefit practices, and whose position is not governed by any arrangement, agreement, or contract between the applicant institution and another institution.

Individuals receiving less than half of their salary and benefits from a DOE/NNSA National Laboratory may not be named as the Institute Director in a proposal under this Announcement, regardless of any arrangement between the Laboratory and another institution.

III. Program Description

A. Purpose

The DOE Office of Science (SC) program in Advanced Scientific Computing Research (ASCR) hereby announces its interest in receiving proposals from large multi-disciplinary and multi-institutional teams for the Scientific Discovery through Advanced Computing (SciDAC) Institutes, as part of the SC SciDAC Program.

The ASCR program's mission (<https://science.osti.gov/ascr> and <https://science.osti.gov/ascr/Community-Resources/Program-Documents>) is to advance applied mathematics and computer science; deliver the most sophisticated computational scientific applications in partnership with disciplinary science; advance computing and networking capabilities; and develop future generations of computing hardware and software tools for science and engineering, in partnership with the research community.

The SciDAC Program (<https://www.scidac.gov>) was initiated in 2001 as an SC-wide program to dramatically accelerate progress in scientific discovery via advanced computing. SciDAC consists of ASCR-funded SciDAC Institutes and SciDAC Partnerships co-funded by ASCR with SC and other DOE programs. Since its inception, the SciDAC program has been recognized as a leader in enabling scientific discoveries that would not have been possible without the deep collaborations between discipline scientists, applied mathematicians, and computer scientists.

This Announcement seeks proposals for SciDAC Institutes, which are a key part of the SciDAC program. Specifically, this Announcement is for the selection for award of proposals for two types of SciDAC Institutes: Computer Science Institute (CSI), and Applied Mathematics Institute (AMI).

Selections for SciDAC Institutes are not anticipated to affect support for existing SciDAC partnership projects.

Submitted proposals must follow the guidelines and criteria provided in the supplementary information below and the following sections. Pre-proposals are required and must be submitted according to the guidelines in the following sections.

SUPPLEMENTARY INFORMATION

A major objective of the ASCR research portfolio is to enable DOE-supported science communities to take full advantage of the advancements in current and emerging high-performance computing (HPC) systems. ASCR achieves part of this goal through the SciDAC program (<https://www.scidac.gov>). The mission of the SciDAC Institutes is to provide intellectual resources in applied mathematics and computer science, expertise in algorithms and methods, and scientific software tools to advance scientific discovery, particularly by effectively exploiting exascale computing capabilities, for the public benefit, in areas of strategic importance to SC and DOE.

SCOPE AND STRUCTURE OF THE PROPOSED INSTITUTES

The Institutes are intended to take into account and build on (a) the advancements made in SciDAC, (b) key advancements made or enabled by ASCR-supported research and development, (c) new advancements and emerging trends in broader computing research, including, but not limited to, areas such as artificial intelligence, digital twins, and edge computing², (d) software, hardware and application capabilities developed in the DOE Exascale Computing Project, and (e) an emphasis on energy efficiency as an enabler for the next leaps in high-end computing in support of computational science. The core elements and activities of the institutes are:

Computer Science Institute(s) and Applied Mathematics Institute(s)

- The Institutes undertake the main research activities organized as large, multi-year tasks that will include coverage of scientific and technical needs in core computational science, such as emerging technologies in computing, storage, and networking, artificial intelligence and scientific machine learning, edge computing, digital twins, linear algebra, optimization, adaptive meshing and discretization, high-performance algorithms, multiscale and nonlinear differential equation solvers, and uncertainty quantification. The activities by the institutes will also include application interfaces and integration with the scientific research and development in partnership with domain science that takes advantage of ASCR successes in applied mathematics and computer science.
- The Institutes will also undertake scientific-discovery-awareness activities via research and development of exemplar- and proxy-applications in scientific domains of relevance to SciDAC, along a fidelity spectrum that is appropriate to enable advancements in computer science and mathematics to gracefully scale from skeletons and prototypes up to the full scientific complexity of partner use cases. This activity should primarily rely on computer-science and applied-mathematics expertise but will be undertaken in consultation with subject matter experts from partners and other DOE research efforts.
- The research and development by the Institutes will emphasize energy efficiency, in addition to computational performance, by building on current and emerging advances in energy-efficient computing, analog computing, and neuromorphic computing.
- The Institutes must include scope for undertaking incubation activities at different times during the project. These incubation activities would meet emerging scientific and technological trends on demand, organized as small seed activities that are dynamically spawned, managed, and completed.
- The Institutes will build on the currently leading set of software systems specifically designed for large (exascale-level) systems, potentially including software designed for other state-of-the-art systems critical for scientific computing and provide a continual foundation for computing across the institutes, partners, facilities, and the scientific research community.

² Note that while the core focus area of SciDAC is to accelerate scientific innovation using scalable approaches on exascale and other high-performance-computing systems, future SciDAC partnerships could be enabled by the development of innovative hardware/software co-design capabilities and other computer-science and applied-mathematics capabilities that, for example, enable processing an extreme influx of data at the edge. Thus, the development of capabilities primarily related to scientific edge-computing methodologies is also in scope.

Starting points may include selected subsets of community repositories such as the E4S³ software stack.

- Research from any of the Institutes may result in the generation of software prototypes and products. Proposers should discuss software sustainability and stewardship in the data-management section of a proposal (see the Software Ecosystem-Aware section below). Software stewardship entails not only maintenance and bug fixes but also keeping up with rapid changes in user needs, algorithms, underlying libraries, and especially accelerator hardware. Software stewardship can include turning useful programs originally developed as research projects for use by a limited number of scientists or engineers into production codes used by an entire community. Careful stewardship ensures that software will continue to enable future scientific discovery, realizing that attention to principles of good software engineering optimizes the resources required for proper stewardship.

This Announcement provides requirements that submitted proposals for individual SciDAC Institutes must meet. The overall portfolio of the awards is expected to cover a significant portion of DOE's computational science needs on the current and potential future platforms and systems that are, or are likely to be, critical to advanced scientific computing. Although the work of each proposed Institute is not application-specific, we expect they will be scientific discovery-, architecture-, software ecosystem-, institutes-, and partnerships-aware as follows.

Scientific Discovery-Aware

While being scientific discovery-aware, the overarching research strategies developed by the SciDAC Institutes will not be constrained by a specific use case. Applicants may propose proof-of-principle demonstrations of potential benefits — which may motivate the development of meaningful and credible suites of test applications or benchmark problems — to engage scientists. The latter considerations are no substitute for realistic, full-scale applications or data sets, but may be useful for development purposes and for gaining experience with the most significant issues confronting scientists.

Although their primary focus will be on the computational science needs of the SciDAC Partnerships, the SciDAC Institutes will be outward-looking and multi-faceted. To expand their circle of influence beyond the SciDAC Partnerships, the proposed Institutes will be equipped with tools, resources and capabilities that will facilitate potential interactions with initiatives of special priority for the DOE (<https://www.energy.gov/science/initiatives>) as appropriate. For instance, the awarded Institutes will be encouraged to build on the capabilities that were supported by the ASCR- and National Nuclear Security Administration (NNSA)-sponsored Exascale Computing Project (ECP) (<https://exascaleproject.org/>). Furthermore, the awarded Institutes will be expected to develop and support capabilities based on scientific machine learning with broad impact on DOE and SC grand challenges.

3 Extreme-scale Scientific Software Stack (<https://docs.nersc.gov/applications/e4s/>)

Architecture-Aware

Another important metric of success is the extent to which the proposed Institutes lower the barriers for the scientists to effectively use the existing and emerging DOE High Performance Computing (HPC) systems such as those existing and planned for at the Oak Ridge Leadership Computing Facility (OLCF), Argonne Leadership Computing Facility (ALCF), National Energy Research Scientific Computing Center (NERSC), and similar world-class computing facilities over the next five years. We anticipate the SciDAC Institutes to effectively leverage and incorporate the basic research results, maturing technologies, and areas of expertise from Applied Mathematics, Computer Science, and Software to make a meaningful impact.

Additional information about the computing facilities can be found at their respective webpages, including the following:

- OLCF: <https://www.olcf.ornl.gov>
- ALCF: <https://www.alcf.anl.gov>
- NERSC: <https://www.nersc.gov>

Software Ecosystem-Aware

Both types of institutes undertake architecture-aware activities in direct relevance to the current and potential future platforms and systems that are, or are likely to be, critical to advanced scientific computing. The focus and specialization will be on composable and generalized software infrastructure, catering to the variety of applications, algorithms, and methods developed by the Institutes and partners.

A notable outcome of the Institutes' activities, performed in collaboration with other ASCR-funded activities including the SciDAC Institutes and partnerships, will be an ecosystem of scientific software that follows best practices for software development, testing, and integration; is well maintained and responsive to the evolving needs of the scientific enterprise; and leads the way on support for innovative scientific-computing platforms.

The Institutes will build on the latest advances in scientific-computing software to make it reliable, robust, portable, and broadly accepted across one or more scientific user communities. Investigators are encouraged to familiarize themselves with the range of software currently maintained by the two SciDAC-5 Institutes but need not limit proposals to any historical list.

In support of this software ecosystem-aware component, each Institute must designate a senior key personnel member as a Software Coordinator (see Management Structure later in this section) who will be responsible for the software aspects of the Institutes' activities. To enable cost-effective, sustainable software development; the development and adoption of best practices; and effective ecosystem integration, between 15% and 25% of the budget should be allocated to a cohort of research software engineers and/or other staff who focus primarily on software development, and this cohort is expected to work across multiple topical areas and multiple software packages to the maximal extent practical, while other Institute personnel will be engaged primarily in research.

Institutes-Aware

Active collaboration among the SciDAC Institutes researchers is essential in fulfilling the purpose of SciDAC. Consequently, a proposed Institute must not only make a compelling case for its own intrinsic capabilities, but also describe processes for effectively leveraging expertise and results from the other potential Institutes. The development of capabilities tailored for specific science applications is funded by the SciDAC Partnerships or by other potential collaborative efforts between the Institutes and the application areas stewarded by SC and DOE. A key point of the Institutes is that innovative science projects can be enabled by the Institutes' pooling of a broad range of complementary but non-duplicative computational skills that is otherwise not readily available to DOE scientists.

Partnerships-Aware

The SciDAC Institutes are closely connected to the SciDAC partnerships with researchers and PIs crosscutting them. The new SciDAC institutes should ideally provide coverage of the expertise and capabilities that are part of the current SciDAC-5 partnerships as well as respond to the evolving goals of future partnerships. It is crucial for the proposed Institutes to have the built-in flexibility to adapt to and evolve their efforts according to the needs and priorities of the DOE and SC science communities, including the SciDAC Partnerships, which will transition from SciDAC-5 over the next duration of the SciDAC Institutes.

The current SciDAC partnership awards and Program Managers can be viewed at <https://scidac.gov> (“Partnerships | Scientific Discovery through Advanced Computing”).

Information about the Office of Science Program Offices can be viewed at their respective websites as follows:

- **Basic Energy Sciences**
<https://science.osti.gov/bes>
- **Biological and Environmental Research**
<https://www.energy.gov/science/ber/biological-and-environmental-research>
- **Fusion Energy Sciences**
<https://science.osti.gov/fes>
- **High Energy Physics**
<https://science.osti.gov/hep>
- **Nuclear Physics**
<https://www.energy.gov/science/np/nuclear-physics>

DOE Applied Offices participating in SciDAC can be viewed at their respective websites as follows:

- **Nuclear Energy**
<https://www.energy.gov/ne/office-nuclear-energy>
- **Office of Electricity**
<https://www.energy.gov/oe/about-office-electricity>

Management Structure

Each Institute must identify a management structure in the form of an organization chart and a plan that enables it to function efficiently and to collaborate effectively and quantifiably with the SciDAC Partnerships as well as with each other. Institute structure must have sufficient flexibility to adapt quickly to changing technical challenges and scientific needs, and the plan should specify the procedure for adjusting the expertise within the Institute when needed. Institute management plan must use appropriate metrics to measure technical progress and contributions and outline a risk mitigation strategy. The plan must also describe the communication and coordination processes among different parts of the Institute, with the other Institutes, with the ASCR Facilities and with the SciDAC Partnerships. The plan must also present the Institute's strategy for outreach and impact to the broader computational science community including initiatives of special priority for the DOE SC (see the preceding Scientific Discovery-Aware section). The proposed Institutes may choose to identify points of contact assigned to work with the other Institutes, the ASCR Facilities, and specific SciDAC Partnership areas. Additionally, each Institute must identify a Director, a Deputy Director, Leads for Primary Topic Areas, Software Coordinator, Principal Investigator(s), and Senior/Key Personnel. Typical duties, responsibilities and authorities for each category are provided below:

- **Institute Director:** The SciDAC Institute Director is the Lead PI and must be employed by the Lead Institution. The SciDAC Institute Director will serve as the primary contact responsible for communications with the DOE Program Manager (PM) on behalf of all the PIs in the Institute, including regular updates on Institute accomplishments and plans for incubation activities. The Director will be responsible for adjusting the areas of expertise within the Institute under changes to project needs and availability of researchers and resources. This could involve personnel actions.
- **Institute Deputy Director:** The Deputy Director will assist the Institute Director in leading the project and will serve as the secondary contact for the DOE program management.
- **Institute Lead(s) for Primary Topic Areas:** The lead(s) for Primary Topic Areas will be responsible of leading and coordinating the members and technologies under their topic areas. The Lead(s) will also work together to build synergies and merged capabilities (as applicable) among the topic areas, and to avoid duplicative work.
- **Institute Software Coordinator:** A senior key personnel member will be designated as the coordinator of software activities and software artifacts, who will be responsible for the organization and stewardship of software elements and who will serve in the role of representing the Institute in software stewardship activities or committees supported by DOE for scientific computing software.
- **Institutional Principal Investigator (PI):** A PI is the individual designated by the research organization and empowered with the appropriate level of authority and responsibility for the proper conduct of the research within that organization. These authorities and responsibilities include the appropriate use of funds and administrative requirements such as the submission of scientific progress reports to DOE. When an organization designates more than one Principal Investigator, it identifies them as individuals who share the authority and responsibility for leading and directing the research, intellectually and logistically.
- **Senior/Key Personnel:** A senior/key person is an individual who contributes — in a substantive, measurable way — to the scientific/technical development or execution of the

project. This definition includes, but is not limited to, the SciDAC Institute Director, the Deputy Director, the Leads for Primary Topic Areas, Software Coordinator, and the PI(s).

The proposal must additionally include tables of the institutional and primary topic area budgets as described in Section IV of this Announcement.

Annual Meetings

The selected awardees will be expected to attend annual SciDAC PI meetings and participate in coordination activities with other SciDAC-funded projects. Applicants should anticipate a need for travel to effectively communicate with other SciDAC researchers and request appropriate funding in their budgets.

RESPONSIVENESS

All proposals received in response to this Announcement will undergo a responsiveness review in addition to other initial review criteria as described in Section VI. The following proposals will be deemed unresponsive:

- Proposals in violation of the directions in Section III.F “Anticipated Award Size”.
- Proposals on research primarily within the mission space of other SC and DOE programs.
- Proposals on research or technology funded by other ASCR sub-programs or duplicative of any active SC awards and projects.
- Proposals on research geared towards a specific application.
- Proposals on research and engineering for hardware and architecture development.
- Proposals focused on quantum computing or quantum networking.

Unresponsive proposals may be declined without merit review.

Open Science

SC is dedicated to promoting the values of openness in Federally-supported scientific research, including, but not limited to, ensuring that research may be reproduced and that the results of Federally-supported research are made available to other researchers. These objectives may be met through any number of mechanisms including, but not limited to, data access plans, data sharing agreements, the use of archives and repositories, and the use of various licensing schemes.

The use of the phrase “open-source” does not refer to any particular licensing arrangement, but is to be understood as encompassing any arrangement that furthers the objective of openness.

B. Program Goals, Objectives, and Priorities

The Office of Science’s (SC) mission is to deliver scientific discoveries and major scientific tools to transform our understanding of nature and advance the energy, economic, and national security of the United States (U.S.). SC is the Nation’s largest Federal sponsor of basic research in the physical sciences and the lead Federal agency supporting fundamental scientific research

for our Nation's energy future.

SC accomplishes its mission and advances national goals by supporting:

- The frontiers of science—exploring nature's mysteries from the study of fundamental subatomic particles, atoms, and molecules that are the building blocks of the materials of our universe and everything in it to the DNA, proteins, and cells that are the building blocks of life. Each of the programs in SC supports research probing the most fundamental disciplinary questions.
- The 21st Century tools of science—providing the nation's researchers with 28 state-of-the-art national scientific user facilities, the most advanced tools of modern science, propelling the U.S. to the forefront of science, technology development, and deployment through innovation.
- Science for energy and the environment—paving the knowledge foundation to spur discoveries and innovations for advancing the Department's mission in energy and environment. SC supports a wide range of funding modalities from single principal investigators to large team-based activities to engage in fundamental research on energy production, conversion, storage, transmission, and use, and on our understanding of the earth systems.

SC is an established leader of the U.S. scientific discovery and innovation enterprise. Over the decades, SC investments and accomplishments in basic research and enabling research capabilities have provided the foundations for new technologies, businesses, and industries, making significant contributions to our nation's economy, national security, and quality of life.

C. Award Contribution to Goals and Objectives

Awards resulting from this Announcement are intended to increase our understanding of mathematical, computational, and scientific techniques and phenomena.

D. Performance Goals

You will be expected to demonstrate progress toward increasing knowledge in periodic progress reports.

E. Program History

You can learn about SC's history at <https://science.osti.gov/About/History>. You can read about our achievements at <https://science.osti.gov/Science-Features/Science-Highlights>. You can find information about all of our awards at <https://pamspubscience.energy.gov/WebPAMSEExternal/interface/awards/AwardSearchExternal.aspx>.

F. Other Information

REQUEST LIMITS AND ANTICIPATED AWARD SIZE

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

A single- or multi-institutional team, including all subawards, is limited to a request of no less than \$3,000,000 per year and no more than \$7,500,000 per year.

ANTICIPATED NUMBER OF AWARDS

ASCR expects to make at most two awards for each of the two types of institutes specified in Section III.A of this Announcement.

PERIOD OF PERFORMANCE

DOE anticipates making awards with a project period of five years.

Continuation funding (funding for the second and subsequent budget periods) is contingent on: (1) availability of funds appropriated by Congress and future year budget authority; (2) progress towards meeting the objectives of the approved proposal; (3) submission of required reports; and (4) compliance with the terms and conditions of the award.

BUDGET PERIODS AND CYCLING AWARDS

SC is committed to distributing workloads (internally and externally) across as much of the calendar as is practical. Accordingly, awards under this Announcement are expected to be made with budget periods that end between December 1 and June 30. New awards will generally be made with a first budget period of more than 12 months. Renewal awards will be made with first budget periods that may be longer or shorter than 12 months. Applicants should prepare budgets with a first period of 16 months, followed by additional 12-month periods. Actual start dates and cycle dates will be negotiated if a proposal is recommended for award. Budget periods will generally not be made for less than 9 months or more than 18 months.

IV. Proposal Contents and Format

A. Preliminary Submissions

1. Letter of Intent (LOI)

Not applicable.

2. Pre-proposal

PRE-PROPOSAL DUE DATE

The pre-proposal due date is printed on the cover of this Announcement.

ENCOURAGE/DISCOURAGE DATE

The pre-proposal response date is printed on the cover of this Announcement.

A pre-proposal is required and must/should be submitted by the date indicated on the cover of the Announcement.

Pre-proposals will be reviewed for responsiveness of the proposed work to the research topics identified in this Announcement. DOE will send a response by email to each applicant encouraging or discouraging the submission of a proposal by the date indicated on the cover of the Announcement. Applicants who have not received a response regarding the status of their pre-proposal by this date are responsible for contacting the program to confirm this status.

Only those applicants that receive notification from DOE encouraging submission of a proposal may submit proposals. No other proposals will be considered.

Proposals that have not been encouraged by DOE will be declined without merit review.

The pre-proposal must begin with a title page that will not count toward the pre-proposal page limitation. Include, at the top of the first page, the following information:

Institute Name
Institute Director Name, Job Title
Lead Institution
Institute Director Phone Number, Email Address
Announcement Number: Include the number indicated on the cover of this Announcement
PI Names at the Collaborating Institutions Including Sub-Recipient Institutions
Exactly one of the institute types (CSI or AMI) specified in Section III

The material listed here defines the required content of a title page. Additional material is not allowed.

This information must be followed by a clear and concise description of the objectives and technical approach of the proposed research. The pre-proposal may not exceed three pages, when printed using standard letter-size (8.5-inch x 11-inch) paper with 1-inch margins (top, bottom, left, and right). The body text font must not be smaller than 11-point. Figures and references, if included, must fit within the three-page limit.

In addition, the pre-proposal must include a listing of individuals who should not serve as merit reviewers of a subsequent proposal. Detailed instructions for how to craft such a listing are provided in Section IX of this Announcement. **Note that the listing of individuals who should not serve as merit reviewers is rarely empty because the instructions contain mandatory inclusions requirements.** This listing will not count toward the pre-proposal’s page limit. The list of individuals must be included as an “Additional Attachment” to your pre-proposal in PAMS.

The pre-proposal must be machine readable. Do not submit a scanned image of a printed document.

If a multi-institutional team is being proposed, provide the following information on a separate page. This information will not count toward the page limitation.

- Indicate the Institute Director (lead PI) who will be the point of contact and coordinator for the combined research activity.
- List all (lead and subrecipients) institutions by name with the name of the lead (Co-PI) at each institution.
- Include a table modeled on the following chart providing summary budget information from all institutions. Provide the total costs of the budget request in each year for each institution and totals for all rows and columns.
- **Note the requirement of accounting for the required budget for Software Ecosystem-Aware activities as outlined in Section III under SUPPLEMENTARY INFORMATION.**

Multi-Institutional Team Information								
	Name	Institution	Year 1 Budget	Year 2 Budget	Year 3 Budget	Year 4 Budget	Year 5 Budget	Total Budget
Institute Director								
Co-PI								
Co-PI								
Co-PI								

Example budget table (\$ in thousands)

PRE-PROPOSAL REVIEW

Program Managers may evaluate all or some portion of pre-proposals to determine their competitiveness within a scientific topic.

Any review will be based on the following criteria:

1. Responsiveness to the objectives of the Announcement as stated in Section III.
2. Scientific and technical merit.
3. Appropriateness of the proposed research approaches.
4. Likelihood of scientific impact.

The decision to encourage or discourage the submission of a proposal may also be influenced by the following factors:

- Relevance of the proposed activity to SC priorities.
- Ensuring an appropriate balance of activities within SC programs.
- Performance under current awards.
- Ensuring a distribution of supported researchers at various career stages.
- Promoting the diversity of supported investigators and institutions.
- Increasing participation of institutions historically underrepresented in the SC research portfolio.

Comparative review will be conducted by no fewer than three federal program managers, or DOE-affiliated personnel under the direction of federal program managers, chosen for their topical knowledge and diversity of perspective.

Reviews within a topical field will be a comparative review with priority given to scientifically innovative and forward-looking basic research with the highest likelihood of success as a proposal. The results of the review will be documented.

Applicants with the highest rated pre-proposals will be encouraged to submit proposals; others will be discouraged from submitting proposals.

Feedback about pre-proposals will be provided upon request after award selections have been announced.

Topics with comparatively few pre-proposals may not make use of such pre-proposal reviews. The ratio of encourage/discourage results will differ between topical subjects.

SC is committed to ensuring that a sufficient number of applicants will be encouraged to submit proposals to foster a competitive merit review of the proposals. SC's intent in discouraging submission of certain proposals is to save the time and effort of applicants in preparing and submitting proposals with a low likelihood of success.

The PI will be notified when the pre-proposal is encouraged or discouraged. The DOE SC Portfolio Analysis and Management System (PAMS) will send an email to the PI from PAMS.Autoreply@science.doe.gov, and the status of the pre-proposal will be updated at the PAMS website <https://pamspublic.science.energy.gov/>. Notifications are sent as soon as the decisions to encourage or discourage are finalized.

PRE-PROPOSAL SUBMISSION

Pre-proposals are created in the software system of your choice and must be submitted electronically through the DOE SC Portfolio Analysis and Management System (PAMS) website <https://pamspublic.science.energy.gov/>. You cannot draft or edit a pre-proposal in PAMS. Do not submit a pre-proposal through [FedConnect](#) or [Grants.gov](#).

Pre-proposals may only be submitted by a user at the Institute Director's institution with the "Submit to DOE" privilege in PAMS. An Institute Director may draft a pre-proposal but will only be able to submit the pre-proposal for institutional countersignature.

Applicants are strongly encouraged to inform their DOE Program Manager if teaming arrangements, proposed personnel, topics, or the anticipated title change between submitting the pre-proposal and when a proposal is submitted, to ensure that their proposal is properly linked to their pre-proposal and that reviewers are properly assigned to the proposal.

Detailed instructions about how to submit a pre-proposal are in Section IX of this Announcement.

B. Proposal

Proposal submission instructions are available in this Announcement on the DOE SC Portfolio Analysis and Management System (PAMS). Screenshots showing the steps in DOE National Laboratory proposal submission are available in the PAMS Help materials, accessible by navigating to https://pamspublic.science.energy.gov and clicking on the "PAMS Help" link.

Proposals submitted outside of PAMS will not be accepted.

DOE will accept new and renewal DOE National Laboratory Proposals under this DOE National Laboratory Announcement. Please only submit a PAMS lab technical proposal in response to this Announcement; do not submit a DOE Field Work Proposal (FWP) at this time. SC will request FWPs later from those selected for funding consideration under this Announcement.

C. Component Pieces of the Proposal

1. Summary of Proposal Contents

Each DOE National Laboratory proposal will contain the following sections:

- A Cover Page, entered into PAMS as structured data using the on-screen form
- Budget, entered into PAMS as structured data using the PAMS budget form
- Abstract (one page), entered into PAMS as a separate PDF file
- Budget justification, entered into PAMS as a separate PDF file
- Proposal, combined into a single PDF file containing the following information:
 - Proposal Title Page
 - Table of Contents

- Project Narrative (main technical portion of the proposal, including background/introduction, proposed research and methods, timetable of activities, and responsibilities of key project personnel)
- Appendix 1: Biographical Sketch(es)
- Appendix 2: Synergistic Activities (Optional)
- Appendix 3: Current and Pending Support
- Appendix 4: Bibliography and References Cited
- Appendix 5: Facilities and Other Resources
- Appendix 6: Equipment
- Appendix 7: Data Management Plan
- Appendix 8: Promoting Inclusive and Equitable Research (PIER) Plan
- Appendix 9: Other Attachments (optional)
- Multi-institutional team Information

SUBMISSION INSTRUCTIONS

Completed proposals must be submitted into the DOE SC Portfolio Analysis and Management System (PAMS) at <https://pamspublic.science.energy.gov>.

Important Instructions to the Sponsored Research Office of Submitting Institutions: SC requires that you create one single machine-readable PDF file that contains the DOE Title Page, Project Narrative, biographical sketch, current and pending support, bibliography and references cited, facilities and other resources, equipment, data management plan, and other attachments. This single PDF file may not be scanned from a printed document and must be uploaded in PAMS. This must be a plain PDF file consisting of text, numbers, and images *without* editable fields, signatures, passwords, redactions, or other advanced features available in some PDF-compatible software. **Do not use PDF portfolios or binders.** The Project Narrative will be read by SC staff using the full version of Adobe Acrobat application: Please ensure that the narrative is readable in Acrobat. If combining multiple files into one Project Narrative, ensure that a PDF portfolio or binder is not created. If creating PDF files using any software other than Adobe Acrobat, please use a “Print to PDF” or equivalent process to ensure that all content is visible in the Project Narrative. Once a Project Narrative has been assembled, please submit the combined Project Narrative file through a “Print to PDF” or equivalent process to ensure that all content is visible in one PDF file that can be viewed in Adobe Acrobat.

WARNING: The PAMS website at <https://pamspublic.science.energy.gov> will permit you to edit a previously submitted proposal in the time between your submission and the deadline. If you choose to edit, doing so will remove your previously submitted version from consideration. If you are still editing at the time of the deadline, you will not have a valid submission. Please pay attention to the deadline.

LETTERS

Letters from collaborators or from institutions providing access to data, models, software, equipment and/or facilities may be appended to your Project Narrative and are not considered part of the Project Narrative’s page limit. Please ensure that letters from collaborators or from

institutions providing access to data, models, software, equipment and/or facilities only describe the nature of the collaboration or the access to data, models, software, equipment and/or facilities: Letters of support or recommendation are not allowed in proposals under this Announcement.

All letters may be addressed “To Whom It May Concern:”.

Letters of collaboration for unfunded or funded collaborations should be placed in Appendix 6 (Other Attachments). Each letter of collaboration may contain two and only two sentences and must use the following format:

Dear <Principal Investigator Name>:

If your proposal entitled, “<Proposal Name>,” is selected for funding under the Announcement Name, it is my intent to collaborate in this research by <Complete Sentence with a Very Short Description of What the Collaborator Offers to Do or Provide>.

Thank you for the opportunity to participate.

Sincerely,

<Collaborator’s Name and Signature Block>

2. Abstract

The project summary/abstract is a summary of the proposed activity suitable for distribution to the public and sufficient to permit potential reviewers to identify conflicts of interest. It must be a self-contained document. The project summary/abstract must be comprised of

- The project title, the PI name and the PI’s institutional affiliation, and any coinvestigators and their institutional affiliations. This information will not count toward the abstract’s one-page limit.
- This information must be followed by a statement of the project’s objectives, a description of the project, including methods to be employed, and the potential impact of the project (i.e., benefits, outcomes).
- The description of the proposed research may not exceed one page (excluding the Intitute Name and list of investigators) when printed using standard letter-size (8.5-inch x 11-inch) paper with 1-inch margins (top, bottom, left, and right). The body text font must not be smaller than 11-point. Figures and references, if included, must fit within the one-page limit.

A sample is provided below:

Institute Name
A. Smith, Lead Institution (Insitute Director) A. Brown, Institution 2 (Co-Investigator)

A. Jones, Institution 3 (Co-Investigator)

Text of abstract (no more than one page, excluding Project Title and list of investigators)

To attach a Project Summary/Abstract, click “Add Attachment.”

If a proposal is recommended for award, the project summary will be used in preparing a public abstract about the award. Award abstracts and titles form a Government document that describes the project and justifies the expenditure of Federal funds in light of the DOE and SC mission statements at <https://energy.gov/mission> and <https://science.osti.gov/about/>.

- Do not include any proprietary or sensitive business information.
- DOE may use the abstract to prepare public reports about supported research.

3. Budget and Justification

The budget must be submitted into PAMS using the PAMS budget form.

Budgets are required for the entire project period. A budget form should be completed for each budget period of the award, and a cumulative budget form for the entire project period will be populated by PAMS. PAMS will calculate the cumulative budget totals for you.

A written justification of each budget item is to follow the budget pages. The budget justification should be placed in a separate, single pdf document and attached on the appropriate screen in PAMS. Further instructions regarding the budget and justification are given below and in the PAMS software.

While subawards are listed in PAMS as “optional,” that is because the presence of a subaward is optional. **If any subaward exists, its budgetary information is required.** The standard subaward budget form allows for a maximum of 10 subawards. If a proposal contains more than 10 subawards, please present the budgets for the eleventh and subsequent subawards in a tabular format, followed by the appropriate budget justification, as a part of the lead applicant’s budget justification.

4. Proposal

DOE TITLE PAGE
(PART OF PROJECT NARRATIVE)

The following proposal title page information may be placed on a plain page. No form is required. This cover page will not count in the Project Narrative page limitation.

- The Institute Name:
- Applicant/Institution:
- Street Address/City/State/Zip:

- Postal Address:
- Administrative Point of Contact name, telephone number, email:
- Lead PI name, telephone number, email:
- DOE National Laboratory Announcement Number:
- DOE/SC Program Office:
- DOE/SC Program Office Technical Contact:
- PAMS Preproposal tracking number:
- Institute type (CSI or AMI) as identified in Section III.A of this Announcement:

TITLE PAGE SUPPLEMENT FOR MULTI-INSTITUTIONAL PROPOSALS
(PART OF PROJECT NARRATIVE)

If the proposed team involves subawards to one or institutions, including DOE/NNSA laboratories, provide the following information on a separate page as a supplement to the title page.

- Indicate the Institute Director (lead PI) who will be the point of contact and coordinator for the combined research activity.
- List all (lead and subrecipients) institutions by name with the name of the lead (Co-PI) at each institution.
- Provide a statement explaining the leadership structure of the collaboration.
- Include a description of each institution’s facilities, equipment, and resources that will be made available to the team.
- If applicable, explain how students and early-stage researchers will be trained and mentored by senior researchers.
- Include a table modeled on the following chart providing summary budget information from all institutions. Provide the total costs of the budget request in each year for each institution and totals for all rows and columns.
- **Note the requirement of accounting for the required budget for Software Ecosystem-Aware activities as outlined in Section III under SUPPLEMENTARY INFORMATION.**

Multi-Institutional Team Information								
	Name	Institution	Year 1 Budget	Year 2 Budget	Year 3 Budget	Year 4 Budget	Year 5 Budget	Total Budget
Institute Director								
Co-PI								
Co-PI								
Co-PI								

Example budget table (\$ in thousands)

The material listed here defines the minimum acceptable information on a title page. Additional information may be provided at the applicant’s discretion.

PROJECT NARRATIVE

The Project Narrative **must not exceed a page limit of 20 pages** of technical information, including charts, graphs, maps, photographs, and other pictorial presentations, when printed using standard letter-size (8.5-inch x 11-inch) paper with 1-inch margins (top, bottom, left, and right). The body text font of all main text must not be smaller than 11-point. Merit reviewers will only consider the number of pages specified in the first sentence of this paragraph. This page limit does not apply to the Title Page, Budget Page(s), Budget Justification, biographical material, publications and references, and appendices, each of which may have its own page limit defined later in this Announcement.

Do not include any Internet addresses or uniform resource locators (URLs) that provide supplementary or additional information that constitutes a part of the proposal. Merit reviewers are not required to access Internet sites; however, Internet publications in a list of references will be treated identically to print publications. See Section IX for instructions on how to mark proprietary proposal information.

The Project Narrative comprises the research plan for the project. It should contain enough background material in the Introduction, including a brief review of the relevant literature and any prior research in this area, to demonstrate sufficient knowledge of the state of the science. A major part of the narrative should be devoted to a description and justification of the proposed project, including details of the methods to be used. It should also include a timeline for the major activities of the proposed project and should indicate which project personnel will be responsible for which activities. There should be no ambiguity about which personnel will perform which parts of the project, and the time at which these activities will take place.

The following organization of the Project Narrative is suggested:

- **Background/Introduction:** Explanation of the importance and relevance of the proposed work as well as a review of the relevant literature.
- **Project Objectives:** This section should provide a clear, concise statement of the specific objectives/aims of the proposed project.
- **Progress Report (for Renewal Proposals Only):** The Project Narrative of a renewal proposal must include a separate section that includes a description of results of the work accomplished during the current project period (since the last new or renewal award), an analysis of how the results relate to the activities proposed to be undertaken during the renewal period, and a description of any changes that affected the overall direction of the research being performed. Include an estimate of any remaining funds from the current project period at its anticipated end. Please note that this section should complement the information provided in [Appendix 9](#).
- **Proposed Research and Methods:** Identify the hypotheses to be tested (if any) and details of the methods to be used including the integration of experiments with theoretical and computational research efforts.

The Project Narrative is considered the intellectual work of the proposed researchers. Concurrent submission of the same or substantially similar narratives attributed to different researchers may

constitute academic dishonesty or research misconduct. Submission of a Project Narrative that is not the work of the proposed researchers, including machine-generated Project Narratives, may constitute academic dishonesty or research misconduct.

APPENDIX 1: BIOGRAPHICAL SKETCH

Provide a biographical sketch for the PI and each senior/key person as an appendix to your technical narrative.

- 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.

Detailed instructions may be found in Section IX of this Announcement.

WARNING: These instructions have been significantly revised to require disclosure of a variety of potential conflicts of interest or commitment, including participation in foreign government-sponsored talent recruitment programs.

The PI and each senior/key person at the prime applicant and any proposed subaward must provide a list of all sponsored activities, awards, and appointments, whether paid or unpaid; provided as a gift with terms or conditions or provided as a gift without terms or conditions; full-time, part-time, or voluntary; faculty, visiting, adjunct, or honorary; cash or in-kind; foreign or domestic; governmental or private-sector; directly supporting the individual's research or indirectly supporting the individual by supporting students, research staff, space, equipment, or other research expenses. All foreign government-sponsored talent recruitment programs must be identified in current and pending support.

APPENDIX 2: SYNERGISTIC ACTIVITIES (OPTIONAL)

In addition to biographical sketches in the Common Format, each senior/key person may provide a one-page list of no more than five distinct examples of synergistic activities that demonstrate the individual's professional and scholarly activities that focus on the integration, transfer, and creation of knowledge as related to the proposal.

- Provide the synergistic activities as an appendix to your Project Narrative.
- Do not attach a separate file.
- The synergistic activities appendix will not count in the Project Narrative page limitation.

APPENDIX 3: CURRENT AND PENDING SUPPORT

Provide a list of all current and pending support for the PI and senior/key personnel, including subawardees. Provide the Current and Pending Support as an appendix to your Project Narrative. Concurrent submission of a proposal to other organizations for simultaneous consideration will not prejudice its review.

- Do not attach a separate file.
 - This appendix will not count in the Project Narrative page limitation.
- Detailed instructions may be found in Section IX of this Announcement.

APPENDIX 4: BIBLIOGRAPHY & REFERENCES CITED

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

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

APPENDIX 5: FACILITIES & OTHER RESOURCES

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

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

APPENDIX 6: EQUIPMENT

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

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

APPENDIX 7: DATA MANAGEMENT PLAN

Provide a Data Management Plan (DMP) as an appendix to the Project Narrative.

- This appendix should not exceed a page limit of 3 pages including charts, graphs, maps, photographs, and other pictorial presentations, when printed using standard letter-size (8.5-inch x 11-inch) paper with 1-inch margins (top, bottom, left, and right)
- Do not attach a separate file.
- This appendix will not count in the Project Narrative page limitation.

The standard requirements for a DMP may be found in Section IX of this Announcement.

In addition, the DMP must specifically address:

- How FAIR (Findable, Accessible, Interoperable, and Reusable)⁴ principles will apply to the anticipated data sets, software⁵, and models⁶ to be developed.
- What developed software, data sets, and models will be made available using an “opensource” licensing arrangement, noting the Software Package Data Exchange (SPDX) identifier(s) (<https://spdx.org/licenses/>) when possible, and where deviation in this arrangement is expected from The Open Source Initiative’s “Open Source Definition” (<https://opensource.org/osd>), a specific justification must be provided.
- How best practices in scientific software development will be applied to any development activities. For more information on best practices, see Better Scientific Software (<https://bssw.io/>).

APPENDIX 8: PROMOTING INCLUSIVE AND EQUITABLE RESEARCH (PIER) PLAN

All new and renewal proposals that are not for conference support must provide a Promoting Inclusive and Equitable Research (PIER) Plan as an appendix to the Project Narrative. The PIER plan should describe the activities and strategies of the applicant to promote equity and inclusion as an integral element to advancing scientific excellence in the research project within the context of the proposing institution and any associated research group(s)⁷. Plans may include, but are not limited to: strategies for enhanced recruitment of undergraduate students, graduate students, and early-stage investigators (postdoctoral researchers, and others), including individuals from diverse backgrounds and groups historically underrepresented in the research community; strategies for creating and sustaining a positive, inclusive, safe, and professional research and training environment that fosters a sense of belonging among all research

⁴ Wilkinson, M. D. et al. The FAIR Guiding Principles for Scientific Data Management and Stewardship. *Sci. Data* 3:160018, 2016. <https://doi.org/10.1038/sdata.2016.18>

⁵ Chue Hong, N. P., Katz, D. S., Barker, M., Lamprecht, A-L, Martinez, C., Psomopoulos, F. E., Harrow, J., Castro, L. J., Gruenpeter, M., Martinez, P. A., Honeyman, T., et al. (2022). FAIR Principles for Research Software version 1.0. (FAIR4RS Principles v1.0). Research Data Alliance. DOI: <https://doi.org/10.15497/RDA00068>

⁶ Ravi, N., Chaturvedi, P., Huerta, E.A. et al. FAIR principles for AI models with a practical application for accelerated high energy diffraction microscopy. *Sci Data* 9, 657 (2022). <https://doi.org/10.1038/s41597-022-01712-9>

⁷ Please see definitions and related information at <https://science.osti.gov/SW-DEI/DOE-Diversity-Equity-and-Inclusion-Policies/Q-and-As#definitions>

personnel; and/or training, mentoring, and professional development opportunities⁸. **PIER Plans should be tailored to the research project.** While PIER Plans may incorporate or build upon existing efforts of the project key personnel or applicant institution(s) to recruit diverse participants and create inclusive research environments, plans should not be a re-statement of standard institutional policies or broad principles. The complexity and detail of a PIER Plan is expected to increase with the size of the research team and the number of personnel to be supported.

For renewal proposals only: Discuss briefly how the PIER Plan builds on or expands upon actions and accomplishments of the relevant efforts (e.g., PIER Plan or related activities) of the currently supported research.

Resources about PIER plans are available at <https://science.osti.gov/grants/Applicant-and-Awardee-Resources/PIER-Plans>. Subject to the applicable cost principles, proposals may request costs necessary for implementing the PIER Plan.

- Do not attach a separate file.
- This appendix should not exceed a page limit of 3 pages when printed using standard letter-size (8.5 -inch x 11-inch) paper with 1-inch margins (top, bottom, left, and right)
This appendix will not count in the Project Narrative page limitation

APPENDIX 9: DOE/NNSA NATIONAL LABORATORY RENEWALS

If a DOE/NNSA National Laboratory submits a proposal that seeks to extend the performance of current work being done at the Laboratory, provide a detailed listing of all publications and other products derived from the current work. The listing may be provided in any scholarly bibliographic format. The listing may be augmented by a narrative description highlighting current research achievements.

- Do not attach a separate file.
- There is no page limit for the list of publications and other products, however, any augmenting narrative description should not exceed a page limit of 3 pages when printed using standard letter-size (8.5 -inch x 11-inch) paper with 1-inch margins (top, bottom, left, and right)
- This appendix will not count in the Project Narrative page limitation.

APPENDIX 10: OTHER ATTACHMENT

If you need to elaborate on your responses to the PAMS Cover Page, please provide the Other Attachment information as an appendix to your Project Narrative. Information not easily accessible to a reviewer may be included in this appendix, but do not use this appendix to circumvent the page limitations of the proposal. Reviewers are not required to consider

⁸ Please see additional information on things to consider when developing a PIER Plan: <https://science.osti.gov/grants/Applicant-and-Awardee-Resources/PIER-Plans/Things-to-Consider-When-Developing-a-PIER-Plan>.

information in this appendix.

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

IV.C.5. Collaborator Information

Provide a listing of senior/key personnel at the applicant institution and any proposed subawards and a listing of individuals who should not serve as merit reviewers. You may also indicate suggested merit reviewers. Detailed instructions for these listings may be found in Section IX of this Announcement.

V. Submission Requirements and Deadlines

A. Address to Request Proposal Package

Proposal submission instructions are available in this Announcement on the DOE SC Portfolio Analysis and Management System (PAMS). Screenshots showing the steps in DOE National Laboratory proposal submission are available in the PAMS Help materials, accessible by navigating to <https://pamspublic.science.energy.gov> and clicking on the “PAMS Help” link.

Proposals submitted outside of PAMS will not be accepted.

B. Submission Instructions

Letters of Intent (LOIs), pre-proposals, and/or proposals must be submitted in PAMS at <https://pamspublic.science.energy.gov>. Detailed instructions for LOIs are in Section IX of this Announcement. Detailed instructions for pre-proposals are in Section IX of this Announcement. Detailed instructions for proposals are in Section IX of this Announcement.

D. Submission Dates and Times

1. Letter of Intent Due Date

Not applicable.

2. Pre-proposal Due Date

The pre-proposal due date is printed on the cover of this Announcement.

You are encouraged to submit your pre-proposal well before the deadline. Pre-proposals may be submitted at any time between the publication of this Announcement and the stated deadline.

3. Proposal Due Date

The proposal due date is printed on the cover of this Announcement.

You are encouraged to submit your proposal well before the deadline. Proposals may be submitted at any time between the publication of this Announcement and the stated deadline.

4. Late Submissions

Delays in submitting letters of intent, pre-proposals, and proposals may be unavoidable. DOE has accepted late submissions when applicants have been unable to make timely submissions because of widespread technological disruptions or significant natural disasters. DOE has made accommodations for incapacitating or life-threatening illnesses and for deaths of immediate family members. Other circumstances may or may not justify late submissions. Unacceptable justifications include the following:

- Failure to begin submission process sufficiently early.
- Failure to provide sufficient time to complete the process.
- Failure to understand the submission process.
- Failure to understand the deadlines for submissions.
- Failure to satisfy prerequisite registrations.
- Unavailability of administrative personnel.

You are responsible for beginning the submission process in sufficient time to accommodate reasonably foreseeable incidents, contingencies, and disruptions.

Applicants must contact the Program Office/Manager listed in this Announcement to discuss the option of a late submission. Contacting the Program Office/Manager after the deadline may reduce the likelihood that a request will be granted.

DOE notes that not all requests for late submission will be approved.

If a clerical error by administrative staff results in an incomplete submission of a letter of intent, pre-proposal, or proposal, an authorized institutional official may appeal to correct its error by emailing the relevant Program Manager listed in this Announcement within 48 business hours of the deadline. This grant of leniency is at DOE's sole discretion.

VI. Proposal Review Information

A. Responsiveness Review

Prior to a comprehensive merit evaluation, DOE will perform an initial review to determine that (1) the applicant is eligible for the award; (2) the information required by the Program Announcement has been submitted; (3) all mandatory requirements are satisfied; (4) the proposed project is responsive to the objectives of the Program Announcement, and (5) the proposed project is not duplicative of programmatic work. Proposals that fail to pass the initial review will not be forwarded for merit review and will be eliminated from further consideration.

B. Review Criteria

Proposals will be subjected to scientific merit review (peer review) and will be evaluated against the following criteria, listed in descending order of importance.

1. Scientific and/or Technical Merit of the Project

- Assess how the proposed Institute will support, complement or develop mechanisms to accelerate scientific discovery in areas of strategic importance to DOE, including energy-efficient computing and science at exascale.
- Has the applicant identified commonalities in multiple (and different) scientific domains for addressing computational grand challenges of strategic importance to ASCR's SciDAC Partners and other DOE communities?
- Is the Data Management Plan suitable for the proposed research? To what extent does it support the validation of research results? To what extent will research products, including data, be made available and reusable to advance the field of research?
- Does the Data Management Plan address the specific requirements the topic description
- For renewal proposals only: Is the proposed work an appropriate outgrowth of, continuation to, or successor of the currently supported research?

2. Appropriateness of the Proposed Method or Approach

- Does the proposal address the criteria outlined in the topic description to be scientific discovery-, architecture-, software ecosystem-, institutes-, and partnerships-aware in an effective way?
- Does the applicant recognize significant potential problems and consider alternative strategies?
- Assess the processes that the proposed Institute will use to leverage basic research advances from Applied Mathematics and Computer Science.
- Does the proposed Institute have an effective strategy to promote the adoption of software engineering best practices and provide basic tools to support these practices?

3. Competency of Applicant's Personnel and Adequacy of Proposed Resources

- For renewal proposals, what is the past performance and potential of the research team?
- Do the Institute Director and members have a proven record of research in the disciplines needed for success in projects of this complexity and magnitude?
- Is there any duplicative work among the primary technical topic areas of the Institute? Does the applicant identify the proposed synergistic activities and merged capabilities among different parts of the Institute?
- Does the proposed Institute have the necessary expertise to cope with the complexities of current and emerging HPC systems?
- How does the proposed research exploit existing resources or contribute new resources (e.g., algorithms, software) or would it result in a duplication of existing resources?

4. Reasonableness and Appropriateness of the Proposed Budget

- Are the proposed budget and staffing levels adequate to carry out the proposed research?
- Are the requested budget and the distribution of the funds among primary topic areas appropriate?
- How does the requested budget relate to the proposed management structure?
- Does the applicant have a process for reallocating funds to address changing priorities?
- Does the budget incorporate allocation of resources for incubation of innovative sub-activities?

5. Quality and Efficacy of the Promoting Inclusive and Equitable Research Plan

- How well integrated is the Promoting Inclusive and Equitable Research (PIER) plan with the proposed project?
- What aspects of the PIER plan are likely to contribute to the goal of creating and maintaining an equitable, inclusive, encouraging, and professional training and research environment and supporting a sense of belonging among project personnel?
- How does the proposed plan include intentional mentorship of project personnel?
- How are the proposed resources and budget for the PIER plan reasonable and appropriate?
- To what extent is the PIER plan likely to lead to participation of individuals from diverse backgrounds, including individuals historically underrepresented in the research community?
- *For renewal proposals only:* How does the proposed plan build or expand upon actions and strategies to proposals diversity and professional, inclusive research environments in the currently supported research?

6. Strength of the Management Plan

- Is there a clear lead organization, a qualified Institute Director, and a qualified Deputy Director?
- Evaluate the comprehensiveness of the management plan and the organizational structure that delineates the roles and responsibilities of the Institute members.
- Evaluate the appropriateness of the performance metrics that will allow progress and contributions to be measured over the course of the research.

- Are the management plan and the organizational structure conducive to effective communication and synergy among members in different areas and at different career levels?
- Assess the mitigation strategies of the proposed Institute for foreseeable risks and evaluate the extent to which the Institute will have sufficient flexibility to adapt to changing priorities, challenges, and resources? Does the proposal include viable plans for incubation of innovative sub-activities?
- Evaluate the proposed Institute's plans to effectively communicate and coordinate its activities to other potential SciDAC Institute(s), to past and future SciDAC Partnerships as appropriate, and to ASCR program management, and for outreach to the broader computational science community.

C. Review and Selection Process

1. Merit Review

Proposals that pass the initial review will be subjected to a formal merit review and will be evaluated based on the preceding criteria.

2. Program Policy Factors

The Selection Official may consider any of the following program policy factors in making the selection, listed in no order of significance:

- Availability of funds
- Relevance of the proposed activity to SC priorities and SciDAC goals
- Ensuring an appropriate balance of activities within SC programs
- Enhancing cohesion and synergies across the portfolio
- Performance under current awards
- Ensuring a distribution of supported researchers at various career stages
- Participation with multi-institutional teams
- Commitment to sharing the results of research
- Promoting the diversity of supported investigators
- Promoting the diversity of institutions receiving awards
- Increasing participation of institutions historically underrepresented in the SC research portfolio

3. Selection

The Selection Official will consider the findings of the merit review and may consider any of the Program Policy Factors described above.

4. Discussions and Award

The Government may enter into discussions with a selected applicant for any reason deemed

necessary. Failure to resolve satisfactorily the issues identified by the Government will preclude award to the applicant.

VII. Award Notices

A. Type of Award Instrument

DOE anticipates awarding laboratory work authorizations under this DOE National Laboratory Program Announcement.

Any awards made under this Announcement will be subject to the provisions of the contract between DOE and the awardee National Laboratory.

Multi-institutional teams may apply using a prime and subaward model with one proposal submitted by the lead institution.

B. Anticipated Timeline for Notice of Selection for Award Negotiation

DOE is interested in seeing projects supported under this Announcement begin work near the end of Fiscal Year 2025.

1. Notice of Selection for Award Negotiation

Selected Applicants Notification: DOE will notify applicants selected for award. This notice of selection is not an authorization to begin performance.

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

2. Notice of Award

A work authorization/contract modification issued by the contracting officer is the authorizing award document.

VIII. Post-Award Requirements and Administration

A. Administrative and Policy Requirements

Additional administrative and policy provisions applicable to this Announcement are included in the list below. The full text of each provision is in [Section IX](#) of this Announcement and may be accessed by navigating to the hyperlinks below:

- [1. Availability of Funds](#)
- [2. Commitment of Public Funds](#)
- [3. Digital Persistent Identifier \(PID\)](#)
- [4. Environmental, Safety and Health \(ES&H\) Performance of Work at DOE Facilities](#)
- [5. Evaluation and Administration by Non-Federal Personnel](#)
- [6. Federal, State, and Local Requirements](#)
- [7. Funding Restrictions](#)
- [8. Government Right to Reject or Negotiate](#)
- [9. Modification](#)
- [10. PDF Generation](#)
- [11. Proprietary Proposal Information](#)
- [12. Publications](#)
- [13. SC Statement of Commitment](#)
- [14. Updating Your PAMS Profile](#)

B. Reporting

Annual progress reports from the award investigator will be required and will be due 90 days before the end of each budget year.

IX. Other Information

A. Checklist for Avoiding Common Errors

Note that not all items in this checklist will apply to every submission under every Announcement.

Checklist for Avoiding Common Errors:

Item	Issue
Proposals	Submitted in PAMS. Do not submit proposals in Grants.gov or FedConnect. Do not attempt to submit a proposal unless you are affiliated with a DOE/NNSA National Laboratory.
Pre-Proposals	<ul style="list-style-type: none"> - Submit your pre-proposal in PAMS. - Do not submit your pre-proposal in Grants.gov. - Follow the instructions in Section IV for the preparation of a pre-proposal.
Page Limits	Strictly followed throughout proposal, including particular attention to: <ul style="list-style-type: none"> - Project Narrative - Data Management Plan(s) (DMPs) - Letter(s) of Recommendation, if any
Personally Identifiable Information	None present in the proposal
Project Narrative	Composed of one PDF file including all appendices
Project Summary / Abstract	Name(s) of applicant, PI(s), PI's institutional affiliation(s), Co-Investigator(s), Co-Investigator's institutional affiliation(s)
DOE Title Page	Follow instructions closely
Budget	Use current negotiated indirect cost and fringe benefit rates
Budget Justification (attached to budget)	Justify all requested costs
Biographical Sketches	Follow page limits strictly and do not include list of collaborators.
Current and Pending Support	Ensure complete listing of all activities, regardless of source of funding.
List of Individuals who Should not Serve as Merit Reviews	Provided as separate file in proposal
Data Management Plans (DMP)	<ul style="list-style-type: none"> - If referring to an experiment's DMP, describe the relationship to the proposed research - Include a DMP even if no experimental data is expected

Promoting Inclusive and Equitable Research (PIER) Plan	PIER Plans are a new requirement for new and renewal proposals.
Institutions capable of being funded through the DOE Field Work System	Do not create new institutions in the PAMS website for any DOE/NNSA National Laboratory or DOE Site. Submissions will be evaluated for technical merit, but any resulting funding, work, or awards will be made under the laboratory or site's contract with DOE. No separate financial assistance awards will be made. No administrative provisions of this Announcement will apply to the laboratory or any laboratory subcontractor.

B. How-To Guides

The how-to guides provided in this section are intended as general guidance about SC. Not all parts will be applicable to every Announcement, every proposal, or every institution.

1. How to Distinguish Between a New and Renewal Proposal

New Proposal: A proposal must be submitted as “new” in the following circumstances:

- When applying for funding to create a new research award that has not previously received DOE funding, including any funding for the current year,
- When applying for funding to support continued research from the same applicant institution as the current grant but with a significant change in fundamental nature of the research, or
- When applying for funding to support continued research supported by an existing DOE award but at a new applicant institution.

Renewal Proposal: A renewal proposal is appropriate when funds are requested for an award from the same recipient/applicant institution that has no significant changes in the following items:

- The award's senior leadership, and
- The fundamental nature of the award.

A change in an award's PI does not necessarily require submission as a new proposal: The change in personnel must be considered in light of other changes.

Renewal proposals compete for funds with all other peer-reviewed proposals and must be developed as fully as though the applicant were applying for the first time. Renewal proposals must be submitted by the same sponsoring institution as that holding the current award for which renewal funding is requested, and the proposed research topic(s) must be logical scientific extensions of the research that has been performed in the current award.

2. How Consortia May be Used

INCORPORATED CONSORTIA

Incorporated consortia are eligible to apply for funding as a prime recipient (lead organization) or subrecipient (team member).

Each incorporated consortium must have an internal governance structure and a written set of internal rules. Upon request, the consortium must provide a written description of its internal governance structure and its internal rules to the DOE contracting officer. There is no requirement that subawards be formalized into incorporated consortia.

UNINCORPORATED CONSORTIA

Unincorporated consortia (team arrangements) must designate one member of the consortium to serve as the prime recipient/consortium representative (lead organization). There is no requirement that subawards be formalized into unincorporated consortia.

Upon request, unincorporated consortia must provide the DOE contracting officer with a collaboration agreement, commonly referred to as the articles of collaboration, which sets out the rights and responsibilities of each consortium member. This agreement binds the individual consortium members together and should discuss, among other things, the consortium's:

- Management structure;
- Method of making payments to consortium members;
- Means of ensuring and overseeing members' efforts on the project;
- Provisions for members' cost sharing contributions; and
- Provisions for ownership and rights in intellectual property developed previously or under the agreement.

Note that a consortium is applied for in one proposal and results in one award with subawards to consortium members. Multi-institutional teams may, if permitted under this Announcement, submit collaborative proposals with each institution submitting its own proposal with an identical Project Narrative, resulting in multiple awards to the collaborating institutions.

3. How to Submit Letters of Intent

It is important that the LOI be a single file with extension .pdf, .docx, or .doc. The filename must not exceed 50 characters. The PI and anyone submitting on behalf of the PI must register for an account in PAMS before it will be possible to submit a letter of intent. **All PIs and those submitting LOIs on behalf of PIs are encouraged to establish PAMS accounts as soon as possible to avoid submission delays.**

Submit Your Letter of Intent:

- Create your letter of intent outside the system and save it as a file with extension .docx, .doc, or .pdf. Make a note of the location of the file on your computer so you can browse for it later from within PAMS.
- Log into PAMS and click the Proposals tab. click the "View DOE National Laboratory Announcements" link and find the current announcement in the list. Click the

“Actions/Views” link in the Options column next to this Announcement to obtain a dropdown menu. Select “Submit Letter of Intent” from the dropdown.

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

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

WARNING: The PAMS website at <https://pamspublic.science.energy.gov/> will permit you to edit a previously submitted LOI in the time between your submission and the deadline. If you choose to edit, doing so will remove your previously submitted version from consideration. If you are still editing at the time of the deadline, you will not have a valid submission. Please pay attention to the deadline.

4. How to Submit a Pre-Proposal

It is important that the pre-proposal be a single file with extension .pdf, .docx, or .doc. The filename must not exceed 50 characters. The PI and anyone submitting on behalf of the PI must register for an account in PAMS before it will be possible to submit a pre-proposal. All PIs and those submitting pre-proposals on behalf of PIs are encouraged to establish PAMS accounts as soon as possible to avoid submission delays.

Submit Your Pre-Proposals:

- Create your pre-proposal (called a preproposal in PAMS) outside the system and save it as a file with extension .docx, .doc, or .pdf. Make a note of the location of the file on your computer so you can browse for it later from within PAMS.
- Log into PAMS and click the Proposals tab. click the “View DOE National Laboratory Announcements” link and find the current announcement in the list. Click the “Actions/Views” link in the Options column next to this Announcement to obtain a dropdown menu. Select “Submit Preproposal” from the dropdown.
- On the Submit Preproposal page, select the institution from which you are submitting this preproposal from the Institution dropdown. If you are associated with only one institution in the system, there will only be one institution in the dropdown.
- Note that you must select one and only one PI per preproposal; to do so, click the “Select PI” button on the far right side of the screen. Find the appropriate PI from the list of all registered users from your institution returned by PAMS. (Hint: You may have to sort, filter, or search through the list if it has multiple pages.) Click the “Actions” link in the Options column next to the appropriate PI to obtain a dropdown menu. From the dropdown, choose “Select PI.”
- If the PI for whom you are submitting does not appear on the list, it means he or she has not yet registered in PAMS. For your convenience, you may have PAMS send an email invitation to the PI to register in PAMS. To do so, click the “Invite PI” link at the top left of the “Select PI” screen. You can enter an optional personal message to the PI in the “Comments” box, and it will be included in the email sent by PAMS to the PI. You must wait until the PI registers before you can submit the preproposal. Save the preproposal for later work by clicking the “Save” button at the bottom of the screen. It will be stored in “My Preproposals” for later editing.
- Enter a title for your preproposal.
- Select the appropriate technical contact from the Program Manager dropdown.
- To upload the preproposal file into PAMS, click the “Attach File” button at the far right side of the screen. Click the “Browse” (or “Choose File” depending on your browser) button to search for your file. You may enter an optional description of the file you are attaching. Click the “Upload” button to upload the file.
- At the bottom of the screen, click the “Submit to DOE” button to save and submit the preproposal to DOE.
- Upon submission, the PI will receive an email from the PAMS system <PAMS.Autoreply@science.doe.gov> acknowledging receipt of the preproposal.

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

WARNING: The PAMS website at <https://pamspublic.science.energy.gov> will permit you to edit a previously submitted pre-proposal in the time between your submission and the deadline. If you choose to edit, doing so will remove your previously submitted version from consideration. If you are still editing at the time of the deadline, you will not have a valid submission. Please pay attention to the deadline.

5. How to Prepare and Submit a Proposal

SUBMITTING A PROPOSAL

The following information is provided to help with proposal submission. Detailed instructions and screen shots can be found in the PAMS Help materials, accessible by clicking the “PAMS Help” link on the PAMS home page. Onscreen instructions are available within PAMS.

- Log into PAMS. From the proposals tab, click the “View DOE National Laboratory Announcements” link and find the current announcement in the list. Click the “Actions/Views” link in the Options column next to this Announcement to obtain a dropdown menu. Select “Submit Proposal” from the dropdown.
- Note that you must select one and only one Principal Investigator (PI) per proposal; to do so, click the “Select PI” button on the far right side of the screen. Find the appropriate PI from the list of all registered users from your institution returned by PAMS. (Hint: You may have to sort, filter, or search through the list if it has multiple pages.) Click the “Actions” link in the Options column next to the appropriate PI to obtain a dropdown menu. From the dropdown, choose “Select PI.”
- If the PI for whom you are submitting does not appear on the list, it means he or she has not yet registered in PAMS. For your convenience, you may have PAMS send an email invitation to the PI to register in PAMS. To do so, click the “Invite PI” link at the top left of the “Select PI” screen. You can enter an optional personal message to the PI in the “Comments” box, and it will be included in the email sent by PAMS to the PI. You must wait until the PI registers before you can submit the proposal. Save the proposal for later work by selecting “Save” from the dropdown at the bottom of the screen and then clicking the “Go” button. It will be stored in “My Proposals” for later editing. As a minimum, you must complete all the required fields on the PAMS cover page before you can save the proposal for the first time.
- The cover page, budget, and attachments sections of the lab proposal are required by PAMS before it can be submitted to DOE.
- Complete the sections in PAMS one at a time, starting with the cover page and following the instructions for each section.
- Click the “+View More” link at the top of each section to expand the onscreen instructions. On the budget section, click the “Budget Tab Instructions” link to obtain detailed guidance on completing the budget form.
- Save each section by selecting either “Save” (to stay in the same section) or “Save... and Continue to the Next Section” (to move to the next section) from the dropdown menu at the bottom of the screen, followed by clicking the “Go” button.
- If you save the proposal and navigate away from it, you may return later to edit the proposal by clicking the “View My Existing Proposals” or “My Proposals” links within PAMS.
- You must enter a budget for each annual budget period.
- You must also enter a budget for each proposed sub-award. The sub-award section can be completed using the same steps used for the budget section.
- In the attachments section of the lab proposal, the abstract, the budget justification, and the proposal narrative are required and must be submitted as separate files.

- You must bundle everything other than the budget, abstract, and budget justification into one single PDF file to be attached under “Proposal Attachment.”
- Do not attach anything under “Other Attachments.”
- To upload a file into PAMS, click the “Attach File” button at the far right side of the screen. Click the “Browse” (or "Choose File" depending on your browser) button to search for your file. You may enter an optional description of the file you are attaching. Click the “Upload” button to upload the file.
- Once you have saved all of the sections, the “Submit to DOE” option will appear in the dropdown menu at the bottom of the screen.
- To submit the proposal, select “Submit to DOE” from the dropdown menu and then click the “Go” button.
- Upon submission, the PI will receive an email from the PAMS system <PAMS.Autoreply@science.doe.gov> acknowledging receipt of the proposal.
- The proposal will also appear under My Proposals with a Proposal Status of “Submitted to DOE.”

Please only submit a PAMS lab technical proposal in response to this Announcement; do not submit a DOE Field Work Proposal (FWP) at this time. SC will request FWPs later from those selected for funding consideration under this Announcement.

PROPOSAL PREPARATION

All files submitted a part of a proposal must be PDF files unless otherwise specified in this Announcement. Attached PDF files must be plain files consisting of text, numbers, and images without editable fields, signatures, passwords, redactions, or other advanced features available in some PDF-compatible software. Do not use PDF portfolios or binders.

Please note the following restrictions that apply to the names of all files attached to your proposal:

- Please limit file names to 50 or fewer characters
- Do not attach any documents with the same name. All attachments must have a unique name.
- Please use only the following characters when naming your attachments: A-Z, a-z, 0-9, underscore, hyphen, space, period, parenthesis, curly braces, square brackets, ampersand, tilde, exclamation point, comma, semi colon, apostrophe, at sign, number sign, dollar sign, percent sign, plus sign, and equal sign. Attachments that do not follow this rule may cause the entire proposal to be rejected or cause issues during processing.

RESUBMISSION OF PROPOSALS

Proposals submitted under this announcement may be withdrawn from consideration by using the PAMS website at <https://pamspublic.science.energy.gov>. Proposals may be withdrawn at any time between when the applicant submits the proposal and when DOE makes the proposal available to merit reviewers. Such withdrawals take effect immediately and cannot be reversed. Please exercise due caution. After the proposal is made available to merit reviewers, the applicant may contact the DOE program office identified in this Announcement to request that it

be withdrawn.

After a proposal is withdrawn, it may be resubmitted, if this Announcement is still open for the submission of proposals. Such resubmissions will only count as one submission if this Announcement restricts the number of proposals from an applicant.

IMPROPER CONTENTS OF PROPOSALS

Proposals submitted under this Announcement will be stored in controlled-access systems, but they may be made publicly available if an award is made. As such, it is critical that applicants follow these guidelines:

- Do not include information subject to any legal restriction on its open distribution, whether classified, export control, or unclassified controlled nuclear information.
- Do not include sensitive and protected personally identifiable information, including social security numbers, birthdates, citizenship, marital status, or home addresses. Pay particular attention to the content of biographical sketches and curriculum vitae.
- Do not include letters of support from Federal officials.
- Do not include letters of support on Federal letterhead. Letters that are not letters of support (such as letters confirming access to sites, facilities, equipment, or data; or letters from cognizant contracting officers) may be on Federal letterhead.
- Clearly mark all proprietary or trade-secret information.

6. How to Prepare a Biographical Sketch

A biographical sketch is to provide information that can be used by reviewers to evaluate the PI's potential for leadership within the scientific community. Examples of information of interest are invited and/or public lectures, awards received, scientific program committees, conference or workshop organization, professional society activities, special international or industrial partnerships, reviewing or editorship activities, or other scientific leadership experiences.

SC requires the use of the format approved by the National Science Foundation (NSF), which may be generated by the Science Experts Network Curriculum Vitae (SciENCv), a cooperative venture maintained at <https://www.ncbi.nlm.nih.gov/sciencv/>. The fillable PDFs provided by the National Science Foundation are no longer available. SciENCv has been updated to meet the interagency common format biographical sketches.

The biographical information (curriculum vitae) must include the following items within its page limit:

- **Education and Training:** Undergraduate, graduate and postdoctoral training, provide institution, major/area, degree and year.
- **Research and Professional Experience:** Beginning with the current position, list professional/academic positions in chronological order with a brief description. List all current academic, professional or institutional appointments, foreign or domestic, at the applicant institution or elsewhere, whether remuneration is received, and, whether full-time, part-time, or voluntary.
- **Publications:** Provide a list of up to 10 publications most closely related to the proposed

project. For each publication, identify the names of all authors (in the same sequence in which they appear in the publication), the article title, book or journal title, volume number, page numbers, year of publication, and website address if available electronically. Patents, copyrights and software systems developed may be provided in addition to or substituted for publications. An abbreviated style such as the Physical Review Letters (PRL) convention for citations (list only the first author) may be used for publications with more than 10 authors.

Do not attach a listing of individuals who should not be used as merit reviewers: This information is no longer collected as part of a biographical sketch.

SC strongly recommends the use of SciENcv to reduce administrative burden by allowing the use of digital persistent identifiers, including the Open Researcher and Contributor ID (ORCID). If not using SciENcv, append the following signed and dated certification to a biographical sketch:

I, [Full Name and Title], certify to the best of my knowledge and belief that the information contained in this Current and Pending Support Disclosure Statement is true, complete, and accurate. I understand that any false, fictitious, or fraudulent information, misrepresentations, half-truths, or omissions of any material fact, may subject me to criminal, civil or administrative penalties for fraud, false statements, false claims or otherwise. (18 U.S.C. §§ 1001 and 287, and 31 U.S.C. 3729-3733 and 3801-3812). I further understand and agree that (1) the statements and representations made herein are material to DOE's funding decision, and (2) I have a responsibility to update the disclosures during the period of performance of the award should circumstances change which impact the responses provided above.

Personally Identifiable Information: Do not include sensitive and protected personally identifiable information including social security numbers, birthdates, citizenship, marital status, or home addresses. Do not include information that a merit reviewer should not make use of.

7. How to Prepare a List of Individuals Who Should Not Serve as Reviewers

To assist in identifying individuals who should not serve as merit reviews, provide the following information for each and every senior/key person who is planned to be or is identified in Section A of the proposal budget for the applicant and any proposed subrecipients:

- Advisees (graduate students or postdocs) of the senior/key person
- Advisors of the senior/key person while a graduate student or a postdoc
- Close associates of the senior/key person over the past 48 months
- Co-authors of the senior/key person over the past 48 months
- Co-editors of the senior/key person over the past 48 months
- Co-investigators of the senior/key person over the past 48 months
- Collaborators of the senior/key person over the past 48 months

Do not identify any personnel at the applicant institution or any proposed subrecipient or team institution: Those personnel are prohibited from serving as merit reviewers.

Large collaborations of 10 or more researchers do not require that all collaborators be identified: rather, only list the researchers with whom the senior/key person actually collaborated.

For all identified individuals, provide the following information:

- The senior/key person to whom the individual was an advisee, advisor, close associate, co-author, co-editor, co-investigator, or collaborator, identified by first name and last name
- The individual's first (given) name
- The individual's last (family) name
- The individual's Open Researcher and Contributor ID (ORCID), if known
- The individual's institutional affiliation spelling out acronyms (For joint appointments, separate each institution with a slash ("/"). Do not list departmental affiliations.)
- The reason for listing the individual (advisee, advisor, close associate, co-author, co-editor, co-investigator, collaborator)
- The year when the individual last was a close associate, co-author, co-editor, co-investigator, or collaborator

You may also provide a list of all senior/key personnel who are planned to be or are identified in Section A of the proposal budget for the applicant and any proposed subrecipients.

The lists do not need to be sorted in any method.

The lists must be submitted in tabular format, preferably as Microsoft Excel (.xls or .xlsx) files.

For your convenience, a template is available at <https://science.osti.gov/grants/Policy-and-Guidance/Agreement-Forms>. If using the template:

- Do not add tabs to the spreadsheet
- Do not merge the existing tabs
- Do not remove headers
- Fill out the requested headers on both tabs with the same information
- Ensure that given and family names are presented in the correct columns

8. How to Prepare Current and Pending Support

<p>WARNING: These instructions have been significantly revised to require disclosure of a variety of potential conflicts of interest or commitment, including participation in foreign government-sponsored talent recruitment programs.</p>

Current and Pending support is intended to allow the identification of potential duplication, overcommitment, potential conflicts of interest or commitment, and all other sources of support. The PI and each senior/key person at the prime applicant and any proposed subaward must provide a list of all sponsored activities, awards, and appointments, whether paid or unpaid; provided as a gift with terms or conditions or provided as a gift without terms or conditions; full-time, part-time, or voluntary; faculty, visiting, adjunct, or honorary; cash or in-kind; foreign or domestic; governmental or private-sector; directly supporting the individual's research or indirectly supporting the individual by supporting students, research staff, space, equipment, or

other research expenses. Include the current application and any application submitted to any source of funding in a list of current and pending support. All sources of support must be disclosed, but for work that is subject to government classification or enforceable non-disclosure agreements, the general area of the research should be described without disclosing sensitive details and the sponsor should be listed as “Government Agency” or “private sponsor.” All foreign government-sponsored talent recruitment programs must be identified in current and pending support.

SC requires the use of the format approved by the National Science Foundation (NSF), which may be generated by the Science Experts Network Curriculum Vitae (SciENCv), a cooperative venture maintained at <https://www.ncbi.nlm.nih.gov/sciencv/>. The fillable PDFs provided by the National Science Foundation are no longer available. SciENCv has been updated to meet the interagency common format for current and pending support.

For every activity, list the following items:

- The sponsor of the activity or the source of funding.
- The award or other identifying number.
- The title of the award or activity. If the title of the award or activity is not descriptive, add a brief description of the research being performed that would identify any overlaps or synergies with the proposed research.
- The total cost or value of the award or activity, including direct and indirect costs. For pending proposals, provide the total amount of requested funding.
- The award period (start date – end date).
- The person-months of effort per year being dedicated to the award or activity.

If required to identify overlap, duplication of effort, or synergistic efforts, append a description of the other award or activity to the current and pending support.

SC strongly recommends the use of SciENCv to reduce administrative burden by allowing the use of digital persistent identifiers, including the Open Researcher and Contributor ID (ORCID). If not using SciENCv, append the following signed and dated certification to current and pending support:

I, [Full Name and Title], certify to the best of my knowledge and belief that the information contained in this Current and Pending Support Disclosure Statement is true, complete, and accurate. I understand that any false, fictitious, or fraudulent information, misrepresentations, half-truths, or omissions of any material fact, may subject me to criminal, civil or administrative penalties for fraud, false statements, false claims or otherwise. (18 U.S.C. §§ 1001 and 287, and 31 U.S.C. 3729-3733 and 3801-3812). I further understand and agree that (1) the statements and representations made herein are material to DOE’s funding decision, and (2) I have a responsibility to update the disclosures during the period of performance of the award should circumstances change which impact the responses provided above.

Details of any obligations, contractual or otherwise, to any program, entity, or organization sponsored by a foreign government must be provided on request to either the applicant institution

or DOE.

9. How to Prepare a Data Management Plan

In general, a DMP should address the following requirements:

1. DMPs should describe whether and how data generated in the course of the proposed research will be shared and preserved. If the plan is not to share and/or preserve certain data, then the plan must explain the basis of the decision (for example, cost/benefit considerations, other parameters of feasibility, scientific appropriateness, or limitations discussed in #4). At a minimum, DMPs must describe how data sharing and preservation will enable validation of results, or how results could be validated if data are not shared or preserved.
2. DMPs should provide a plan for making all research data displayed in publications resulting from the proposed research open, machine-readable, and digitally accessible to the public at the time of publication. This includes data that are displayed in charts, figures, images, etc. In addition, the underlying digital research data used to generate the displayed data should be made as accessible as possible to the public in accordance with the principles stated in the Office of Science Statement on Digital Data Management (<https://science.osti.gov/funding-opportunities/digital-data-management>). This requirement could be met by including the data as supplementary information to the published article, or through other means. The published article should indicate how these data can be accessed.
3. DMPs should consult and reference available information about data management resources to be used in the course of the proposed research. In particular, DMPs that explicitly or implicitly commit data management resources at a facility beyond what is conventionally made available to approved users should be accompanied by written approval from that facility. In determining the resources available for data management at Office of Science User Facilities, researchers should consult the published description of data management resources and practices at that facility and reference it in the DMP. Information about other Office of Science facilities can be found at <https://science.osti.gov/user-facilities/>.
4. DMPs must protect confidentiality, personal privacy, Personally Identifiable Information, and U.S. national, homeland, and economic security; recognize proprietary interests, business confidential information, and intellectual property rights; avoid significant negative impact on innovation, and U.S. competitiveness; and otherwise be consistent with all applicable laws, and regulations. There is no requirement to share proprietary data.

DMPs will be reviewed as part of the overall SC research proposal merit review process.

Applicants are encouraged to consult the SC website for further information and suggestions for how to structure a DMP: <https://science.osti.gov/funding-opportunities/digital-data-management>

10. How to Prepare a Budget and Justification

The following advice will improve the accuracy of your budget request:

- Funds requested for personnel (senior, key, and other) must be justified as the product of their effort on the project and their institutional base salary.
- Funds requested for fringe benefits must be calculated as the product of the requested salary and, if present, the negotiated fringe benefit rate contained in an institution's negotiated indirect cost rate agreement.

- Funds requested for indirect costs must be calculated using the correct indirect cost base and the negotiated indirect cost rate.
- You are encouraged to include the rate agreement used in preparing a budget as a part of the budget justification.
- Do not prepare a budget justification using the expired DOE form F4260.1.

Please provide the total funding requested across all budget fields to support the implementation of the project [PIER Plan](#).

Budget Fields

Section A Senior/Key Person	For each Senior/Key Person, enter the requested information. List personnel, base salary, the number of months that person will be allocated to the project, requested salary, fringe benefits, and the total funds requested for each person. The requested salary must be the product of the base salary and the effort. Include a written narrative in the budget justification that justifies the need for requested personnel. Within the justification, explain the fringe benefit rate used if it is not the standard faculty rate.
Section B Other Personnel	List personnel, the number of months that person will be allocated to the project, requested salary fringe benefits, and the total funds requested for each person. Include a written narrative in the budget justification that fully justifies the need for requested personnel. Within the justification, provide the number of positions being filled in each category of other personnel.
Section C Equipment	For the purpose of this budget, equipment is designated as an item of property that has an acquisition cost of \$5,000 or more and an expected service life of more than one year, unless a different threshold is specified in a negotiated Facilities and Administrative Cost Rate. (Note that this designation applies for proposal budgeting only and differs from the DOE definition of capital equipment.) List each item of equipment separately and justify each in the budget justification section. Do not aggregate items of equipment. Allowable items ordinarily will be limited to research equipment and apparatus not already available for the conduct of the work. General-purpose office equipment is not eligible for support unless primarily or exclusively used in the actual conduct of scientific research.
Section D Travel	For purposes of this section only, travel to Canada or to Mexico is considered domestic travel. In the budget justification, list each trip's destination, dates, estimated costs including transportation and subsistence, number of staff traveling, the purpose of the travel, and how it relates to the project. Indicate the basis for the cost estimate (quotes from vendors or suppliers, past experience of similar items, or some other basis). To qualify for support, attendance at meetings or conferences must enhance the investigator's capability to perform the research, plan extensions of it, or disseminate its results. Domestic

	<p>travel is to be justified separately from foreign travel. Within the budget justification, detail the number of personnel planning to travel and the estimated per-traveler cost for each trip.</p>
<p>Section E Participant/Trainee Support Costs</p>	<p>If applicable, submit training support costs. Educational projects that intend to support trainees (precollege, college, graduate and post graduate) must list each trainee cost that includes stipend levels and amounts, cost of tuition for each trainee, cost of any travel (provide the same information as needed under the regular travel category), and costs for any related training expenses. Participant costs are those costs associated with conferences, workshops, symposia or institutes and breakout items should indicate the number of participants, cost for each participant, purpose of the conference, dates and places of meetings and any related administrative expenses.</p> <p>Indicate the basis for the cost estimate (quotes from vendors or suppliers, past experience of similar items, or some other basis).</p>
<p>Section F Other Direct Costs</p>	<ul style="list-style-type: none"> • Materials and Supplies: Enter total funds requested for materials and supplies in the appropriate fields. In the budget justification, indicate general categories such as glassware, and chemicals, including an amount for each category (items not identified under “Equipment”). Categories less than \$1,000 are not required to be itemized. Indicate the basis for the cost estimate (quotes from vendors or suppliers, past experience of similar items, or some other basis). • Publication Costs: Enter the total publication funds requested. The proposal budget may request funds for the costs of documenting, preparing, publishing or otherwise making available to others the findings and products of the work conducted under the award. In the budget justification, include supporting information. Indicate the basis for the cost estimate (quotes from vendors or suppliers, past experience of similar items, or some other basis). • Consultant Services: Enter total funds requested for all consultant services. In the budget justification, identify each consultant, the services he/she will perform, total number of days, travel costs, and total estimated costs. Indicate the basis for the cost estimate (quotes from vendors or suppliers, past experience of similar items, or some other basis). • ADP/Computer Services: Enter total funds requested for ADP/Computer Services. The cost of computer services, including computer-based retrieval of scientific, technical and education information may be requested. In the budget justification, include the established computer service rates at the proposing organization if applicable. Indicate the basis for the cost estimate (quotes from vendors or suppliers, past experience of similar items, or some other basis). • Subawards/Consortium/Contractual Costs: Enter total costs

	<p>for all subawards/consortium organizations and other contractual costs proposed for the project. In the budget justification, justify the details.</p> <ul style="list-style-type: none"> • Equipment or Facility Rental/User Fees: Enter total funds requested for Equipment or Facility Rental/User Fees. In the budget justification, identify each rental/user fee and justify. Indicate the basis for the cost estimate (quotes from vendors or suppliers, past experience of similar items, or some other basis). • Alterations and Renovations: Enter total funds requested for Alterations and Renovations. In the budget justification, itemize by category and justify the costs of alterations and renovations, including repairs, painting, removal or installation of partitions, shielding, or air conditioning. Where applicable, provide the square footage and costs. • Other: Add text to describe any other Direct Costs not requested above. Enter costs associated with “Other” item(s). Use the budget justification to further itemize and justify.
Section G Direct Costs	This represents Total Direct Costs (Sections A through F). PAMS will automatically calculate this.
Section H Other Indirect Costs	Enter the Indirect Cost information, including the rates and bases being used, for each field. Only four general categories of indirect costs are allowed/requested on this form, so please consolidate if needed. Include the cognizant Federal agency and contact information if using a negotiated rate agreement. Within the budget justification, explain the use of multiple rates, if multiple rates are used.
Section I Total Direct and Indirect Costs	This is the total of Sections G and H. PAMS will automatically calculate this.

11. How to Register in PAMS

You must register in PAMS to submit a pre-proposal, letter of intent, or DOE national laboratory proposal.

Notifications sent from the PAMS system will come from the PAMS email address <PAMS.Autoreply@science.doe.gov>. Please make sure your email server/software allows delivery of emails from the PAMS email address to yours.

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

CREATE PAMS ACCOUNT:

To register, click the “Create New PAMS Account” link on the website <https://pamspublic.science.energy.gov/>.

- Click the “No, I have never had an account” link and then the “Create Account” button.

- You will be prompted to enter your name and email address, create a username and password, and select a security question and answer. Once you have done this, click the “Save and Continue” button.
- On the next page, enter the required information (at least one phone number and your mailing address) and any optional information you wish to provide (e.g., FAX number, website, mailstop code, additional email addresses or phone numbers, Division/Department). Click the “Create Account” button.
- Read the user agreement and click the “Accept” button to indicate that you understand your responsibilities and agree to comply with the rules of behavior for PAMS.
- PAMS will take you to the “Having Trouble Logging In?” page. (If you have been an SC merit reviewer or if you have previously submitted a proposal, you may already be linked to an institution in PAMS. If this happens, you will be taken to the PAMS home page.)

REGISTER TO YOUR INSTITUTION:

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

For help with PAMS, click the “PAMS Help” link on the PAMS website, <https://pamspublic.science.energy.gov/>. You may also contact the PAMS Help Desk, which can be reached Monday through Friday, 9AM – 5:30 PM Eastern Time. Telephone: (855) 818-1846 (toll free) or (301) 903-9610, email: sc.pams-helpdesk@science.doe.gov. All submission and inquiries about this Announcement should reference the number printed on the cover page.

12. How to View Proposals in PAMS

Upon submission, the PI will receive an email from the PAMS system <PAMS.Autoreply@science.doe.gov> acknowledging receipt of the proposal.

Upon submission, the proposal will appear under My Proposals for the PI and the Submitter with a Proposal Status of “Submitted to DOE.”

C. Administrative and Policy Requirements

1. Availability of Funds

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

2. 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.

3. Digital Persistent Identifier (PID)

Covered individuals⁹ listed on proposals must provide a digital persistent identifier (PID) in the common Biographical Sketch and Current and Pending (Other) Support forms as part of the proposal. Included PIDs must meet the common/core standards specified in the [NSPM-33 Implementation Guidance](#) or successor guidance (e.g., an [ORCID iD](#)). The inclusion of an individual’s PID will be optional until May 1, 2025, and mandatory thereafter.

4. Environmental, Safety and Health (ES&H) Performance of Work at DOE Facilities

With respect to the performance of any portion of the work under this award which is performed at a DOE-owned or controlled site, the recipient agrees to comply with all state and Federal ES&H regulations, and with all other ES&H requirements of the operator of such site.

Prior to the performance on any work at a DOE-Owned or controlled site, the recipient shall contact the site facility manager for information on DOE and site specific ES&H requirements.

The recipient shall apply this provision to all subawardees at any tier.

⁹ Covered Individual has the same meaning as in the [Research Security Training Requirement](#) provision.

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

6. Federal, State, and Local Requirements

With respect to the performance of any portion of the work under this award, the recipient agrees to comply with all applicable local, state, and Federal ES&H regulations. The recipient shall apply this provision to all sub awardees at any tier.

7. Funding Restrictions

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

8. Government Right to Reject or Negotiate

DOE reserves the right, without qualification, to reject any or all proposals received in response to this DOE National Laboratory Announcement and to select any proposal, in whole or in part, as a basis for negotiation and/or award.

9. Modification

Notices of any modifications to this DOE National Laboratory Announcement will be posted on the Grants and Contracts website (<http://science.osti.gov/grants/>).

10. PDF Generation

The Project Narrative in a proposal must be one single machine-readable PDF file that contains the DOE Title Page, Project Narrative, all required appendices, and other attachments. This single PDF file may not be scanned from a printed document and must be uploaded in PAMS. This must be a plain PDF file consisting of text, numbers, and images without editable fields, signatures, passwords, redactions, or other advanced features available in some PDF-compatible software. The Project Narrative will be read by SC staff using the full version of Adobe Acrobat: Please ensure that the narrative is readable in Acrobat. If combining multiple files into one Project Narrative, ensure that a PDF portfolio or binder is not created. If creating PDF files using any software other than Adobe Acrobat, please use a “Print to PDF” or equivalent process to ensure that all content is visible in the Project Narrative. Once a Project Narrative has been assembled, please submit the combined Project Narrative file through a “Print to PDF” or equivalent process to ensure that all content is visible in one PDF file that can be viewed in

Adobe Acrobat. Review your submission to ensure that blank pages are not present.

11. Proprietary Proposal Information

Department of Energy (DOE) takes very seriously the confidentiality of all applicants and will treat information submitted in proposals, as well as the identity of applicants, as confidential to the fullest extent permissible under Federal law. In order for DOE to protect confidential information, the applicant must also treat the information as confidential and properly mark it as described below. DOE will not be able to protect information that the applicant has released publicly or is in the public domain. For additional information on DOE's Freedom of Information Act (FOIA) regulations, see 10 CFR 1004.

Applicants should not include business sensitive information (e.g., commercial or financial information that is privileged or confidential), trade secrets, proprietary, or otherwise confidential information in their proposal unless such information is necessary to convey an understanding of the proposed project or to comply with a requirement in the Announcement. Applicants are advised to not include any critically sensitive proprietary detail.

If a proposal includes trade secrets or information that is commercial or financial, or information that is confidential or privileged, it is furnished to the Government in confidence with the understanding that the information shall be used or disclosed only for evaluation of the proposal. Such information will be withheld from public disclosure to the extent permitted by law, including the FOIA. Without assuming any liability for inadvertent disclosure, DOE will seek to limit disclosure of such information to its employees and to outside reviewers when necessary for merit review of the proposal or as otherwise authorized by law. This restriction does not limit the Government's right to use the information if it is obtained from another source.

Proposals and other submissions containing confidential, proprietary, or privileged information must be marked as described below. Failure to comply with these marking requirements may result in the disclosure of the unmarked information under the FOIA or otherwise. The U.S. Government is not liable for the disclosure or use of unmarked information and may use or disclose such information for any purpose.

The cover sheet of the Proposal and other submission must be marked as follows and identify the specific pages containing trade secrets, confidential, proprietary, or privileged information:

Notice of Restriction on Disclosure and Use of Data:

Pages [list applicable pages] of this document may contain trade secrets, confidential, proprietary, or privileged information that is exempt from public disclosure. Such information shall be used or disclosed only for evaluation purposes or in accordance with a financial assistance or loan agreement between the submitter and the Government. The Government may use or disclose any information that is not appropriately marked or otherwise restricted, regardless of source. [End of Notice]

The header and footer of every page that contains confidential, proprietary, or privileged

information must be marked as follows: “Contains Trade Secrets, Confidential, Proprietary, or Privileged Information Exempt from Public Disclosure.” In addition, each line or paragraph containing proprietary, privileged, or trade secret information must be clearly marked with double brackets or highlighting.

IMPORTANT GUIDANCE FOR COMPANY SUBMITTERS:

As per DOE’s FOIA regulations and Department of Justice FOIA guidance, if DOE receives a FOIA request the following general steps will be taken:

1. DOE will review the request to determine whether your company’s information is subject to the request. Only federal records are subject to FOIA requests. Depending on the circumstances, information submitted by an outside entity may be considered “federal records” for purposes of FOIA.
2. If your company information is determined to be a federal record and responsive to a FOIA request, DOE will review what was submitted in order to determine if DOE can make a determination whether the information is legally exempt.
 - a. If DOE determines your information is fully exempt under an exemption and that it will not be released, DOE may not contact you.
 - b. If DOE is unable to determine whether the information is exempt under an exemption or is planning on releasing some or all of your information, DOE will first contact you in order for you to have an opportunity to respond and provide additional justification as to why it may be exempt. DOE will do all that it can to work with company submitters to be in compliance with the law and maintain positive relations with company submitters.
 - c. It is critical if DOE or DOE’s contractors who are processing your FOIA contact you that you respond in a timely manner. DOE is under strict deadlines when processing a FOIA request.

12. Publications

Researchers are expected to publish or otherwise make publicly available the results of the work conducted under any authorization resulting from this Announcement. Publications and other methods of public communication describing any work based on or developed under an authorization resulting from this Announcement must contain an acknowledgment of SC support. The format for such acknowledgments is provided at <https://science.osti.gov/funding-opportunities/acknowledgements/>. The author’s copy of any peer-reviewed manuscript accepted for funding must be announced to DOE’s Office of Scientific and Technical Information (OSTI) and made publicly available in accordance with the Laboratory’s contract.

13. SC Statement of Commitment

The DOE SC is fully and unconditionally committed to fostering safe, diverse, equitable, and inclusive work, research, and funding environments that value mutual respect and personal integrity. SC is committed to advancing belonging, accessibility, justice, equity, diversity, and inclusion across the portfolio of activities we sponsor. SC’s effective stewardship and promotion of safe, accessible, diverse, and inclusive workplaces that value and celebrate the diversity of

people, ideas, cultures, and educational backgrounds across the country and that foster a sense of belonging in our scientific community is foundational to delivering on our mission. We are committed to promoting people from all backgrounds, including individuals and communities that were historically underrepresented and minoritized in science, technology, engineering, and math (STEM) fields and the activities we sponsor in recognition of our responsibility to serve the public. We also recognize that harnessing a broad range of views, expertise, and experiences drives scientific and technological innovation and enables the SC community to push the frontiers of scientific knowledge for U.S. prosperity and security. Discrimination and harassment undermine SC's ability to achieve its mission by reducing productivity, discouraging, or inhibiting talent retention and career advancement, and weakening the integrity of the SC enterprise overall. SC does not tolerate discrimination or harassment of any kind, including sexual or non-sexual harassment, bullying, intimidation, violence, threats of violence, retaliation, or other disruptive behavior at institutions receiving SC funding or other locations where activities funded by SC are carried out. All applicants and collaborators should familiarize themselves with the SC Statement of Commitment available at <https://science.osti.gov/SW-DEI/SC-Statement-of-Commitment>.

14. Updating Your PAMS Profile

All applicants are encouraged to update their profiles in the PAMS website at <https://pamspublic.science.energy.gov> regularly, at least annually, to ensure SC has your most up to date information. The PAMS profile now requires that individuals provide responses to the demographic related fields. SC strongly encourages personnel at applicant and awardee institutions, including Principal Investigators (PIs), Co-PIs, and other Key Personnel, to provide their demographic information. By providing your demographic information, you are assisting with SC's continued commitment to advancing diversity, equity, and inclusion in its business practices. Alternatively, for information you wish not to disclose, please select, "Do not wish to provide." Your individual demographic information will not be shared with peer reviewers and the information in your PAMS profile is protected by the requirements established in the Federal Privacy Act of 1974. Aggregate, anonymized demographic information may be shared with confidential review committees who are charged to evaluate the quality and efficacy of SC's business practices. For example, summary statistics of all applicants to or award selections from a particular SC Announcement may be reviewed by a Committee of Visitors.