

U.S. DEPARTMENT OF
ENERGY

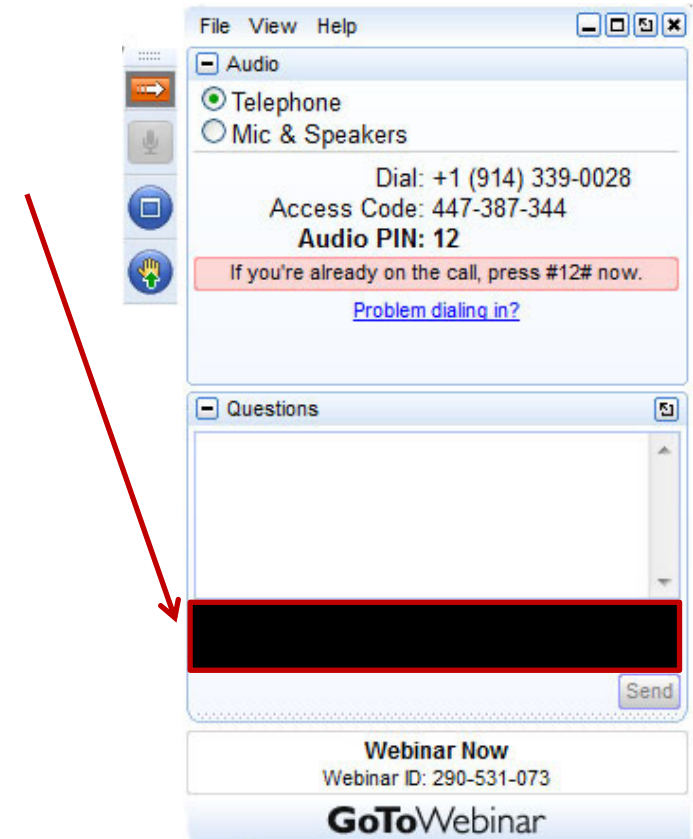
Office of
NUCLEAR ENERGY

FY 2023 CINR FOA DE-FOA-0002732

**Informational Webinar
August 9-11, 2022**

How to Ask Questions During the Webinar

- Submit questions using the GoToWebinar software by typing in the Webinar ID field.
- Questions that do **not** get answered during the allotted time will be answered and posted on www.NEUP.gov.
- Specific questions on individual eligibility or work scope detail should be addressed offline.



Outline

FY 2022 Outcomes

RFI Overview

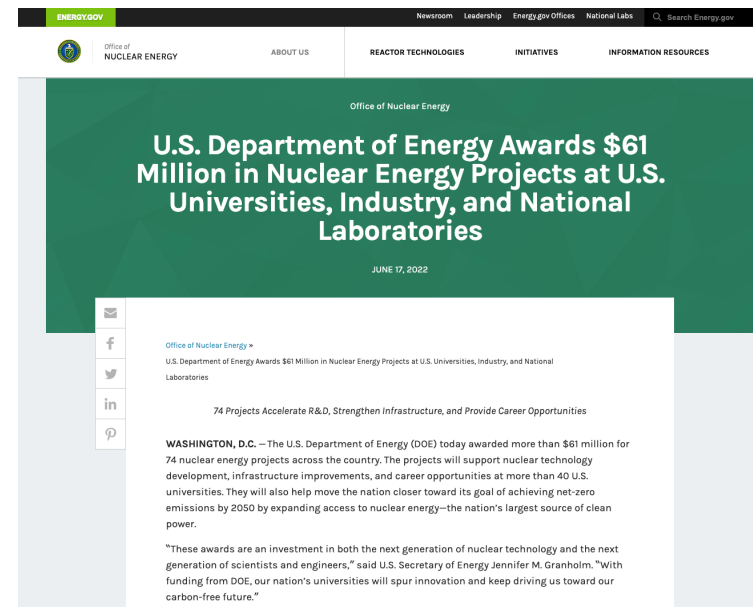
FOA Overview

Policy Updates and Reminders

Review Process, Tools, and Submissions

FY 2022 Summary Outcomes

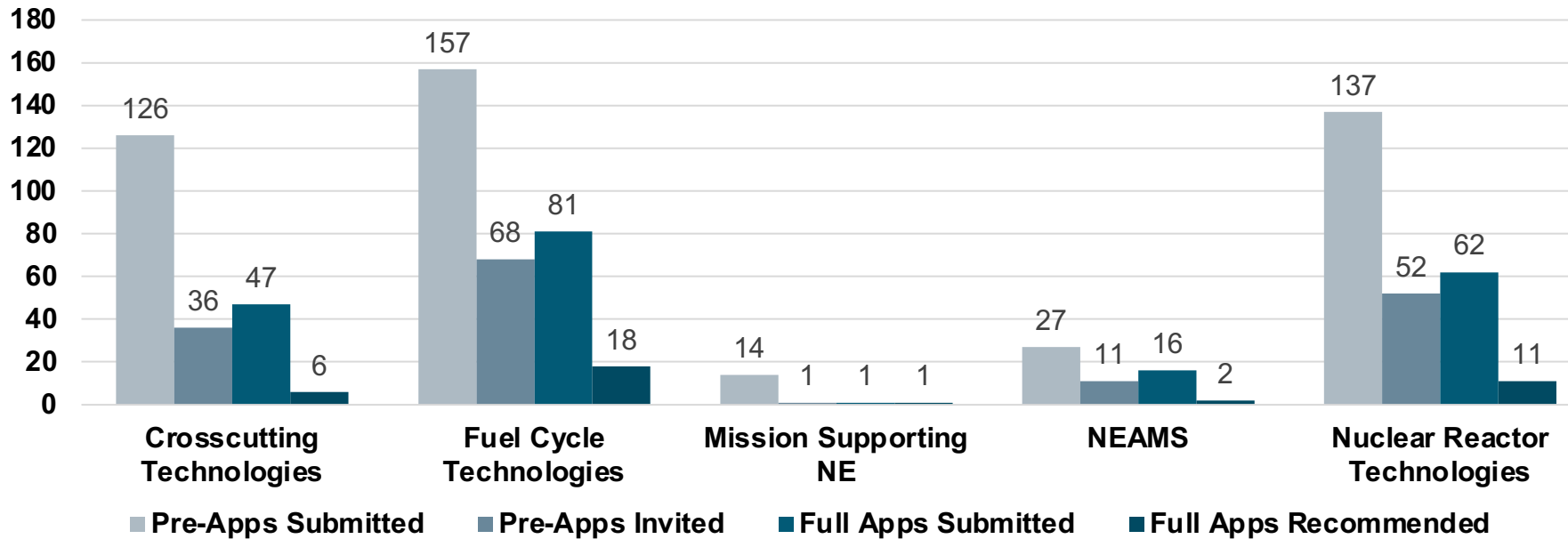
- In FY 2022, DOE awarded more than \$61 million for 74 nuclear energy projects across the country. The projects will support nuclear technology development, infrastructure improvements, and career opportunities at more than 40 U.S. universities.
- With these awards, DOE's Office of Nuclear Energy has awarded more than \$931 million to advance nuclear energy research and train the next generation of nuclear engineers and scientists since 2009.



FY 2022 NEUP Outcomes

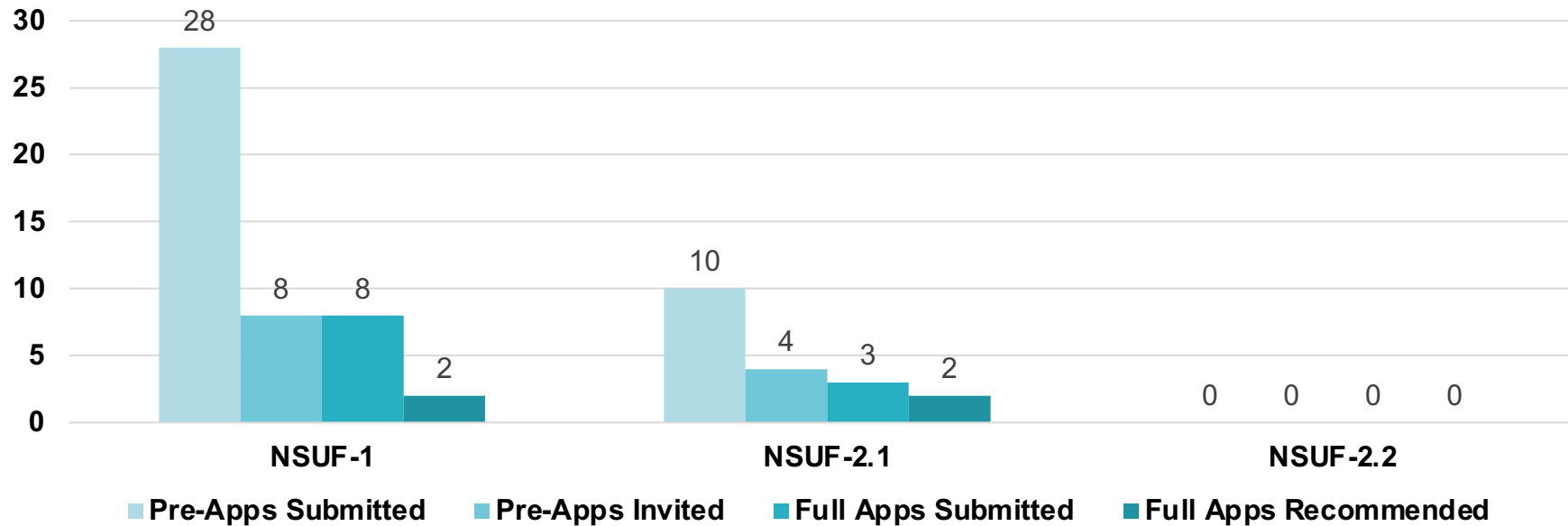
- **459** pre-applications received
- **167** pre-applications invited
- **207** full applications received
 - 1 invited were not submitted
 - 1 submitted was dismissed
 - 42 uninvited submitted
 - 14 fully peer-reviewed

- **38** applications selected
 - 36 individual lead PIs
 - Includes 3 uninvited
- IRP Applications
 - **24** applications received
 - **7** applications selected



FY 2022 NSUF Outcomes

- **38** received pre-applications
 - 1 dismissed
- **12** invited applications
- **11** full applications received
 - 1 invited was not submitted
- **4** applications selected
 - No uninvited applications
 - 4 individual lead PIs
- No applications invited in NSUF-2.2



NSUF-1: Core and Structural Materials and Nuclear Fuel Behavior and Advanced Nuclear Fuel Development

NSUF-2: Nuclear Science User Facilities Access Only

FY 2023 CINR FOA Objectives and Priorities

- **NE mission is to advance U.S. nuclear power in order to meet U.S. energy, environmental, and economic needs. Toward this mission, NE has identified goals to address challenges in the nuclear energy sector, to help realize the potential of advanced technology, and to leverage the unique role of the government in spurring innovation:**
 - 1) Enable continued operation of existing U.S. nuclear reactors;
 - 2) Enable deployment of advanced nuclear reactors; and,
 - 3) Develop advanced nuclear fuel cycles and spent nuclear fuel management options.
- **All applications submitted under this FOA will need to demonstrate a strong tie to the NE mission.**
- **NE conducts crosscutting nuclear energy research and development (R&D) and associated infrastructure support activities to develop innovative technologies that offer the promise of dramatically improved performance for its mission needs as stated above, while maximizing the impact of DOE resources.**

FY 2023 Due Dates

- FOA Release (pending): August 2022
- NE 'Office Hours': Weeks of Sept. 26-30 & Oct. 3-7, 2022
- NSUF LOIs Due: Sept. 27, 2022
- R&D/NSUF Pre-Applications: Oct. 11, 2022
- NSUF Preliminary SOW: Nov. 30, 2022
- Full Applications Invitations: December 2022
- NSUF Final SOW: Jan. 25, 2023
- IRP Applications Due: Feb. 8, 2023
- Full R&D/NSUF Applications Due: Feb. 8, 2023

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Stakeholder Feedback from FY 2022 DE-SOL-0008318 RFI

- Received more than 40 individual responses from 20 different institutions.
- Responses focused on program improvements and potential high interest work scope areas.
- NEUP Office evaluated each piece of feedback to better understand how it could improve the program.
- NEUP took input and significantly altered its FY 2023 funding opportunities, which will be shared in this presentation.

Significant Changes to CINR Format

- **Change to work scope structure; categories reimagined.**
- **Increased flexibility in work scope structure**
- **NE mission ties are emphasized**
 - Program tied and related work is still encouraged under new structure
- **New ‘blue-sky’ opportunities are available**
- **Continued significant change will be implemented over several future fiscal years including evaluation and implementation plans for:**
 - Competitively funded continuation projects
 - Research Experiences for Undergraduates Program
 - Increased engagement.
 - Engagement with program managers: ‘Office Hours’- Week of August 29.
 - Work scope development and project outcomes reporting: Engagement opportunity being planned for 2022 Winter ANS meeting.
 - Reactor Sharing Program

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FOA Organization

University-led R&D

- **Appendix A**
 - **University Program R&D**
 - **Strategic Needs Blue Sky R&D**

University-led Integrated Research Projects

- **Appendix B**
 - **Blue Sky Grand Challenge**
 - **Grand Challenge R&D at MSIs**

University-, National Laboratory, or Industry-led NSUF Access Only

- **Appendix C**

Research Elements

- **University Program R&D**
 - Organized by topic areas and sub-topical areas covering many areas important to both NE programs and overall mission.
 - Interested in innovative ideas that address technical challenges in those topical areas.
 - ‘Other’ areas in each topic area to capture mission-related areas not highlighted in sub-topical descriptions.
- **Strategic Needs Blue Sky R&D**
 - Supports key nuclear engineering topical areas that are critical to advancing continued research and workforce pipelines.
 - Less defined topical areas that allow for high risk; high reward pathways.
- **Integrated Research Projects**
 - Significant projects focused on addressing grand challenges.
 - Projects are intended to address specific need areas with a complete and holistic approach to the defined problem.

R&D Topic Areas

University R&D

- Topic Area 1- Reactor Development and Plant Optimization
- Topic Area 2- Fuel Cycle Technologies
- Topic Area 3- Fuels
- Topic Area 4- Modeling and Simulation
- Topic Area 5- Instrumentation and Controls
- Topic Area 6- Licensing and Safety
- Topic Area 7- Advanced Nuclear Materials

Strategic Needs Blue Sky

- Thermal Hydraulics and Heat Transfer
- Reactor Physics
- Nuclear Chemistry

Reminder: Each topical area has an 'other' category to capture any relevant applications that are not covered in the sub-topical descriptions.

R&D Topic Areas

NEA-NEST Opportunity

Scopes

Topic Area 1- Reactor Development and Plant Optimization

IRP-1- Grand Challenge IRP- Accelerating Reactor Deployment

Incremental funding is potentially available through participation in the Department of Energy's interactions with the Organization for Economic Cooperation and Development (OECD) Nuclear Energy Agency (NEA) Nuclear Education, Skills and Technology (NEST) program. NEST ties together university research projects across multiple countries to provide students a fuller professional experience as they pursue their degree. NEST funds are provided to allow travel for students to interact with colleagues in other NEST countries in accordance with NEST program rules. Applications submitted to this work-scope do not require NEST participation. Access to NEST funds do require investigators to agree to participate in NEST. Investigators must clearly indicate in their application if they are willing to join as a NEST project or not.

NOTE: Anticipated budget requirements for NEST participation must not be included in an application submitted to this topic area. NEST funding received by successful applicants will not be included or tracked as part of the overall project budget and not subject to inclusion in project financial reporting. Additionally, participation in NEST will not be a factor considered in the review of applications.

University- Led R&D: Appendix A

- **Award Size**
 - Topic Areas 1-7: Up to \$1,000,000 (anticipated that many projects under the \$1,000,000 mark will be awarded)
 - Strategic Needs Blue Sky: Up to \$500,000
- **Period of Performance**
 - Up to 3 years.
- **Eligibility**
 - Universities are eligible to lead.
 - Universities, national laboratories and industry are eligible to collaborate.
 - **No NSUF tied workscopes.**
- **Estimated Funding Level**
 - Approximately \$40 million, totaling approximately 43 awards.

University- Led IRPs: Appendix B

- **Award Size and Period of Performance**
 - IRP-1: Grand Challenge IRP- Accelerating Reactor Deployment
 - Up to 3 years and up to \$3,000,000
 - IRP-2: Grand Challenge Research and Development at Minority Serving Institutions
 - Up to 3 years and up to \$1,500,000
- **Eligibility**
 - Universities eligible to lead.
 - Universities, national laboratories, and industry are eligible to collaborate.
 - Teams should consist of, at a minimum, multiple universities.
 - International collaborations are encouraged.
 - **IRP-2 has special eligibility criteria and teaming requirements.**

University-, National Laboratory, and Industry- Led NSUF Access: Appendix C

- **Award Size**
 - Up to \$4 M for irradiation/PIE, \$1.5 M for irradiation, or \$750,000 for beamline or PIE access request
- **Period of Performance**
 - Up to 3 years; up to 7 if irradiation and PIE are proposed
- **Eligibility**
 - NSUF applications are open to universities, national laboratories, and industry to lead or collaborate.
 - NSUF Access Only: All Projects proposed must have established R&D funding from another source (i.e., existing NEUP project, etc.).
- **Estimated number of awards**
 - Approximately \$5 million for NSUF Access (totaling up to 7 awards)

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Major Policy Updates

- **University program is shifting to a less prescriptive NE mission focus; review criteria reflects this shift.**
- **Applicants can apply for an IRP AND one R&D application during the same cycle.**
 - Updates will be applied to the eligibility criteria at the full application stage.
 - Applicants cannot be awarded both an IRP and R&D award in the same year. Priority will be given to the IRP if both applications are successful.
- **Overall thresholds for projects have been increased.**
- **Application Submission Changes**
 - Current and Pending Support (new template, increased focus)
 - Conflict of Interest certification (certification of compliance with DOE's new interim conflict of interest policy)
 - Prohibition related to Foreign Government-Sponsored Talent Recruitment Programs (outlines policy and reporting requirements)
 - NE Mission Relevancy Statement-Technical Narrative

Formatting and Page Limits

Policy Reminders: Formatting

- **Font sizing applied to all pages of the document and includes references and tables. Graphic elements may have axis labels and legends in a lesser, but legible, font.**
 - Applications that do not follow font sizing requirements will have non-compliant sections redacted from the application before being sent forward for review.
- **Page limits are strict.**
 - All documents exceeding the specified page limit will be reduced to the allowed page limit before being sent forward for review.
- **Do not lock cells in budget spreadsheets.**

Technical Narrative Page Limits

Appendix A (R&D)

- Up to 5-page pre-application
- Up to 10-page full application

Appendix B (IRP)

- Up to 50-page application

Appendix C (NSUF)

- Two-page Letter of Intent (LOI)
- Up to 5-page pre-application
- Up to 15-page full application

Application Submittal

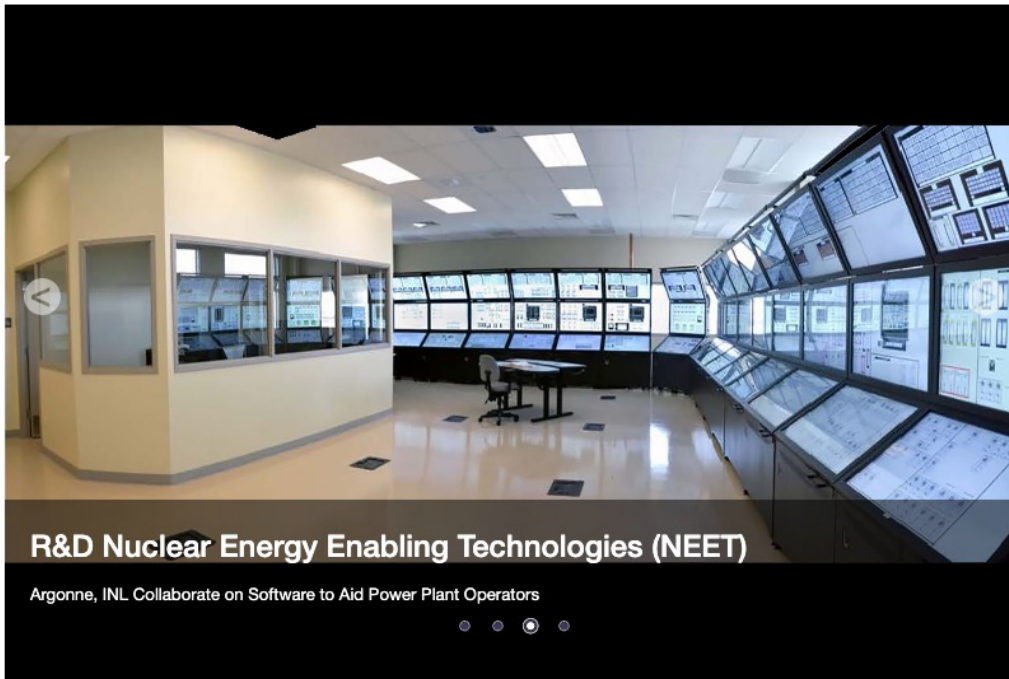
How to Submit an Application



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Announcements

Save the Date: FY 2023 CINR FOA Webinar (July 19, 2022)

U.S. Department of Energy Awards \$61 Million in Nuclear Energy Projects at U.S. Universities, Industry and National Laboratories (June 17, 2022)


Office of Nuclear Energy Seeks Input for Its FY 2023 Solicitation to Universities (April 20, 2022)

ORISE Nuclear Energy Policy Fellowship Program Accepting Applications (April 19, 2022)

FY 2021 UNLP Scholarship & Fellowship Recipients (April 12, 2022)

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How to Submit an Application



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Current Open Calls



These are the current calls for which you may submit an application. Select "Create New Application" for each call. Applications may be saved. Saved applications are given an ID number and will be available in the "My Information" section.

	Call Name	End Date	Fiscal Year
Create New Application	NE INFRA Request for Information DE-SOL-0008318	5/5/2023 3:00:00 PM	2022
Create New Application	NE R&D Request for Information DE-SOL-0008246	5/16/2023 1:00:00 PM	2023
Create New Application	FY22-B UNLP FOA University Application DE-FOA-2265	3/29/2023 12:00:00 AM	2022

Policy Reminders: Accounts and Submissions

- **Lead applicants MUST have an account at www.neup.gov**
 - A research administrator may create and submit the application, but it must be tied to a lead PI account as well.
- **The application MUST be submitted by the same institution as the lead applicant.**
 - Co-PIs from other institutions are not allowed to submit an application on behalf of the Lead PI.
- **Applications are considered submitted by the lead institution at the pre-application phase. Applications cannot be moved to another institution mid-process.**
- **Materials required by the FOA must be submitted by the published deadlines. Any material received after these dates may not be considered.**

Policy Reminders: Accounts and Submissions

- **Applicants (institutions) are required to obtain a Unique Entity Identifier and register with the SAM website.**
- **All CINR applications must include a list of publications resulting from previous CINR supported projects.**
- **PIs and collaborators are considered final when the pre-application is submitted (extenuating circumstances will be addressed as needed with Contracting Officer approval).**
- **The PI is responsible for selection of the appropriate topic area and sub-topical area.**
 - Full applications must compete in the sub-topical area to which the pre-application was submitted.
 - Applications may only be submitted once, in a single topical area.
 - After submission, applications may be moved (with PI approval) to other sub-topical areas that DOE deems more relevant for the application.

NSUF Applications

Program Reminders: NSUF

- **NSUF applications may be led by university, national laboratory, or industry applicants.**
- **NSUF applicants are required to affirm their ability to accept the NSUF User Agreement on submission of LOI, pre-application, and full application.**
- **NSUF Statements of Work are uploaded to neup.gov as a post-submittal addendum to the pre-application submission.**
- **All scopes are NSUF Access Only.**

Eligibility

Policy Reminders: Eligibility

- **Due to the COVID-19 pandemic, FY 2016-2019 active projects will not be counted toward eligibility restrictions.**
- **Applicants are responsible for not exceeding submission limits.**
- **Investigators claiming university affiliation must be considered faculty, not on appointment from a national laboratory. To qualify as a faculty member, more than 50% of an individuals' salary and benefits must be paid by the university.**
 - The Institute of Higher Education should be considered the PI's primary employer. Adjunct appointments, joint appointments, or other similar arrangements typically do not meet this requirement.

Eligibility Continued

- **U.S. university PIs may submit up to six Pre-Applications (three of those applications may be as lead PI).**
- **A PI may have no more than one IRP, or three R&D projects (excluding NSUF Access Only projects) funded at any time and may not submit more Full Applications than would be allowed by these restrictions.**
- **PIs cannot submit the same application to multiple work scope areas, including the NSUF Access Only CINR FOA area.**
- **NSUF Access Only projects are not bound by these eligibility restrictions, unless specified above.**

Eligibility: Research & Development

- **Applicants are ineligible to submit an R&D application to this CINR FOA as a lead PI under any of the following circumstances:**
 - The PI has a currently funded IRP that will be active after December 31, 2023.
 - The PI has three or more R&D projects that will still be active after December 31, 2023, excluding NSUF Access Only projects.
 - The PI has a no-cost extension on any NE funded project (excluding Infrastructure) that will still be active beyond December 31, 2023, excluding extensions caused by NSUF.

Eligibility: Integrated Research Projects

- **Applicants are ineligible to submit an IRP application to this CINR FOA as a lead PI under any of the following circumstances:**
 - The PI has a currently funded IRP that will be active after December 31, 2023.
 - The PI has three or more R&D projects that will still be active after December 31, 2023, excluding NSUF Access Only projects.
 - The PI has a no-cost extension on any NE funded project (excluding Infrastructure) that will still be active beyond December 31, 2023, excluding extensions caused by NSUF.
 - The applicant is designated as PI for more than one currently funded NE project that will be active beyond December 31, 2023. Applicants with only one currently funded R&D project are eligible to apply for an IRP.
 - If a PI chooses to submit an IRP application to this CINR FOA and has no currently funded R&D projects that will still be active after December 31, 2023, excluding NSUF Access Only projects, that PI is allowed to submit up to one R&D application as the lead. In the event that both the IRP and R&D applications are successful, only one award will be made with priority given to the IRP project.

Eligibility Changing Institutions

- **NOTE:** Procurement regulations require that applications submitted to this CINR FOA will be awarded to the applicant entity listed and will not be transferred pre-award to another institution if a lead PI changes institutions. Following the date set in this CINR FOA for receipt of applications, PIs that are moving from one institution to another during the CINR review time period are subject to the DOE-ID Changing Principal Investigator and Related Changes/Revisions Policy which is explained at www.NEUP.gov. Post award revision must adhere to the requirements of 2 CFR 200.308.

Collaborations

Collaboration Guidance

- **Additional consideration is given for collaborations with minority-serving institutions**
 - MSI lists can be found in multiple locations. FOA outlines process for being considered as an MSI.
- **For all non-NSUF applications, non-university collaborators, in composite, can account for no more than 20% of the total funds provided by the government.**
- **Applications with international collaborators should be developed such that they stand on their own and do not require collaboration for execution or success.**
- **Funding is for U.S. institutions only.**
 - International organizations are encouraged to collaborate if they are neither a denied party nor a party requiring an export license.
 - U.S. funding will not be provided to international collaborators under any circumstance.

Collaborators

CINR Definition of a Collaborator:

- Individual making a defined, material contribution critical to the success of the project and/or contributing to joint publications.
- Individual appearing in the project summary, technical narrative, benefit of collaboration, coordination and management plan, or budget documents should be listed directly on the application form.
- Individuals not meeting these criteria should not be listed as collaborators on the application.
- NSUF Technical Leads should be listed as collaborators to facilitate management of COI.

Collaborators Continued

- **PI must certify that all collaborators are listed on the application form and have agreed to participate on the project.**
 - You **MUST** list all individuals involved in the project, including those at your own institution on the application form.
 - If you do not list all collaborators, your application may be dismissed.
 - Policy Drivers
 - Must be able to identify all individuals involved in the project for conflict-of-interest purposes.
 - Must verify that all individuals listed on the application are aware and agree to obligations outlined in the project proposal.

Cost Sharing

- **Cost sharing is encouraged but not required.**

Project Administration Reminders

Project or PI Transfer

- Applications submitted to this FOA will be awarded to the applicant institution listed and will not be transferred pre-award to another if a lead PI changes institutions. An application is considered 'submitted' once the pre-application is submitted.
- PIs that are moving from one institution to another during and/or after the CINR review process are subject to the DOE's PI Move/Change Policy which is explained at www.NEUP.gov.
- Awards in this FOA are made to the applying institution and will remain at that institution for the entirety of the project.
- Any additional changes to partners/collaborators must be approved by the DOE contracting officer.

Pre-Award Costs

Pre-Award Costs: Recipients may charge allowable costs to an award 90 days immediately preceding the effective award date. Recipients must obtain the prior approval of the DOE Contracting Officer for any pre-award costs greater than 90 days. Recipients are responsible for pre-award costs if award negotiations are not successful.



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Review Criteria

- **Relevancy Review: Confirm that the application addresses a relevant aspect of NE's mission.**
- **Pre-Application Technical Review**
 - High level merit review focusing on the originality, creativity and thoroughness of the concept being proposed.
- **Full Application Technical Review**
 - Criterion 1 – Advances the State of Knowledge and Understanding and Addresses Gaps in Nuclear Science and Engineering Research
 - Criterion 2 – Technical Quality of the Proposed R&D Project
 - Criterion 3 – Applicant Team Capabilities, Risks, and Experience

Minority Serving Institution Diverse Partnership Scoring

Awards additional points to award meaningful participation by Minority Serving Institutions. Meaningful participation could include:

- MSI-led application
- Significant R&D contribution by the MSI institution
- Significant MSI student involvement

NSUF Specific Review Criteria

- **Feasibility Review**
 - Takes place during the pre-application review process.
 - Includes the feasibility of executing the project with factors including type of project; duration of project; experimental degree of complexity; types of samples; number of samples; need for shipping and containment; potential needed capability or facility enhancement or upgrade; project schedule, and cost.
 - Technical Lead guidance will help prevent feasibility issues. Engage with your tech lead during application preparation
- **Readiness Review**
 - Takes place at both the pre-app and full application review.
 - Requires that the project meets the stipulations of NSUF's readiness criteria (outlined in Part I, Section B.2.1 of the CINR FOA).

Uninvited Pre- Applications

- **Uninvited applications may be submitted as full applications per the stipulations in the FOA.**
 - Uninvited applications associated with NSUF submissions may not be submitted as full applications due to the expense associated with feasibility assessments.
- **Uninvited applications must pass a relevancy check to ensure they are relevant to NE mission before being evaluated through a full technical merit review.**

Contact Information



- **Federal Points of Contact - Technical Questions**
 - Contact neup@inl.gov with a question directed at a Federal Point of Contact.
- **DOE-ID - Procurement Questions**
 - Andrew Ford
 - fordaj@id.doe.gov
- **NE Integration Office - General Application Submittal Questions**
 - 208-526-2123/ 208-526-1602
 - neup@inl.gov

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