



# FY 2022 Scientific Infrastructure Support Funding Opportunity Announcement DE-FOA-0002517

**Brenden Heidrich**  
Idaho National Laboratory  
Nuclear Science User Facilities

*DOE Headquarters  
August 10, 2021*

# Outline

- FOA Overview
- NSUF Integration
- Reactor Upgrades
- General Scientific Infrastructure
- Best Practices
- Pitfalls to Avoid
- Contact Information

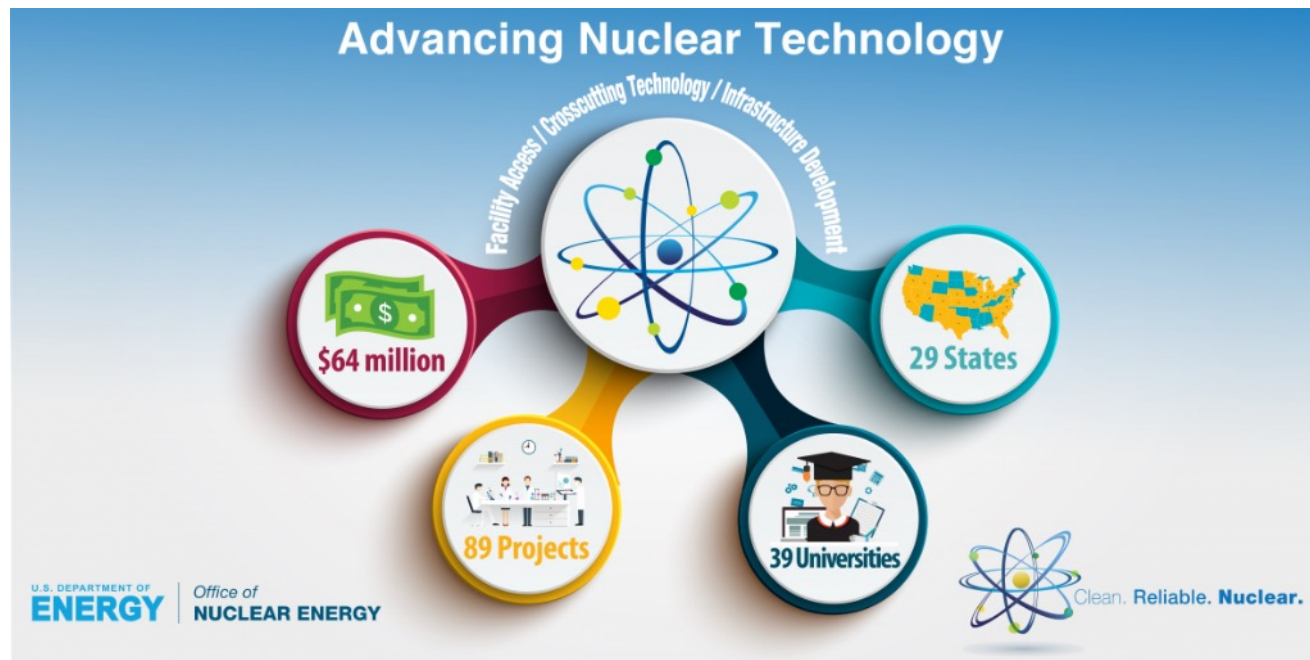


# FOA Highlights

- Funding Mechanism
  - Funding supplied by the Department of Energy's Office of Nuclear Energy (DOE-NE)
  - Grants issued by the Department of Energy Idaho (DOE-ID)
- Two Funding Opportunities for U.S. Universities
  - Reactor Upgrades
  - General Scientific Infrastructure
- Find the FOA (DE-FOA-0002517) at [www.grants.gov](http://www.grants.gov)
- Submit applications at [www.neup.gov](http://www.neup.gov)
- Additional information at [nsuf.inl.gov/Page/infrastructurefoa](http://nsuf.inl.gov/Page/infrastructurefoa)

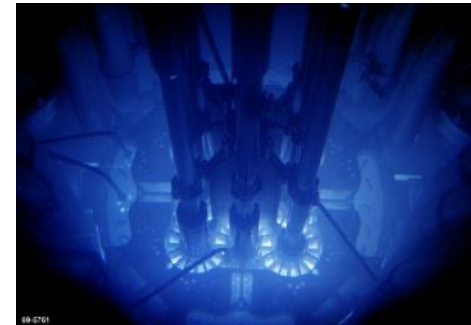
# Important Dates

- FOA release date: **August 2021**
- Applications due: **November 11, 2021**
- Anticipated award announcement: **June 2022**



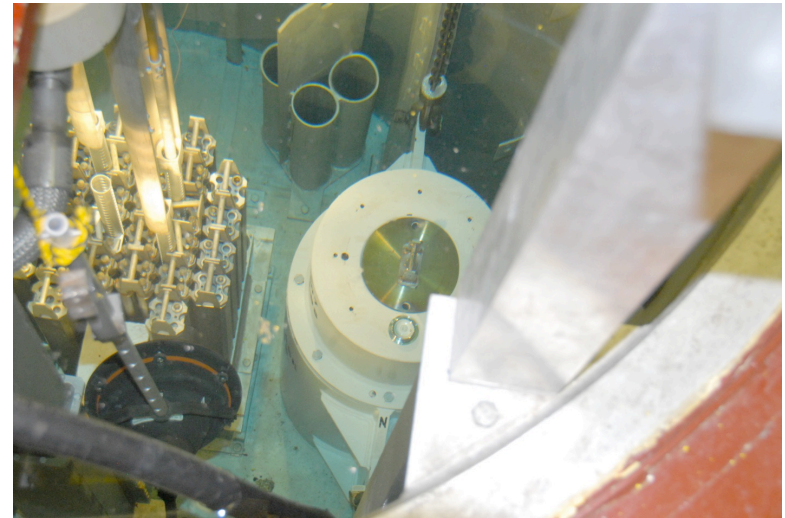
# Nuclear Science User Facilities (NSUF)

- DOE-NE provides nuclear energy researchers access to world-class capabilities to facilitate the advancement of nuclear science and technology through NSUF
  - Access to NSUF and its partner facilities is granted through a separate competitive proposal process
- To apply to areas in this FOA, the applicant is required to demonstrate the ability and willingness to join NSUF as a partner if an offer is extended
- If NSUF determines the new equipment/capability adds significant value to DOE, the awarded institution may be invited to join NSUF, so the equipment is available to other researchers.



# FOA Organization

## Area 1 – University Reactor Upgrades Infrastructure Support



## Area 2 – University General Scientific Infrastructure Support

# University Reactor Upgrades (RU)

- **Award Size**

- Maximum individual award: \$5,000,000
- Expected award range: Up to \$1,500,000
- DOE anticipated to award several smaller awards

- **Estimated Funding Level**

- Approximately \$2.5 million

- **Period of Performance**

- 1 year (ask for what you need)



Only educational reactors fueled by DOE are eligible

- List can be found in Part I.C.1.1 of FOA
- Each institution is permitted to submit one application for each research reactor they operate.

# RU Review Criteria

Each application will receive a merit review by DOE, university peers, and NSUF reviewers

## Review Criteria

- (55%) **Safety and/or Security** – Potential of the requested equipment, instrumentation, or modification to:
  - Enhance the [safety, performance, control, or operational reliability](#) of research reactor systems
  - Or increase the [quality, safety/security, or efficiency of the operation](#) of the research reactor facility
- (15%) **Impact** – Potential of the requested equipment, instrumentation, or modification to [facilitate, improve, or expand](#) ongoing DOE-NE research and training capabilities
- (15%) **Utilization** – As a result of the proposed equipment, the amount of student and faculty [usage of the research reactor facility](#), and the amount and variety of research and/or services provided by the facility
- (15%) **Execution** – [Capability to implement the full scope of the project](#), including timely project completion, personnel qualifications, budget, and feasibility.



# RU Focus Area – Console Spare Parts

- A high priority for this call is the procurement of spare parts and associated hardware for research reactor control consoles
  - These systems are vital for continued safe and reliable reactor operation
  - Established vendors are leaving the market
- Proposals to support continued long-term operation of the university research reactor by purchasing spare parts, subsystems, channels, and detectors will be highly regarded.

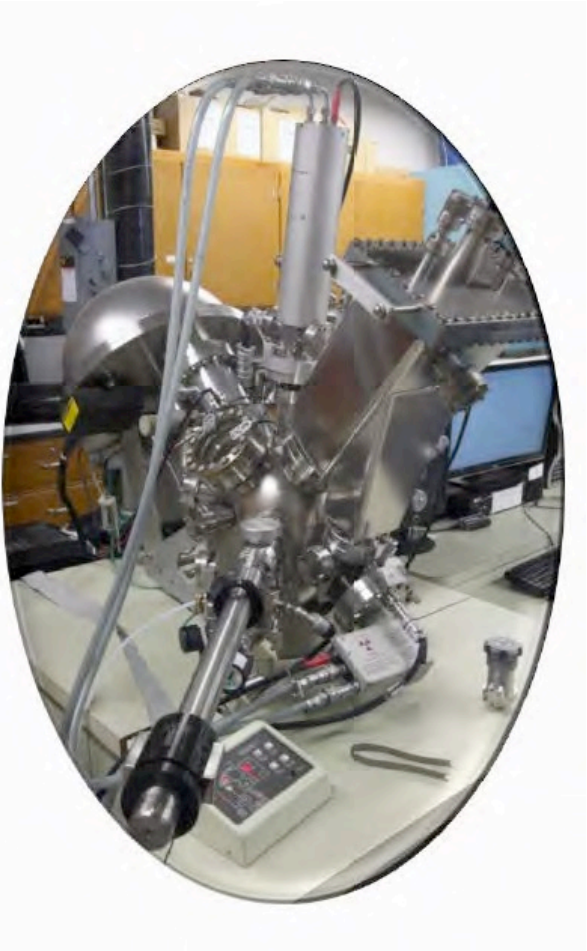


[This Photo](#) by Unknown Author is licensed under [CC BY-SA](#)

[This Photo](#) by Unknown Author is licensed under [CC BY-SA](#)

# General Scientific Infrastructure (GSI)

- Award Size
  - Maximum DOE funding per individual university award: **\$5,000,000**
    - Anticipated award size **\$250,000**
- Period of Performance
  - 1 year (*ask for what you need*)
- Eligibility
  - US universities are eligible to submit applications
  - One application per institution can be submitted to the GSI area of this FOA.
  - University cost match (1:1) required after \$250,000
- Estimated Funding Level
  - Approximately **\$2.5 million.**



# GSI General Requirements

- Applications can be submitted for equipment, software, instrumentation, and associated non-reactor upgrade requests that support nuclear energy-related R&D or education.
- Funding requests may include, but are not limited to, equipment and instrumentation for specialized facilities, classrooms and teaching laboratories, and non-reactor NS&E research.
- Infrastructure requests that support the sharing and use of equipment and instrumentation by multiple campuses of a university, multiple universities, or national laboratories are encouraged.



[This Photo](#) by Unknown Author is licensed under [CC BY](#)

[This Photo](#) by Unknown Author is licensed under [CC BY-SA-NC](#)

# FY 2022 GSI Focus Areas

- NSUF performs an annual Nuclear Energy R&D capabilities gap analysis to identify areas for investment
  - Applications addressing these identified needs will be given higher priority
- **For FY 2022, specific areas of interest are:**
  - Capabilities to perform work on radioactive/irradiated materials (>5mr/hr. @ 30 cm, beta/gamma only)
  - **No other specific focus areas for FY 2022.**

# GSI Reminder of Excluded Areas

NSUF provides access to high-performance computational resources at INL at no cost to users.

- Applications requesting purchase of scientific computing equipment (such as institutional clusters, high-performance computing [HPC] nodes) will not be entertained.
- See [nsuf.inl.gov](http://nsuf.inl.gov) or [hpc.inl.gov](http://hpc.inl.gov) for information on accessing HPC resources.



Courtesy of Eric Whiting, Director of Scientific Computing (INL)

# GSI Review Criteria

Each application will receive a merit review by DOE, university peers, and NSUF reviewers.

## Review Criteria

- (25%) **Impact** – Potential of the requested equipment, instrumentation, or modification to facilitate, improve, or expand ongoing DOE-NE research and training capabilities
- (25%) **Utilization** – As a result of the proposed equipment, the amount of student, faculty, or researcher usage of the capabilities, and the amount and variety of research or services provided by the facility
- (25%) **Execution** – Capability to implement the full scope of the project including timely project completion, personnel qualifications, budget, and feasibility
- (15%) **NSUF Priority** – Importance of the proposed upgrade to NSUF as either improving an existing partner facility or as a potential partner facility
- (10%) **Educational Innovation** – Uses of equipment for educational purposes.

# GSI Cost Sharing & Cost Match

## Cost Matching

- Cost match is required on university **GSI projects** that exceed **\$250,000**
- Dollar for dollar matching requirement, up to the project ceiling of \$5,000,000
  - For example, if the project's total cost was \$350,000; the university would be responsible for \$50,000 and DOE's share would be \$300,000
- Anticipated award range will be around **\$250,000** for most applications.

Cost sharing is encouraged but not required in any part of this FOA.

Contact the DOE-ID Contracting Office with questions.

# Best Practices

## **The infrastructure requested should be individual, discrete, and definable items or capabilities that will:**

1. Support, maintain, or enhance the institution's capacities to attract and teach high-quality students interested in nuclear energy-related studies
2. Build the institution's research or education capabilities
3. Enhance the institution's capabilities to perform R&D relevant to DOE-NE's mission.

## **Focus on a single, synergistic goal or capability:**

- A proposal made of several uncorrelated equipment requests does not meet the goals of this FOA.

## **Try not to duplicate existing capabilities:**

- To see NE R&D capabilities in the U.S., review the Nuclear Energy Infrastructure Database (NEID) available at <https://nsuf-infrastructure.inl.gov>.

**Specifically list any DOE-NE R&D program relevance.**



# Pitfalls to Avoid

## Restrictions on the use of funds under this FOA:

- The application cannot include hiring or other human capital costs. Personnel or indirect costs are not allowed, except as specified in this FOA.
- The application cannot include the cost of routine operation and maintenance of equipment.
- Non-standard installation costs for equipment and instrumentation that are beyond the vendor's standard installation cost are not allowed.
- Institution-specific costs, not specific to the equipment or instrumentation, are the responsibility of the applicant.
  - For example, if a vendor needs to meet safety and health requirements to access the campus or a facility, these costs are the responsibility of the applicant.
- Funds are restricted to equipment for activities supporting research, teaching, and education.
- Upgrades to increase operational profit or support for commercial activities are not allowed.

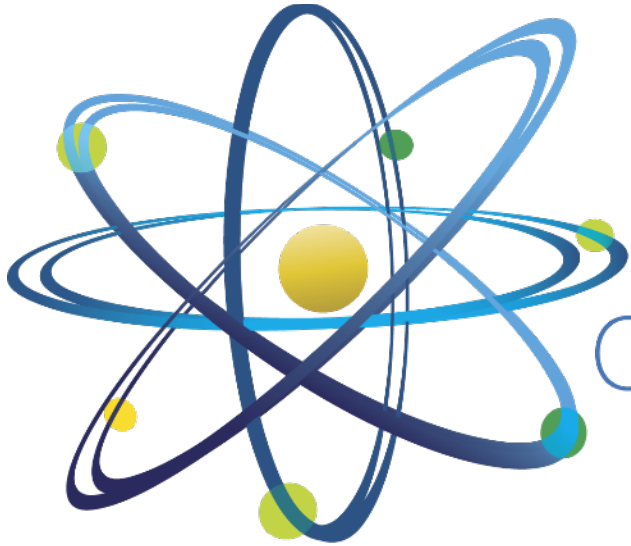
**Be sure you have the most recent version of the FOA. Carefully review it to ensure your application meets all requirements.**

# Contact Information



- Technical questions can be submitted to:
  - Brenden Heidrich (TPOC)
    - [NSUF@INL.gov](mailto:NSUF@INL.gov)
    - The Infrastructure FOA Q&A section at <https://nsuf.inl.gov/Page/infrastructurefoa>
- Procurement questions can be submitted to:
  - Andrew Ford (DOE-ID Contract Specialist)
    - [fordaj@id.doe.gov](mailto:fordaj@id.doe.gov)
- Application Site
  - [www.neup.gov](http://www.neup.gov)

# Questions?



Clean. **Reliable. Nuclear.**