



U.S. DEPARTMENT OF
ENERGY

Nuclear Energy

August 8, 2016

**FY 2017 Consolidated Innovative
Nuclear Research
Funding Opportunity Announcement
Number DE-FOA-0001515**

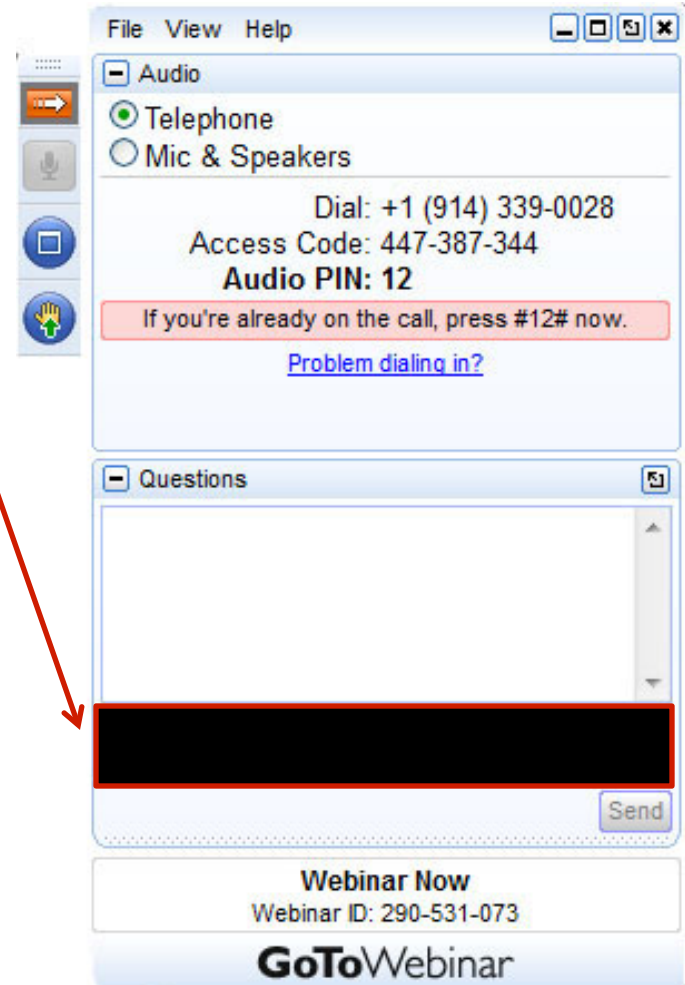


- **FOA Overview**
- **Workscopes**
- **Policy Updates and Reminders**
- **Review Process, Tools, and Submissions**



How to Ask Questions During This Webinar

- Submit questions using the GoToWebinar software by typing in the “Question” field.
- If your question does not get answered during the allotted time, questions will be answered later and posted on www.neup.gov.
- Specific questions on individual eligibility or workscope detail should be addressed offline.





■ Funding Mechanism

- Universities: Cooperative Agreements issued by DOE
- National laboratories: Work Authorizations managed by DOE
- Industry: Cooperative Agreements issued by DOE
- NSUF Access: BEA subcontract

■ Collaborative Opportunity

- Nuclear Science User Facilities (requires signed user agreement)
 - *Applications for CINR R&D support and NSUF access*
 - *Applications for NSUF access only*

■ Eligibility Requirements

- Ensure R&D is delivered in necessary timelines to support programmatic missions
- Encourage diverse participation
- Based on performance (no cost extensions) and project load

■ Find FOA (DE-FOA-0001515) at <http://www.grants.gov>

■ Apply through <http://www.neup.gov>



Important Dates

Nuclear Energy

- **FOA release date:**
Anticipate August 10, 2016
- **Letters of Intent due:**
August 29, 2016
- **R&D Pre-applications due:**
September 14, 2016
(Does not apply to IRP applications)
- **R&D Full application invitations:**
December 2016
- **IRP and Full R&D applications due:** February 15, 2017



- **University-led R&D (NEUP and NSUF worksopes): Appendix A**
 - Program Supporting
 - Mission Supporting
- **University-, National Laboratory-, or Industry-led R&D (NEET, NSUF worksopes): Appendix B**
 - Program Supporting
- **University-led, Integrated Research Projects (NEUP and EM worksopes): Appendix C**
 - Program Directed



Research Elements

Nuclear Energy

■ Program Supporting

- Supports NE programs
- Defined by, and focused on, the statement of objectives developed by responsible programs

PS: Focused more directly on Programmatic Needs

■ Mission Supporting

- Must support NE mission
- Includes research in fields or disciplines of nuclear science and engineering that are relevant to NE's mission but may not fully align with the specific initiatives and programs as described in Program Supporting objectives

MS: Creative, Innovative, and Transformative

■ Program Directed

- Directed by NE & EM programs
- Significant projects within specific research areas
- Intended to develop a capability to address specific needs, problems, or capability gaps identified and defined by DOE

PD: Solutions to Near-Term Significant Needs

University-led R&D: Appendix A

■ Award Size

- Program Supporting: up to \$800,000
- Mission Supporting: up to \$400,000

■ Period of Performance

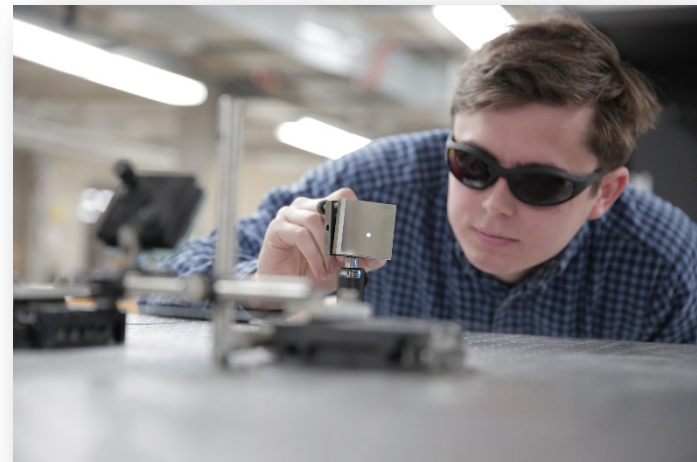
- Up to three (3) years; up to seven (7) if irradiation and PIE are proposed in a NSUF workscope

■ Eligibility

- Only universities are eligible to lead
- Universities, national laboratories, and industry are eligible to collaborate

■ Estimated Funding Level

- Approximately \$40 million, totaling approximately 40 awards



University-, National Laboratory-, or Industry-led: Appendix B

■ Award Size

- Program Supporting NEET: up to \$1,000,000
- NSUF Workscopes: \$500,000

■ Period of Performance

- Up to three (3) years; up to seven (7) if irradiation and PIE are proposed in a NSUF workscope

■ Eligibility

- Universities, national laboratories, and industry are eligible to lead or collaborate

■ Estimated number of awards

- Approximately \$12 million, totaling approximately 15 awards



University-led IRP: Appendix C

■ Award Size and Period of Performance

- IRP-FC-1: Modeling of Spent Fuel Cladding in Storage and Transportation Environments (up to 3 yrs and \$3 M)
- IRP-FC-2: Next-Generation Thermodynamic Data Development and Analysis for Nuclear Waste Repository Performance Assessment and Decision Making (up to 4 yrs and \$3 M)
- IRP-RC-1: Codification of Compact Heat Exchanger Usage for Nuclear Systems (up to 3 yrs and \$5 M)
- IRP-NE-1: Grand Challenge Problem for Nuclear Energy (up to 3 yrs and \$3M)
- IRP-EM-1: Wearable Robotic Devices for Workers (up to 2 yrs and \$1 M)
- IRP-EM-2: Advanced Robotic Tele-Manipulators for Gloveboxes and Hot Cells (up to 2 yrs and \$1.5 M)
- IRP-EM-3: Multi-Use and Multi-User (MU2) Robots (up to 2 yrs and \$1.5M)

■ Eligibility

- Only universities are eligible to lead
- Universities, national laboratories, and industry are eligible to collaborate
- International collaborations are encouraged

Lead Institution Eligibility Summary

■ Appendix A: U.S. Universities Only

- Applications may request R&D support
- In specific workscopes applications may request CINR sponsored R&D with NSUF sponsored access

■ Appendix B: U.S. Universities, National Laboratories, Industry

- Applications may request R&D support
- Applications may request CINR sponsored R&D with NSUF sponsored access
- *- OR -*
- Applications may request NSUF sponsored access only

■ Appendix C: U.S. University Only

- Applications may request R&D support

Technical Narrative Application Page Limits

■ Appendix A and B

- 1 page LOI for applications requesting NSUF access
- Up to 3 page pre-application
- Up to 10 page full-application for applications requesting R&D support
- Up to 15 page full application for applications requesting R&D support and NSUF access

■ Appendix C

- Up to 50 page application for NE sponsored IRPs
 - *IRP-FC-1, IRP-FC-2, IRP-RC-1, IRP-NE-1*
- Up to 20 page applications for EM sponsored IRPs
 - *IRP-EM-1, IRP-EM-2, IRP-EM-3*

Collaboration Guidance

Nuclear Energy

- Collaborations with universities, industry, national laboratories, and foreign institutions are strongly encouraged
- To enhance and diversify DOE's research portfolio, additional consideration is given for collaborations with Minority-Serving Institutions (MSIs) and underrepresented groups (URGs)
- For university-led applications (except for worksopes under Appendix B), non-university collaborators in composite can have no more than 20% of the total funds provided by the government
- Funding is for U.S. institutions only
 - International organizations are encouraged to collaborate as long as they are neither a denied party nor a party requiring an export license
 - U.S. funding will not be provided to any international collaborators



- PIs and collaborators are considered final when the pre-application is submitted (extenuating circumstances will be addressed as needed)
 - A collaborator is an individual who makes a defined, material contribution that is critical to the success of the project (**individuals not meeting these criteria should not be listed as collaborators**)
- PI is responsible for selection of appropriate workscope
 - Full applications must be competed in the workscope to which the pre-applications were submitted
 - Applications may only be competed in a single workscope area
- Applications submitted to this FOA are awarded to the applicant institution and will not be transferred pre-award if a lead PI changes institutions
- For review purposes, COI restrictions, if necessary, will be attributed to the individual, not the institution
- Applicants are responsible for not exceeding submission limits



Policy Updates and Reminders Cont'd

- Materials required by the FOA must be submitted by the published deadlines. Material received after these dates will not be considered
- Uninvited applications may be submitted as full applications per the stipulations of the FOA
 - Uninvited applications associated with NSUF submissions may not be submitted as full applications due to the expense associated with feasibility assessments
- U.S. funding may not be provided to international institutions
- For university-led applications (except for worksopes under Appendix B), non-university collaborators in composite can have no more than 20% of the total funds provided by the government

Policy Updates and Reminders Cont'd

- 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 CO for any pre-award costs greater than 90 days
- Technical review of applicant budget has been rescinded
- NSUF applicants are required to affirm their ability to accept the NSUF User Agreement on submission of LOI
- For NSUF applications, all materials and samples must be available within five months after project initiation
- NSUF applications must include a list of publications that resulted from previous NSUF supported projects (place in “Benefits of Collaboration”)
- Do not lock cells in budget spreadsheets. Applications with locked cells may be disregarded without further review

Submittal Guidelines

Nuclear Energy

■ Ineligible to submit to this FOA as a PI:

- Lead PIs on an active IRP
- University PIs with 3 or more R&D projects that will be active after December 31, 2017
- PIs with a NCE on any DOE-NE funded project that will be active beyond December 31, 2017

■ Pre-application submittal limits:

- University PIs can be included on no more than 6 pre-applications total, with no more than 3 of those submissions as the PI

■ Full application submittal limit:

- A university PI may have no more than 1 IRP or 3 R&D projects at any time, and may not submit more full applications than allowed should the applications be selected for funding (*NSUF access only applications are excluded, other NSUF applications are evaluated case by case*)

Submittal Guidelines (Cont'd)

■ NEET-CTD funded research:

- Universities, national laboratories, and industry are limited to 3 pre-applications per institution per workscope area
 - *For university PIs, these submissions count toward the pre-application limits*

■ IRP applications:

- An applicant is ineligible to submit as the PI if (s)he is designated as PI for more than 1 currently funded DOE-NE research project that will still be active beyond December 31, 2017
- PIs may not submit a R&D application and an IRP application in the same year

■ NSUF projects that request R&D support will be evaluated on a case-by-case basis

■ NSUF access only applications are exempt from eligibility restrictions



“Semi Blind” Reviews

- CINR policy is to review PS and MS applications in a “semi blind” process. Technical narrative is evaluated without knowledge of individuals or facilities to establish the merit of the idea. **Do not include the following information in your narrative:**
 - Cost and pricing information.
 - Identification, by individual name or name of institution, of any teaming partner or lead institution. Examples of acceptable ways of referring to partners will be posted on the NEUP website.
 - Official name or title of facilities used to execute scope. Describe the facility by function and/or technical attributes such as an accelerator, a test reactor, etc.
- Note:** For applications requesting NSUF access, NSUF facilities may be named.

Cost Sharing

- For applications led by universities, cost sharing is encouraged, but not required. Cost sharing is not an evaluated criteria.
- Applications led by industry are required to have a 20% cost share (required only of the lead institution). The cost is based on the total allowable costs (TAC) and must come from non-Federal sources.
 - The TAC of the project is the sum of the government share, including FFRDC (e.g. national labs) costs, if applicable, and the recipient share.
 - Industry applicants requesting R&D support coupled with NSUF access must cost share on the R&D requested funds.
 - Does not apply to NSUF Access Only applications.

Appendix D – Data Needs for Validation

- DOE has interest in leveraging multiple needs to the extent possible
- Appendix D provides a description of key data needs for validating advanced modeling and simulation tools being developed by NE
- Researchers should evaluate their applications in light of these data needs and highlight any potential for capturing key data

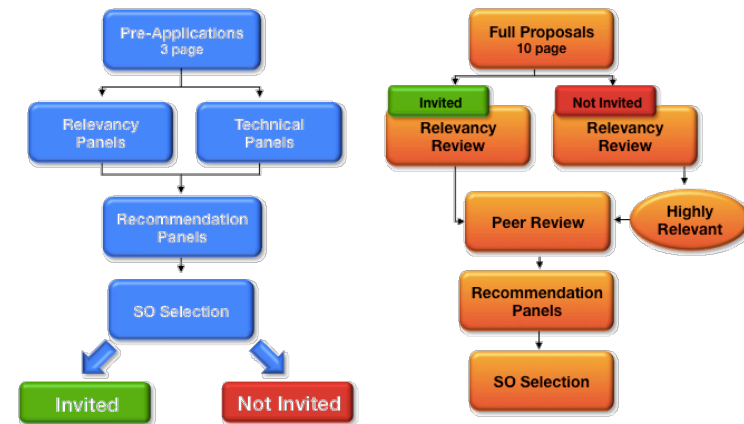
Review Process, Tools, and Submissions



Review Processes and Criteria

■ Review criteria and processes used for PS, MS, and PD evaluation is consistent with traditional peer review

- PS and MS applications are reviewed in a semi-blind process that includes pre-applications
 - *Pre-applications: 2 relevancy, 1 peer*
 - Results in “Invited” and “Not Invited” status
 - *Full applications (typical): 2 relevancy, 3 peer*
- PD applications are reviewed individually by a common set of reviewers who are then convened into a panel for final scoring
 - *A minimum of 2 relevancy, 3 peer*



Uninvited Pre-Applications

- With the exception of NSUF applications, uninvited pre-applications may be submitted as full applications
- Uninvited pre-applications that are received as full applications must meet the following criteria in a re-review of relevancy and program priority to be considered for a full technical review:
 - Relevancy: average score of at least “High Relevance”
 - Program Priority: average score of at least “Moderate Program Priority”



Weighting of Scores

- Technical merit and relevancy are weighted according to program involvement:
 - Mission Supporting 80% Technical; 20% Relevancy
 - Program Supporting 65% Technical; 35% Relevancy
 - Program Directed 50% Technical; 50% Relevancy
 - NSUF Access Only: 65% Technical; 35% Relevancy

- FOA details criteria for all sections and application types

- Additional relevancy consideration is given for effective partnerships including MSI and URG

- Program priority is a separate criteria (has historically been part of relevancy) that is scored by the relevancy reviewer



FOA At-A-Glance

Nuclear Energy

		Applicable Workscope Appendix	Estimated Available Budget	Maximum Award Size	Project Duration	Cost Share	Collaboration
University-led NEUP Projects	Program Supporting	Appendix A	\$40,000,000	\$800,000	Up to 3 years	Encouraged but not required	University, national laboratory, industry, and foreign collaborations are encouraged but no U.S. funding can go to entities that are not incorporated in the U.S
	Mission Supporting			\$400,000			
University-, National Laboratory-, or Industry-led NEET CTD Projects	Program Supporting	Appendix B	\$12,000,000	\$1,000,000	Up to 3 years	Required by Industry leads	
NSUF Projects	Program Supporting	Appendix B	R&D: \$3,000,000 - \$5,000,000 NSUF: \$6,000,000	Refer to maximum award size of the project funding and NSUF funding.	Up to 7 years or Irradiation and PIE. Up to 3 years for PIE only or Irradiation Only	Required for Industry seeking R&D support	
University-led Integrated Research Projects – NEUP	Program Directed	Appendix C	\$18,000,000	\$5,000,000	Up to 3 years unless noted	Encouraged but not required	



Required Documents

Nuclear Energy

Document	University		National Lab		Industry	
	Lead	Collaborator	Lead	Collaborator	Lead	Collaborator
Conflict of Interest (COI) Acknowledgement (Checkbox)	Yes		Yes		Yes	
SF424 (R&R)	Yes		Yes		Yes	
Research and Related Other Project Information	Yes		Yes		Yes	
Project Summary/Abstract	Yes		Yes		Yes	
Project Narrative	Yes		Yes		Yes	
Vitae - Technical Expertise and Qualifications (2 pages each)	Yes	Yes	Yes	Yes	Yes	Yes
Benefits of Collaborations (4 pages)	Yes		Yes		Yes	
Capabilities (2 pages)	Yes		Yes		Yes	
Letters of Support (Program Directed IRPs only)						Yes



Required Documents Cont'd.

Nuclear Energy

Document	University		National Lab		Industry	
	Lead	Collaborator	Lead	Collaborator	Lead	Collaborator
SF424 Research and Related (R&R) Budget (Total Fed + Non-Fed)	Yes		Yes		Yes	
SF424 R&R Subaward Budget (Total Fed + Non-Fed)		Yes				Yes
Budget for DOE National Laboratory or FFRDC			Yes	Yes		
Budget Justification	Yes	Yes			Yes	Yes
Current and Pending Support	Yes	Yes	Yes	Yes	Yes	Yes
Coordination and Management Plan	Yes		Yes		Yes	
Authorization for DOE/NNSA FFRDCs (including unfunded)			Yes	Yes		
Project/Performance Site Location	Yes		Yes		Yes	
Environmental Checklist	Yes		Yes		Yes	
Certifications and Assurances	Yes				Yes	

Tools for Understanding the FOA

■ Eligibility Workflow

- When a PI answers the questions on this workflow they can find out detailed eligibility restrictions.

[https://neup.inl.gov/SiteAssets/FY_2017_Documents/
FY17%20CINR%20FOA%20Eligibility%20Flowchart.pdf](https://neup.inl.gov/SiteAssets/FY_2017_Documents/FY17%20CINR%20FOA%20Eligibility%20Flowchart.pdf)

■ R&D Federal/Technical Points of Contact

- [https://neup.inl.gov/SitePages/
FY17_RD_Technical_Program_Contacts.aspx](https://neup.inl.gov/SitePages/FY17_RD_Technical_Program_Contacts.aspx)

■ IRP Federal/Technical Points of Contact

- [https://neup.inl.gov/sitepages/
FY17_IRP_Technical_Program_Contacts.aspx](https://neup.inl.gov/sitepages/FY17_IRP_Technical_Program_Contacts.aspx)



Contact Information



■ Federal/Technical Points of Contact – Technical Questions

- List of TPOCs found at www.neup.gov

■ DOE-ID – Procurement Questions

- Shawn Tinsley
- tinslesm@id.doe.gov

■ NE Integration Office – General Application Submittal Questions

- (208) 526-1602 / (208) 526-1507
- neup@inl.gov



Important Dates

Nuclear Energy

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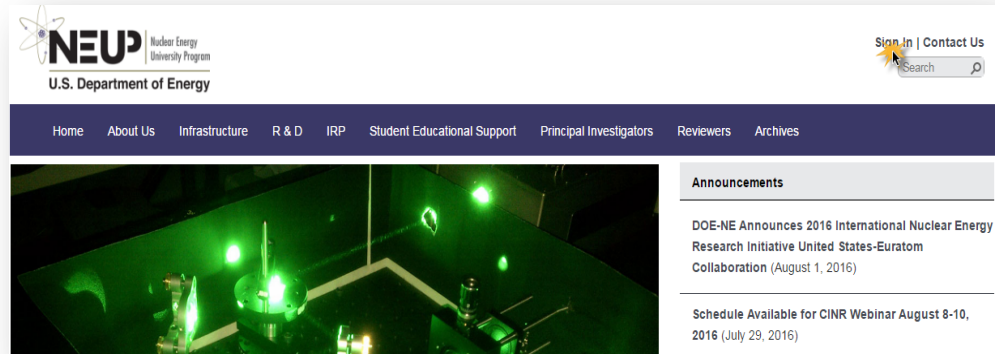


Additional Slides

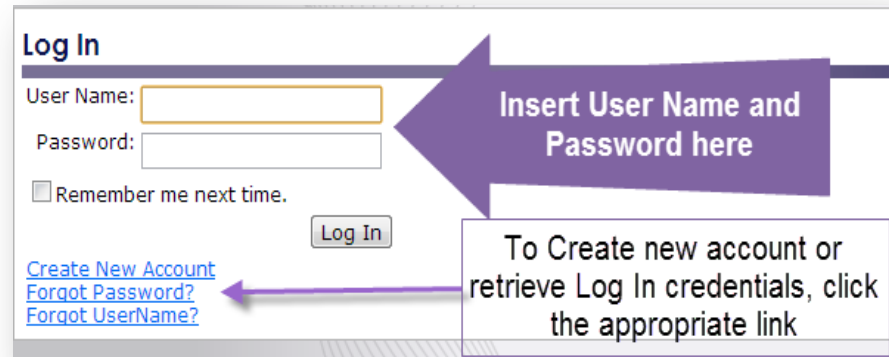


How to Submit an Application

Visit www.neup.gov and click
“Sign In.”



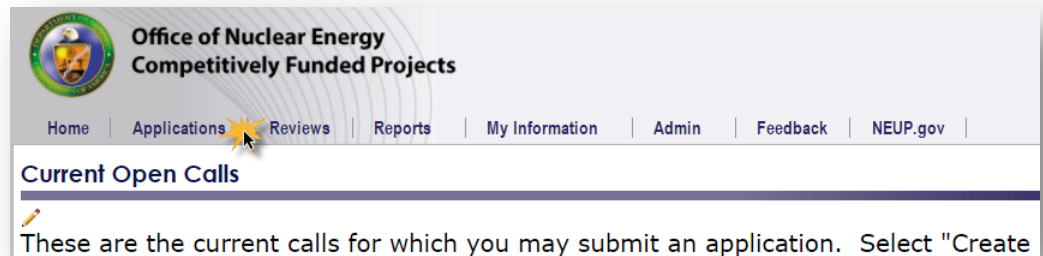
Log in using your User Name and Password. If you haven't submitted or reviewed for NE before you will need to Create a New Account.



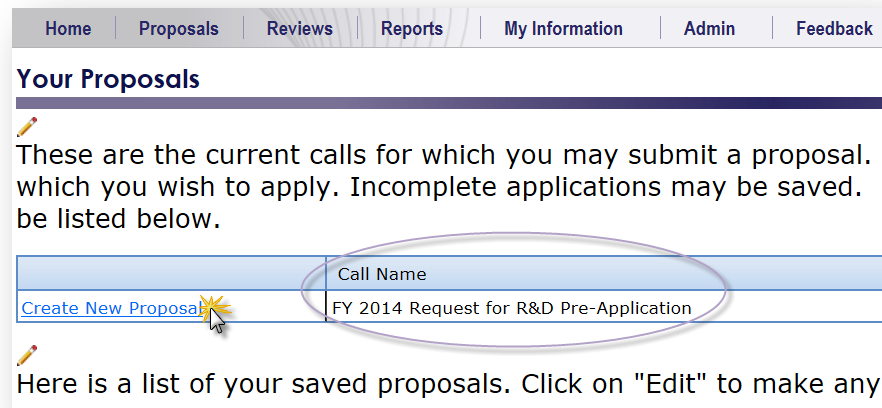


How to Submit an Application (Continued)

To create your application, click on the “Applications” tab as shown below.



This page is where past applications are still visible, and any new calls will be available. FY 2017 solicitation options are found here. Simply click on the appropriate “Create New Application” link to begin the application process.



NE Review Process Overview for Program and Mission Supporting Applications

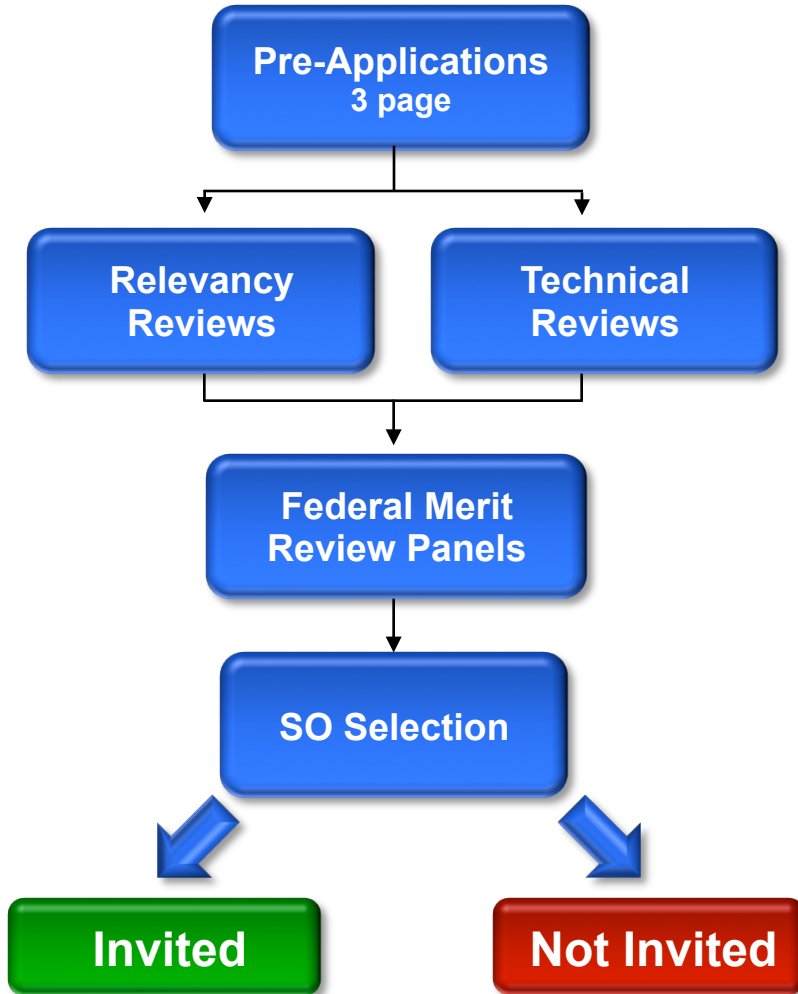


PS/MS Review Processes

- **PS and MS pre- and full applications are reviewed by individual reviewers**
 - Two relevancy (Federal Program Manager/Technical Integration Office representative)
 - One technical peer for pre-applications
 - Up to three technical peers for full
- **Individual scores are collected and considered**
- **Inconsistent reviews are reconciled**
- **Federal merit review panels review results and recommend a list of projects for SO consideration**



PS/MS Review Processes (Continued)





Pre-applications: Relevancy

■ Five categories:

High Relevancy: The project is fully supportive of, and has significant, easily recognized and demonstrable ties to the NE mission and the relevant workscope area. The project builds on synergies with ongoing direct funded, or competitively funded projects *or* meets a critical mission need. The project focuses on critical knowledge gaps where limited work is currently being performed.

Moderate Relevancy: The project is supportive of, and has significant, recognized and demonstrable ties to the NE mission and the relevant workscope area. The project recognizes synergies with ongoing direct funded, or competitively funded projects and identifies areas for improvement to current, or recently completed, work. The project has ties to knowledge gaps where limited work is currently being performed.

Some Relevancy: The project is somewhat supportive, and has some ties to the NE mission and the relevant workscope area. The project recognizes ongoing direct funded, or competitively funded projects and identifies limited improvements to current work. The project addresses some knowledge gaps, although there is a moderate amount of work currently being performed in the area.

Low Relevancy: The project is minimally supportive of, and has limited ties to the NE mission and the relevant workscope area. The project does not recognize ongoing work and does not identify areas for improvement to current, or recently completed, work. Substantial work is currently being performed in the area to address knowledge gaps.

No Relevancy: The project is not supportive of the NE mission or the relevant workscope area.



Pre-applications: Program Priority

- Application relevancy scores will be weighted in consideration of program priority which is established and influenced by factors such as balance of portfolio, funding constraints, and anticipated program needs.

- **Program priority categories:**
 - **High Program Priority:** The project is critical to program objectives and/or the workscope area and will provide unique results that can be effectively integrated with other currently funded work (direct and/or competitively funded).
 - **Moderate Program Priority:** The project is important to program objectives and/or the workscope area and will provide complementary results to currently funded work (direct and/or competitively funded).
 - **Low Program Priority:** The project is somewhat important to program objectives and/or the workscope area but results may be duplicative of currently funded work (direct and/or competitively funded) or unnecessary for current program objectives.
 - **No Program Priority:** The project is not important to program objectives and/or the workscope area. The project may also be duplicative of ongoing R&D efforts.

Pre-applications: Merit

■ Five categories:

High Merit: The project unquestionably advances the technical state of knowledge and understanding of the NE mission or relevant workscope area, and is creative and based largely on original concepts. The scope can be executed fully in the facilities available

Moderate Merit: The project advances the technical state of knowledge and understanding of the NE mission or relevant workscope area, and is based on some established concepts, although several creative and original concepts are presented. The scope may be executed fully in the facilities available.

Some Merit: The project incrementally advances the technical state of knowledge and understanding of the NE mission or relevant workscope area, and is based predominately on established concepts, with some creative, original concepts. The scope may be difficult to execute fully in the facilities available.

Low Merit: The project recognizes the technical state of knowledge and understanding of the NE mission or relevant workscope area, and is only marginally creative and contains few original concepts. The scope will require resources not named in the project or will require additional facilities or resources to execute.

No Merit: The project does not advance or recognize the technical state of knowledge and understanding of the NE mission or relevant workscope area, and is not creative or original. The scope cannot be executed fully in the facilities available.

Full Application Review

- **Weightings between relevancy and technical merit are the same**
 - Program Supporting: 35% Relevancy, 65% Technical
 - Mission Supporting: 20% Relevancy, 80% Technical
- **Relevancy review criteria remain the same**
- **Technical scoring guidelines and criteria are given for each area with a collection of comments:**
 - Scientific and Technical Merit (Blind) – 35%
 - Technical Quality of the Proposed R&D Project (Blind) – 35%
 - Team Capabilities, Qualifications, and Experience – 30%

MSI, URG, and Partnerships: Criteria and Contribution

- The degree to which MSIs, international and/or industry partners, and/or URGs, if any, contribute to the applicant's ability to support the relevant program element or overall NE mission
 - The presence of a MSI is attributed at the institution level and valued by a listing maintained by the Department of Education
 - A URG is attributed at the individual level and based on a voluntary self-identification
- Evaluated as part of relevancy
- Not required to achieve the highest relevancy score

NE Review Process Overview for Program Directed

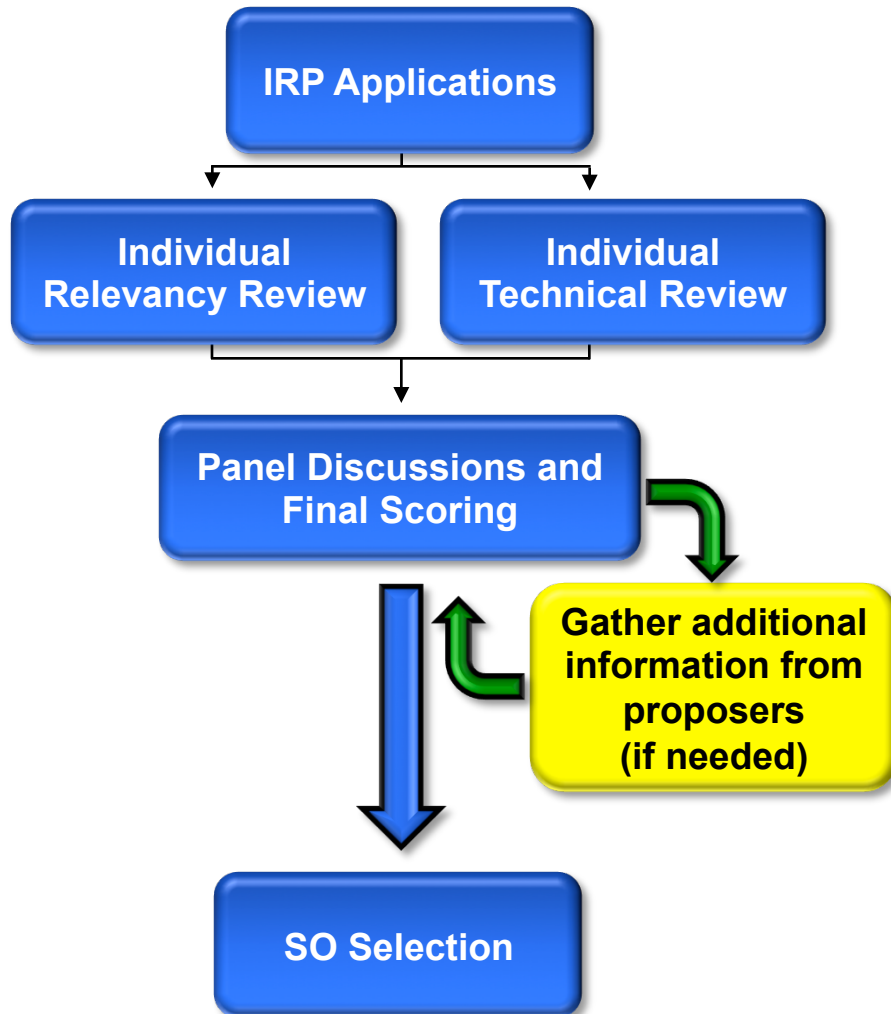
Program Directed Review Process

- PD Integrated Research Projects (IRPs) are reviewed by a panel for relevancy and technical merit
- The panel is comprised of at least 5 people:
 - Two individuals for relevancy (Federal Program Manager, Technical Integration Office representative)
 - Three technical peers
- Individual scores are collected prior to convening the panel
- Applications and review scores are discussed by a federal merit review panel for final recommendation to the Selection Official



NE Review Process

Overview: PD Applications



IRP Applications: Submission of up to 50-page applications by university/industry/lab consortiums.

Relevancy Reviewers: Federal Program Manager and a National Laboratory programmatic expert.

Technical Reviewer: Mix of university, national lab, and at least one industry expert.

Scoring: Individual scores collected prior to the panel discussions and then considered and discussed as a panel to provide balancing. Individual scores may change based on discussions.

Recommended Range: The applications are placed into a recommended range generally ranked from highest to lowest score based on available funding. This range is presented to the SO for final project selection after consideration of additional subjective factors.

SO Selection: Presentation of recommendations Merit Review Chairperson.



Program Directed Review

Relevancy Review (50%)	Technical Review (50%)
<ul style="list-style-type: none">• Program Factors (20%)• Cost Factors (20%)• Collaboration Factors (10%)	<ul style="list-style-type: none">• Scientific/Technical Merit (17.5%)• Method or Approach (17.5%)• Personnel and resources (15%)

Full criteria and guidance are provided in the FOA.

PD (IRP) Review Criteria

- Scientific and/or technical merit of the project (17.5%)
- Appropriateness of the proposed method or approach (17.5%)
- Competency of the applicant's personnel and adequacy of the proposed resources (15%)
- Program factors (20%)
- Cost factors (20%)
- Collaboration factors (10%)
 - Focused on industry, international, URGs, and MSI
 - MSI (up to 5 additional points not to exceed the maximum allowable collaboration score)