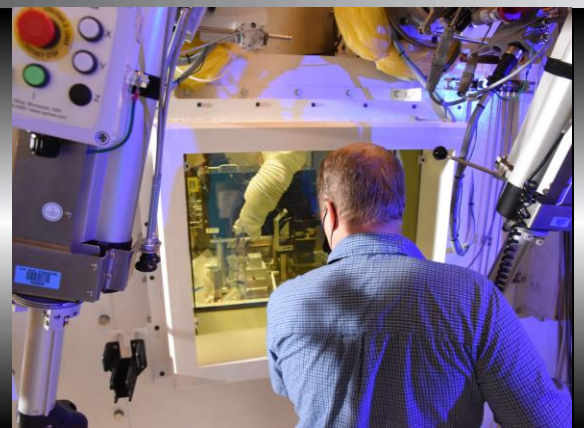
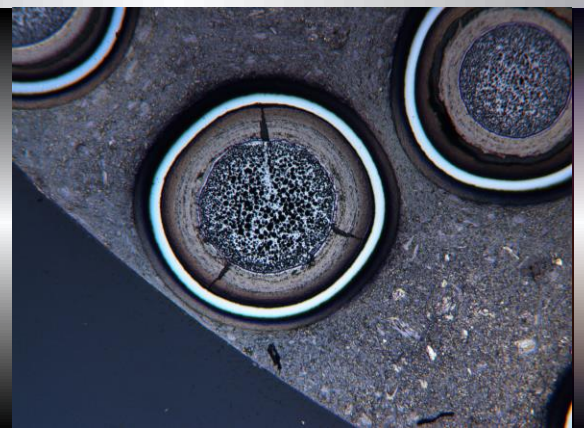
NSUF Proposal Opportunities
RTE and CINR

Anna Podgorney
NSUF RTE Program Administrator

NSUF User Development Workshop
May 22, 2024

NSUF Nuclear Science User Facilities

NSUF Mission

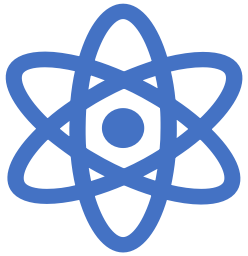
- Facilitate the advancement of nuclear science and technology by providing researchers access to world-class capabilities at no cost to the researcher

  - Irradiation testing
  - Post irradiation examination
  - Idaho National Laboratory (INL) high performance computing
  - Technical and scientific assistance for the design and execution of projects

NSUF Objective



Offer an avenue for researchers to perform irradiation effects studies on nuclear fuels and materials



Access to NSUF capabilities is granted through competitive proposal processes:

1. Rapid Turnaround Experiments (RTEs)
2. Consolidated Innovative Nuclear Research (CINR) Funding Opportunity Announcement (FOA)

NSUF RTE Overview

Rapid Turnaround Experiments (RTEs) offer researchers the opportunity to perform irradiation effects studies of *limited* scope on a *small* number of samples.

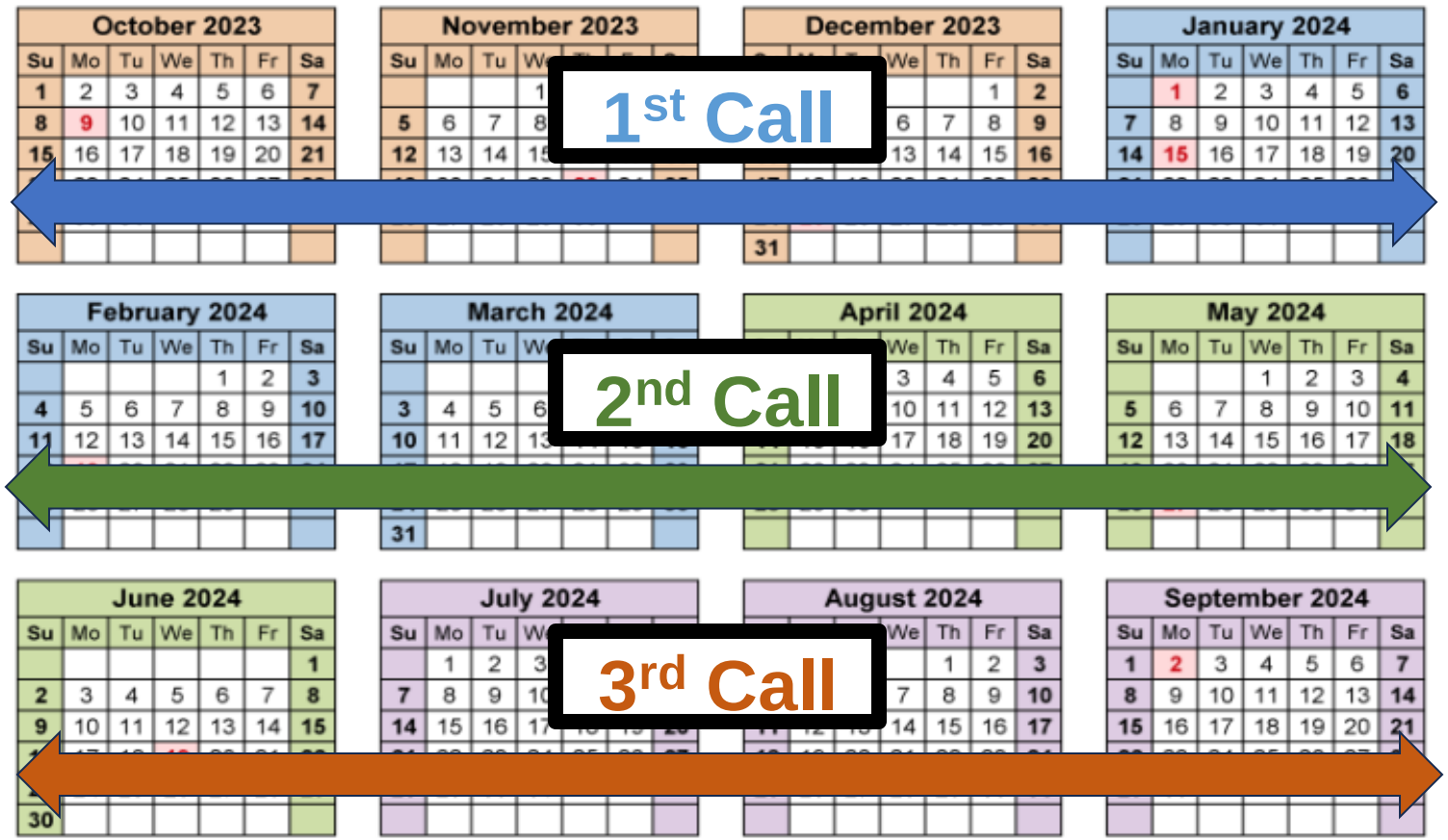
Completion of RTE projects is expected within 9 months of award.

RTE solicitations typically run on a 4-month cycle from the opening of the call to announcement of awards. Calls are typically opened 3 times per year.

https://nsuf.inl.gov/Page/rte



FY 2024 RTE Calls



October - January

February - May

June - September

*In FY 2024, a **Super RTE** call was added in April.*

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NSUF Nuclear Science User Facilities

RTE Rules Highlights

- A PI may only submit one proposal per call
- A PI may have only two active RTE projects at any given time
- Universities, industries, national laboratories and international institutions are eligible
- Content cannot duplicate other funded work
- Produced data will lead to scientific or engineering outcomes that are suitable for publication and will be attributed to the NSUF
- Studies must focus on irradiated or radioactive materials or nuclear fuels research, including in situ sensor performance
- Three partner institutions may be requested
  - Sample preparation/shipping
  - Irradiation
  - PIE
- Completion report summarizing work completed and data obtained is required

https://nsuf.inl.gov/Page/rte

Facility Guidelines for RTE Experiments

- Requests for NSUF facilities should remain within Facility Guidelines to ensure appropriate scope and budget

Institution	Facility	Irradiated Sample Preparation	Irradiation	PIE	Beamline	Allowed Time
Argonne National Laboratory *Proposals that request irradiation and PIE at IVEM should assume approximately one week of irradiation access and one week of PIE access to remain within the suggested guidelines.*	Intermediate Voltage Electron Microscopy - Tandem Facility		Ion	Yes		2 weeks
	Irradiated Material Laboratory	Yes		Yes		2 weeks
Brookhaven National Laboratory	NSLS II X-ray Powder Diffraction (XPD) Beamline				X-ray	3 days
Center for Advanced Energy Studies	Microscopy and Characterization Suite	Yes		Yes		3 weeks
Idaho National Laboratory	Analytical Laboratory			Yes		2 weeks
	Electron Microscopy Laboratory* **Restricted access facility: U.S. citizenship required for on-site access.*	Yes		Yes		2 weeks
	Irradiated Materials Characterization Laboratory	Yes		Yes		2 weeks
	Fuels and Applied Science Building (FASB) Gamma Irradiator		Gamma			2 weeks
	Energy Innovation Laboratory Irradiation Suite		Gamma			2 weeks
	Hot Fuel Examination Facility			Yes		1 week
	Advanced Test Reactor Gamma Irradiation Facility		Gamma			1 week
Lawrence Livermore National Laboratory	Center for Accelerator Mass Spectroscopy		Ion			1 week
Los Alamos National Laboratory	Lujan Center Beamlines				Neutron	2 weeks

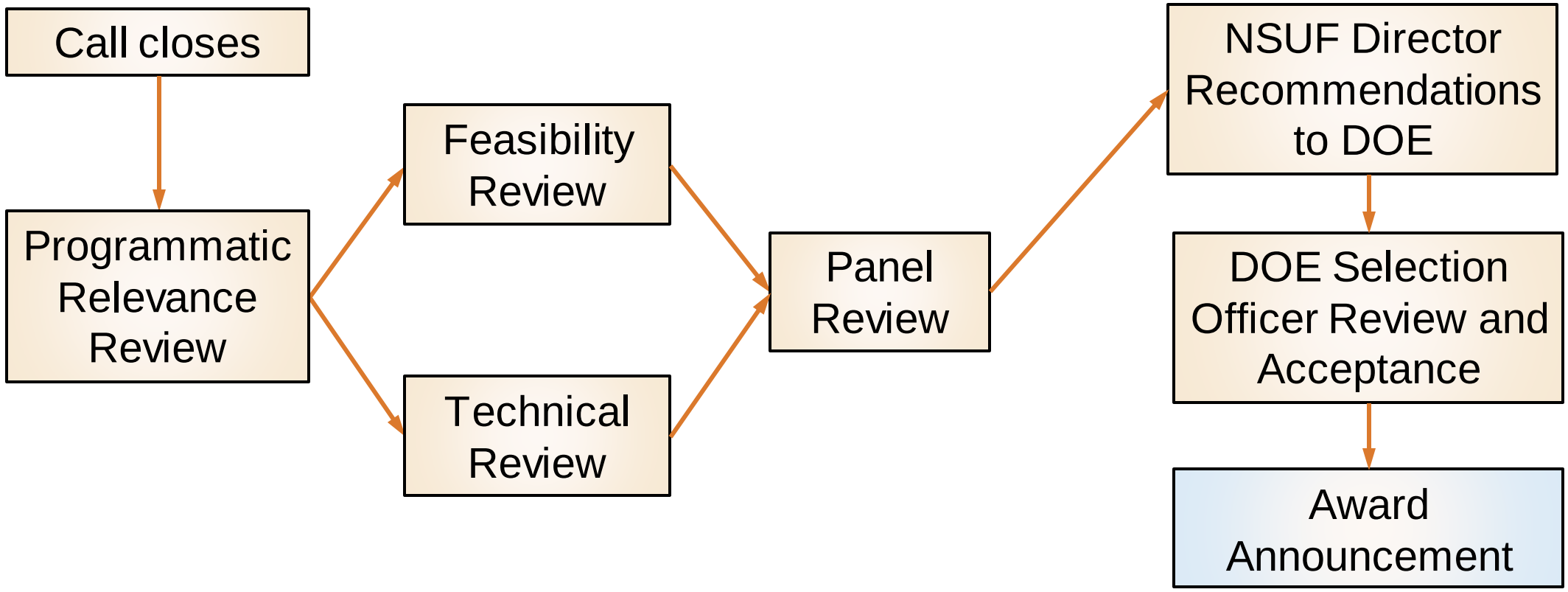
https://nsuf.inl.gov/Page/rte

Minority Serving Institutions (MSIs)

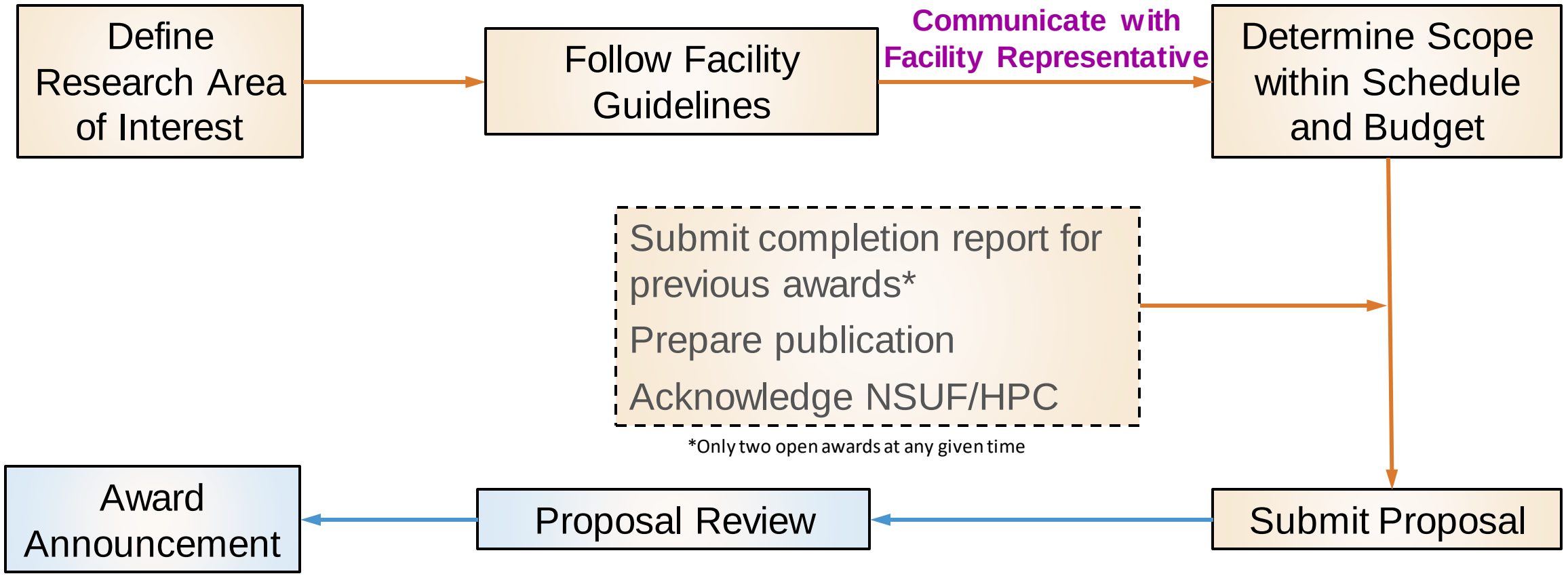
- 5 additional points will be manually added to the average technical score and noted in the recommendation provided to the NSUF Federal Program Manager if the PI is from an institution listed in the United States Department of Education MSI Directory

- https://cmsi.gse.rutgers.edu/msi-directory

RTE Review Process



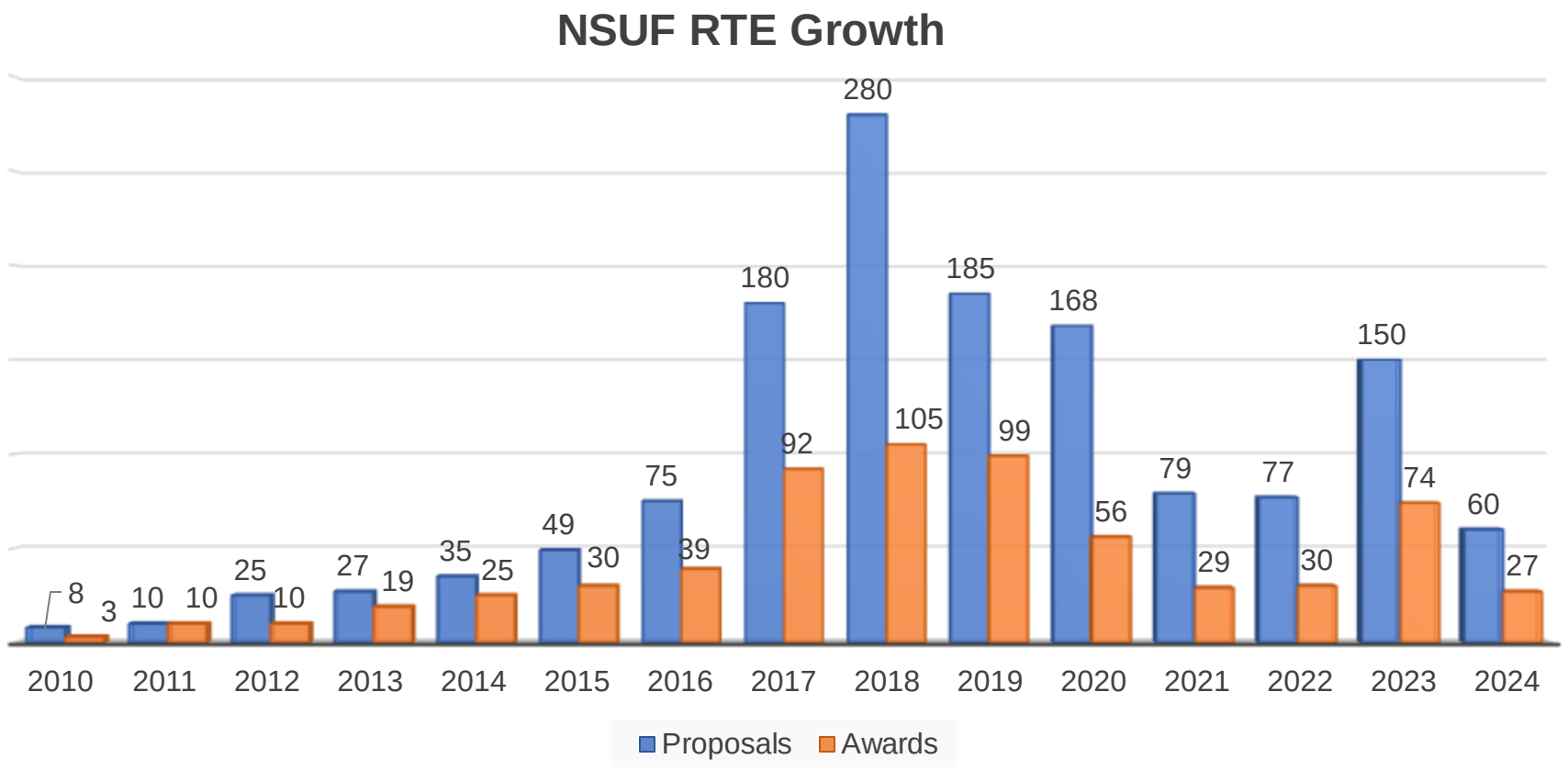
Summary of RTE Proposal Preparation and Review



Tips for Success

- Plan ahead and start application early
- Work with facility representative(s) *before* submitting proposal
- Ensure sample readiness
- Request samples from the NSUF Nuclear Fuels and Materials Library when possible
- Read RTE Rules for Proposal Submission (https://nsuf.inl.gov/Page/rte)
- Seek feedback

RTE Proposals/Awards



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	TOTAL
Proposals	8	10	25	27	35	49	75	180	280	185	168	79	77	150	60	**1408**
Awards	**3**	**10**	**10**	**19**	**25**	**30**	**39**	**92**	**105**	**99**	**56**	**29**	**30**	**74**	**27**	**648**

RTE FY 2024 3rd Call Schedule

Proposal Submittal & Review Schedule	
Solicitation period opens	6/3/24
Call announcement seminar	TBD
Individual Q&A sessions *(must be scheduled in advance)*	TBD
Proposal due date	6/27/24 4 p.m. MDT
Selection review	Estimated 8/1/24
Proposals awarded	Estimated 10/1/24

NSUF CINR Overview

Through the CINR FOA, NSUF is focused on providing access to unique and highly specialized nuclear research facilities and technical expertise to advance nuclear energy technologies that crosscut a range of NE topic areas, including:

- Fuel and core materials
- Advanced materials and manufacturing technologies
- Sensor materials and active components



The CINR solicitation is an *annual* funding opportunity.

https://neup.inl.gov/

FY 2025 CINR NSUF Topic Areas

NSUF-1: NSUF Access with R&D

- U.S. University-led
- R&D support is only permitted for tasks associated with the execution of the requested NSUF capabilities
- Up to $1,000,000 per award

NSUF-2: NSUF Access Only

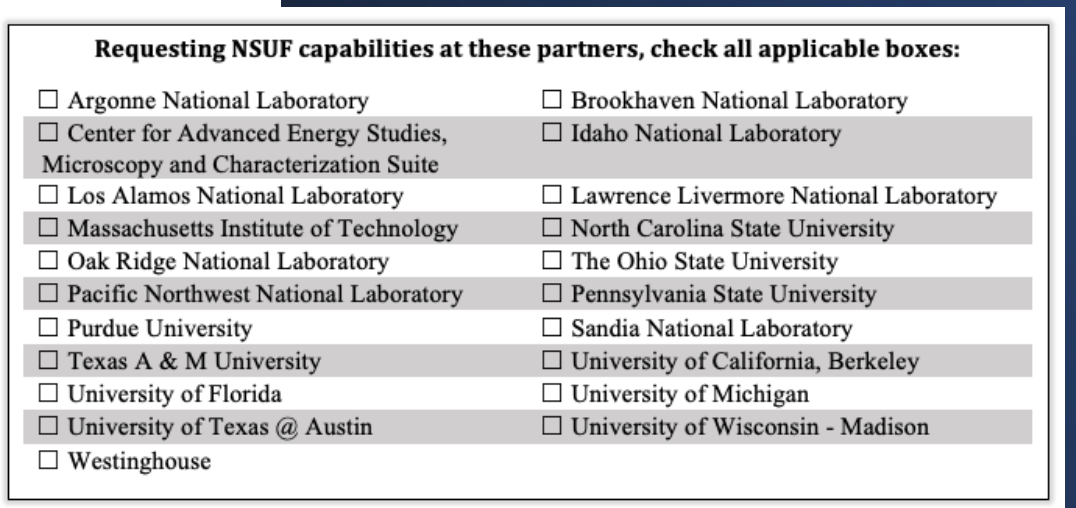
- U.S. University-, National Laboratory-, or Industry-led
- This topic does NOT provide R&D support
- Access value determined by NSUF office

Proposals with NSUF access can include:

- ion, neutron, and gamma irradiation
- x-ray synchrotron beam or neutron beam interrogation
- post-irradiation examination
- advanced materials characterization
- high-performance computing

NSUF Letter of Intent & Statements of Work

- Use NSUF Letter of Intent (LOI) and NSUF Statement of Work (SOW) templates (www.neup.inl.gov)
  - LOI
  - Pre-Application SOW
  - Full Application SOW
- Choose project type
  - ion, neutron, and gamma irradiation
  - x-ray synchrotron beam or neutron beam interrogation
  - post-irradiation examination
  - advanced materials characterization
  - high-performance computing
- Acknowledge User Agreement
- Indicate requested NSUF capabilities
- Provide project description



Requesting NSUF capabilities at these partners, check all applicable boxes:

☐ Argonne National Laboratory	☐ Brookhaven National Laboratory
☐ Center for Advanced Energy Studies, Microscopy and Characterization Suite	☐ Idaho National Laboratory
☐ Los Alamos National Laboratory	☐ Lawrence Livermore National Laboratory
☐ Massachusetts Institute of Technology	☐ North Carolina State University
☐ Oak Ridge National Laboratory	☐ The Ohio State University
☐ Pacific Northwest National Laboratory	☐ Pennsylvania State University
☐ Purdue University	☐ Sandia National Laboratory
☐ Texas A & M University	☐ University of California, Berkeley
☐ University of Florida	☐ University of Michigan
☐ University of Texas @ Austin	☐ University of Wisconsin - Madison
☐ Westinghouse	

NSUF Readiness (NSUF-1 & NSUF-2)

- Project must be ready for NSUF access
  - Must be clearly stated in the project narratives
- Readiness evaluated at Pre-Application and Full Application stages
- Readiness Review Considerations
  - Detailed in the FY25 CINR FOA (Appendix D)
- Projects that are not ready will not be considered for NSUF access



CINR NSUF Requirements Timeline

5 June

NSUF Letter of Intent

26 June

CINR NSUF Pre-Applications

1 August

NSUF Pre-Application Statement of Work

- Informs NSUF feasibility review only

30 October

NSUF Full Application Statement of Work

- Completes NSUF feasibility review
- Determines NSUF access value

13 November

CINR NSUF Full Applications

- Must receive an invitation from the Pre-Application to submit a full application

FY 2025 CINR Due Dates

Informational Webinar (Video links and presentations are available at www.NEUP.gov)	**May 9, 2024**
Issue Date	**May 20, 2024**
DOE Topic Area Program Manager Q&A (Video links and presentations are available at www.NEUP.gov)	**May 28-30, 2024**
Letter of Intent (Mandatory only for NSUF-1 and NSUF-2 Applications) Due Date	**June 5, 2024, at 5:00 p.m. ET**
R&D/NSUF Pre-Applications (Mandatory except for IRPs) Due Date	**June 26, 2024, at 5:00 p.m. ET**
NSUF Pre-application Statement of Work Due Date	**August 01, 2024, at 5:00 p.m. ET**
NSUF Full Application Statement of Work Due Date	**October 30, 2024, at 5:00 p.m. ET**
Full R&D/NSUF and IRP Applications Due Date	**November 13, 2024, at 5:00 p.m. ET**
Planned Award Announcement Date	**March 6, 2025**

Contact Information:

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NSUF Nuclear Science User Facilities