April 15, 2025

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Program Administrator, NSUF

Nuclear Science User Facilities

FY24 Annual Review of the Rapid Turnaround Experiment Program

INL/MIS-25-84179

NSUF Nuclear Science User Facilities

NSUF Rapid Turnaround Experiment Program Overview

- No-cost access to perform *quick* irradiation effect studies of *limited* scope on a *small* number of samples
- Projects selected through open competitive proposal process
- Proposals welcome from university, government laboratory, and industry
- Only non-proprietary projects accepted
- Only fundamental research – basic and applied research in science and engineering where the results are published and shared broadly within the scientific community
- Awarded projects should be executed within nine months of award (or 12 months for the SuperRTE)
- Solicitations opened on a 4-month cycle
  - Traditional RTE solicitations offered up to three times per year
  - SuperRTE solicitation offered annually

FY24 RTE Solicitations

1st RTE Call	October 2023 through January 2024
2nd RTE Call	February 2024 through May 2024
SuperRTE Call	April 2024 through July 2024
3rd RTE Call	June 2024 through September 2024

New in FY24

Call Webinars

Discuss detailed call information

General questions and answers (Q&As)

Individual Question and Answer Sessions

Specific Q&As with project team and NSUF chief scientists

SuperRTE Call

Broader scope

Increased project duration

NSUF SuperRTE

- SuperRTEs offer broader scope than the traditional RTE and allow for more time at NSUF facilities:
  - Twice the allowable time at NSUF partner facilities
  - Two NSUF partner institutions for post-irradiation examination
  - Support for shipping between multiple NSUF partner institutions
  - 12-month project duration
  - Increased page limit for project narrative

RTE Proposal Review Process

Programmatic Review

Federal Program Manager

NSUF Chief Scientists

Feasibility Review

NSUF Partner Facility Points of Contact

Technical Review

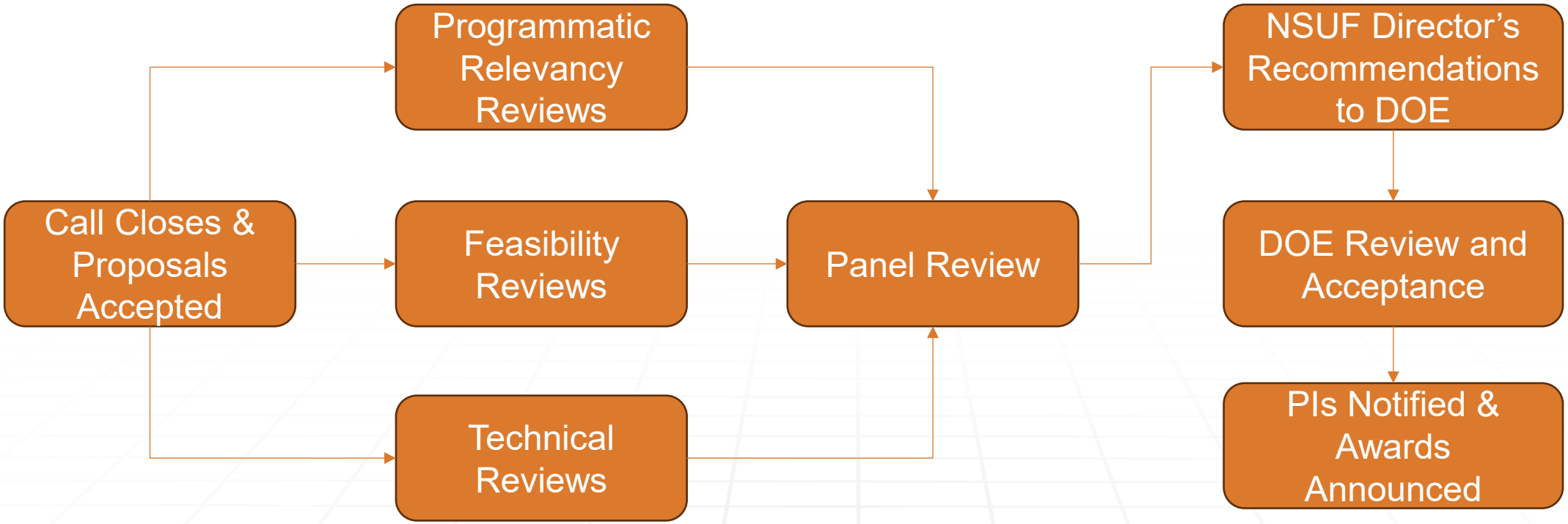
Peer Reviewers

Scientific Merit (50%)

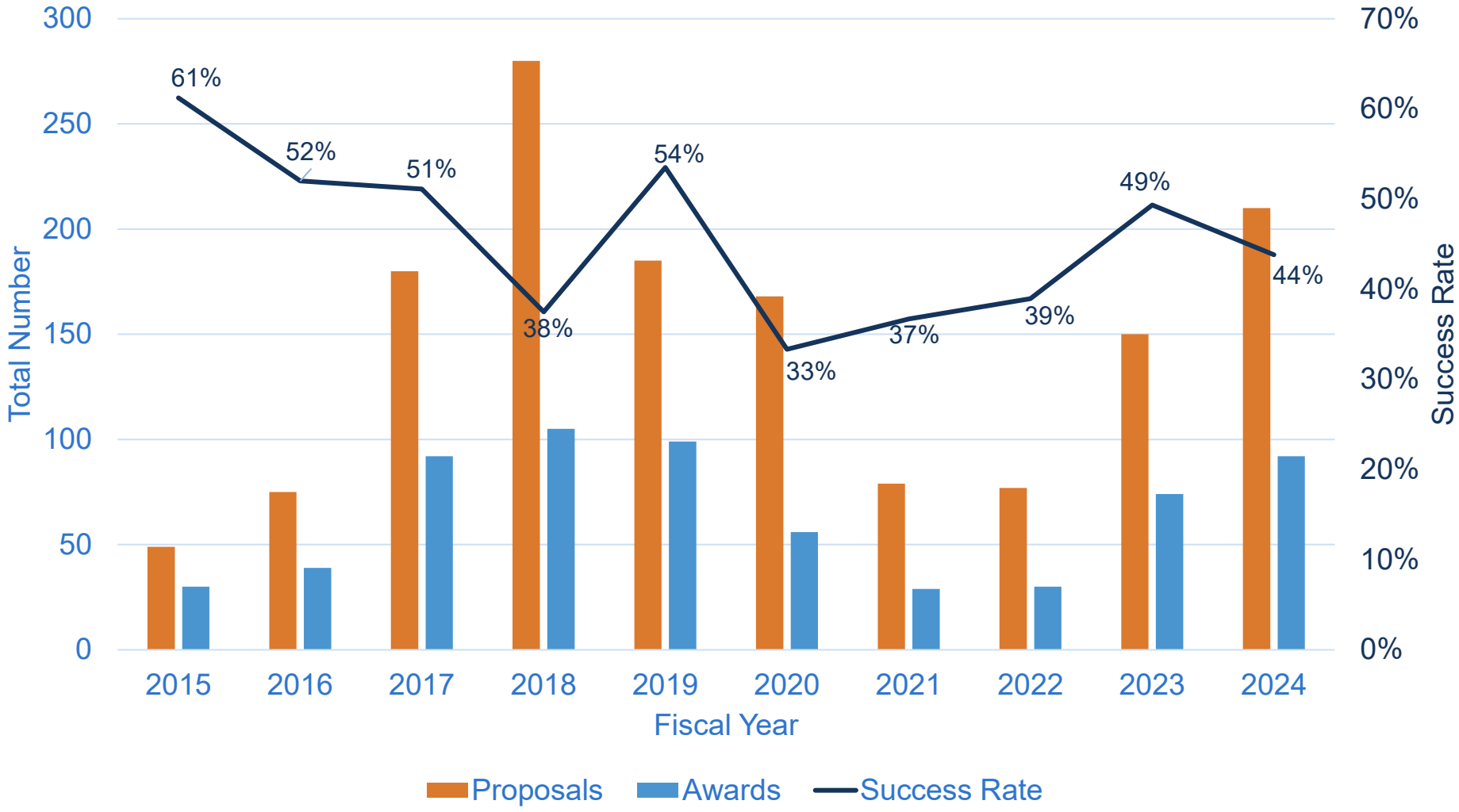
Technical Feasibility (30%)

Group Capability (20%)

RTE Proposal Review Process

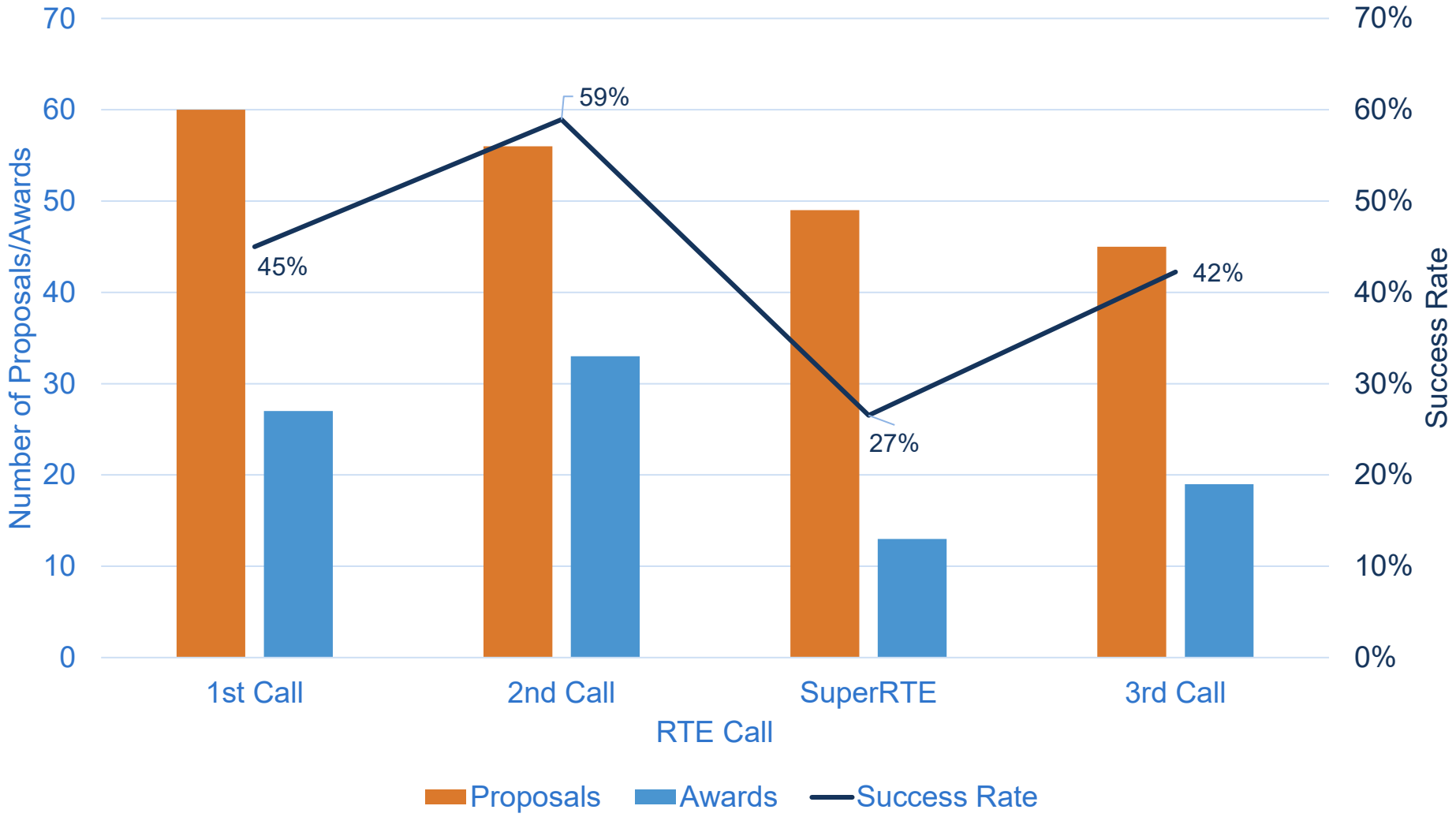


NSUF RTE Proposals and Awards (FY15 – FY24)



NSUF Nuclear Science User Facilities

FY24 NSUF RTE Proposals and Awards (by call)



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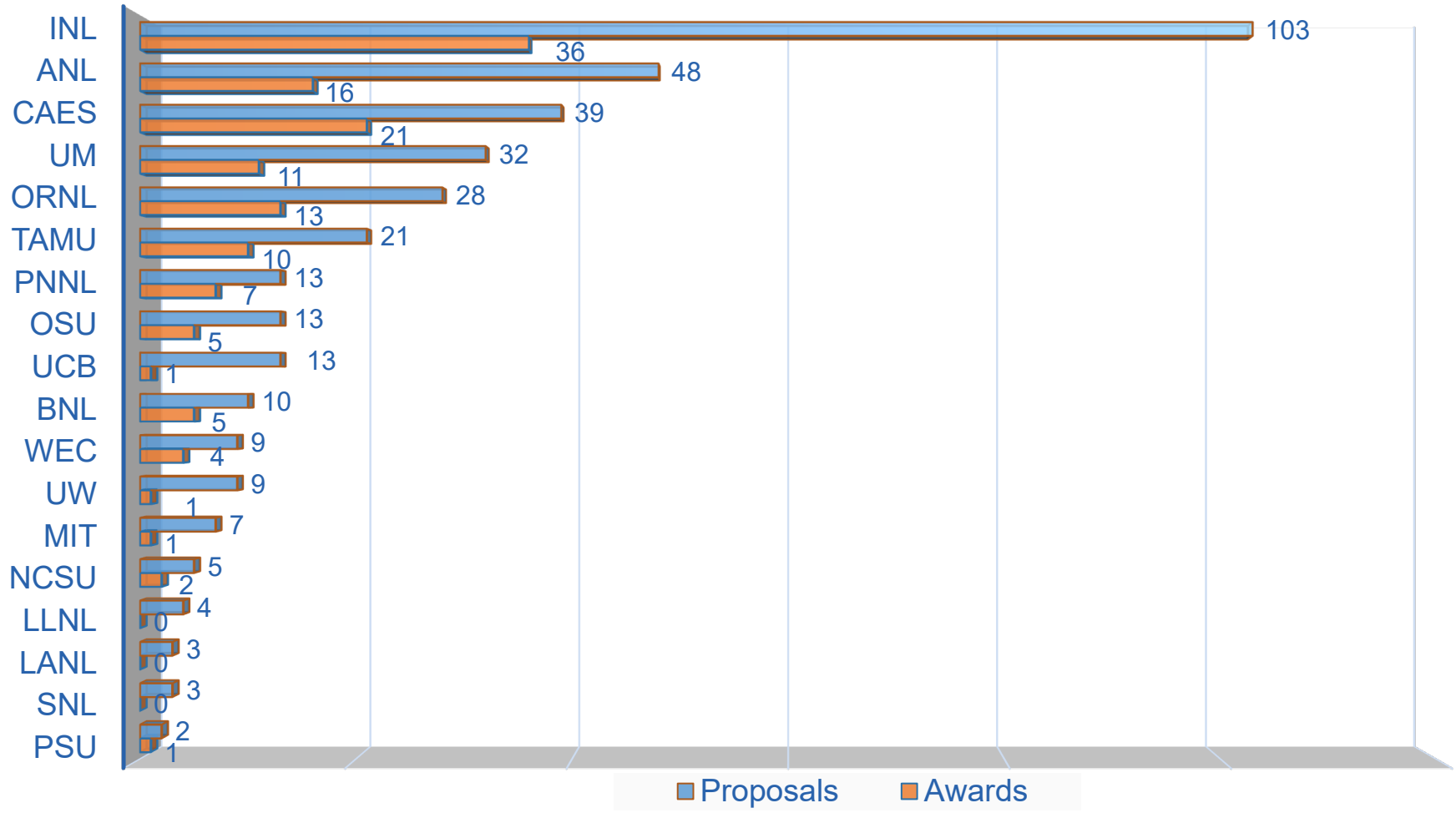
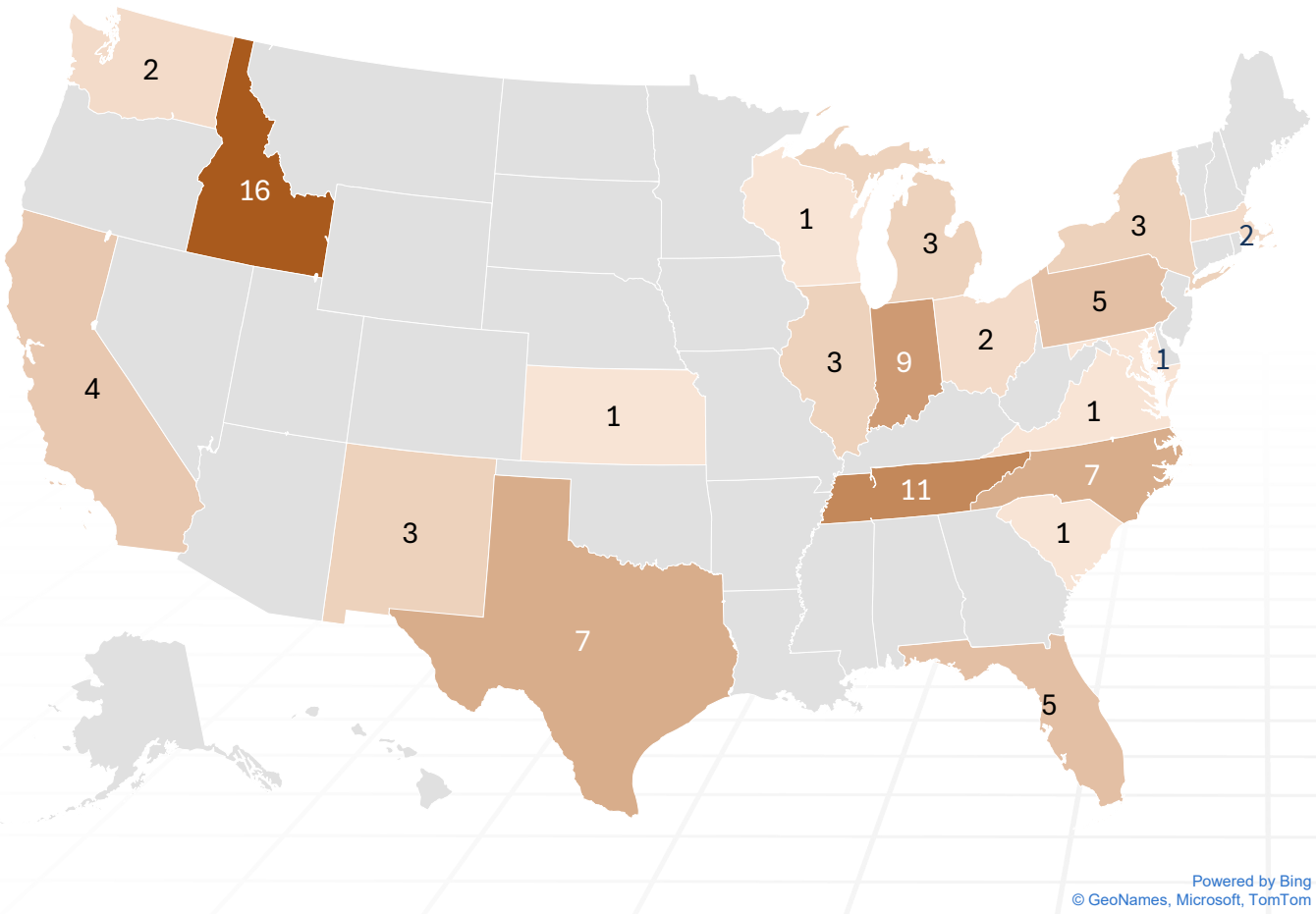
FY24 NSUF Partner Institution Requests and Awards



FY24 NSUF Institution Types

NSUF Nuclear Science User Facilities

FY24 NSUF RTE Awarded Institutions



California	New York
University of California Berkeley - 1 University of California Irvine -1 General Atomics - 1 Kairos Power - 1	Rensselaer Polytechnic Institute - 2 Brookhaven National Laboratory - 1
Florida	**North Carolina**
University of Florida - 5	North Carolina State University - 7
Idaho	**Ohio**
Idaho National Laboratory - 13 University of Idaho - 2 Idaho State University - 1	NASA Glenn Research Center - 2
Illinios	**Pennsylvania**
University of Illinois - 2 Argonne National Laboratory - 1	Pennsylvania State University - 4 Carnegie Mellon University - 1
Indiana	**South Carolina**
Purdue University - 9	Clemson University - 1
Kansas	**Tennessee**
Kansas State University - 1	Oak Ridge National Laboratory - 11
Maryland	**Texas**
Nuclear Regulatory Commission - 1	Texas A&M University - 5 University of North Texas - 1 University of Texas San Antonio - 1
Massachusetts	**Virginia**
Massachusetts Institute of Tech. - 2	Dominion Engineering Inc - 1
Michigan	**Washington**
University of Michigan-Ann Arbor - 3	Pacific Northwest National Lab - 2
New Mexico	**Wisconsin**
Los Alamos National Laboratory - 3	University of Wisconsin-Madison - 1

FY24 RTE Lessons Learned

Clarified RTE rules language

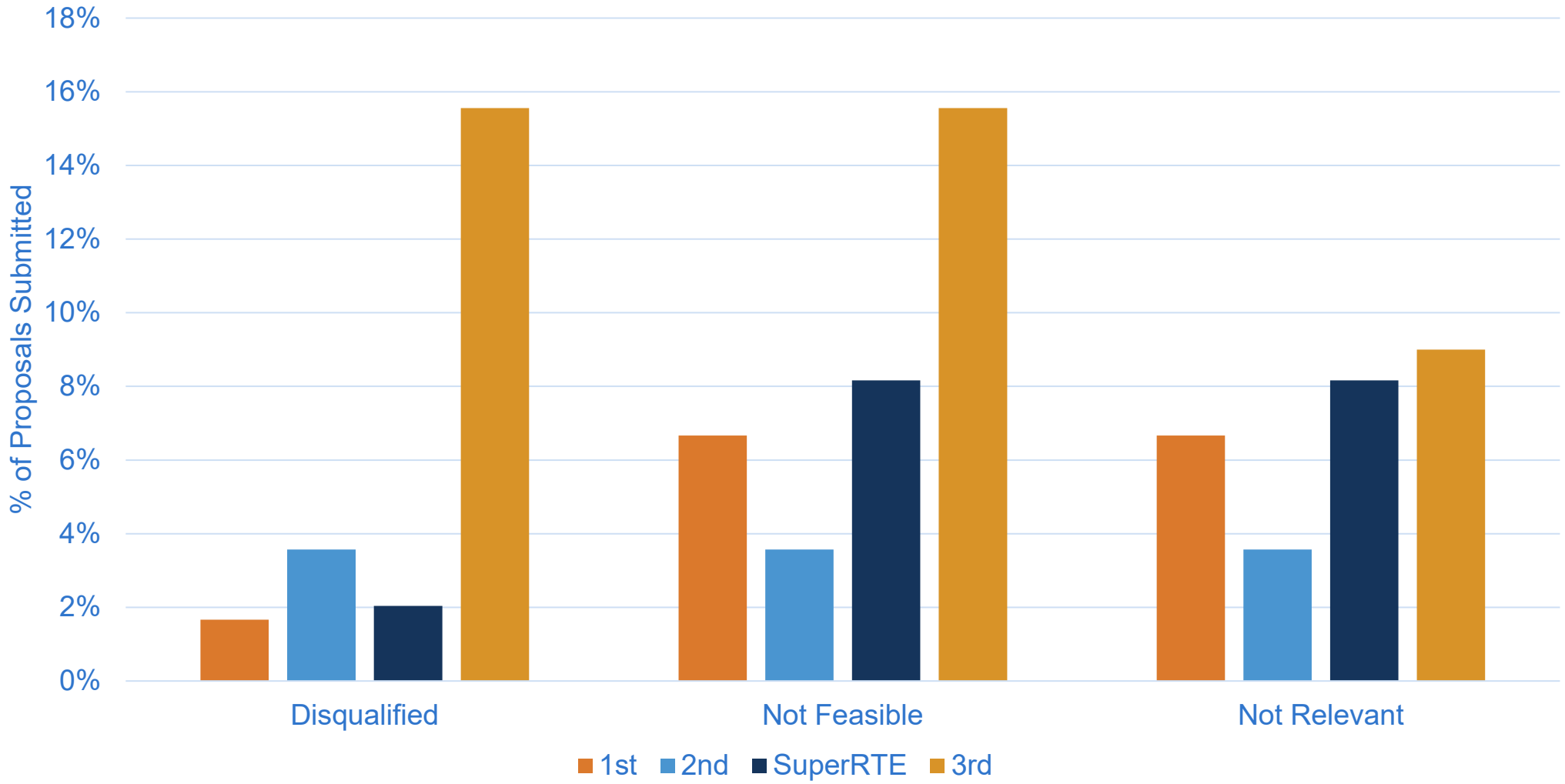
- Material development outside the scope of an RTE
- Requests for irradiation without an NSUF post-irradiation facility must include significant in-situ monitoring of the device under irradiation sufficient to result in a measurable outcome
- 2-page CV suggestion using the NSF Biosketch template

More interest in SuperRTE than anticipated

Subsequent 3rd RTE call received many proposals that did not align with guidelines

Subsequent 3rd RTE call showed a reduction in overall technical review scores

FY24 Disqualified, Not Feasible, Not Relevant RTE Proposals



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Questions?

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FY24 NSUF RTE Awarded Institutions

University	Awarded
Purdue University	9
North Carolina State University	7
University of Florida	5
Texas A&M University	5
Pennsylvania State University	4
University of Michigan	3
Massachusetts Institute of Technology	2
Rensselaer Polytechnic Institute	2
University of Idaho	2
University of Illinois	2
University of California Berkeley	1
Idaho State University	1
Clemson University	1
University of California-Irvine	1
University of North Texas	1
University of Wisconsin-Madison	1
Carnegie Mellon University	1
Kansas State University	1
University of Texas-San Antonio	1

- 21 universities awarded (33 participating)
- 8 national laboratories/government entities awarded (9 participating)
- 3 industries awarded (6 participating)
- 4 other institutions awarded (7 participating)

Government	Awarded
Idaho National Laboratory	13
Oak Ridge National Laboratory	11
Los Alamos National Laboratory	3
NASA Glenn Research Center	2
Pacific Northwest National Laboratory	2
Argonne National Laboratory	1
Brookhaven National Laboratory	1
Nuclear Regulatory Commission	1

Industry	Awarded
Dominion Engineering Inc	1
General Atomics	1
Kairos Power LLC	1

Other	Awarded
Australian Nuclear Science and Technology Organisation	1
Istituto Italiano di Tecnologia	1
Politecnico di Milano	1
University of Calgary	1