

**DOE/NE 2022 Program Announcement
International Nuclear Energy Research Initiative
United States-Euratom Collaboration**

This is an invitation to submit joint mini-proposals under the United States-Euratom International Nuclear Energy Research Initiative (INERI) in support of the collaboration with Euratom for the research and development (R&D) objectives of the Department of Energy's Office of Nuclear Energy (DOE/NE).

The joint mini-proposals submitted in response to this announcement must reflect collaborative arrangements for cooperative R&D involving at least one participant from the DOE national laboratories and/or U.S. universities and one participant from Euratom¹. There is no funding associated with selection for the INERI collaboration. The United States and Euratom participants must be funded under separate financial support from their countries and must identify such funding in the proposal. Collaborative arrangements may involve additional U.S. federal and non-federal organizations and Euratom and Euratom member country institutions.

In the United States, this invitation is intended to establish new joint projects in support of existing (funded) DOE national laboratory work packages and university R&D projects established by DOE/NE. U.S. project teams funded by DOE/NE R&D programs are encouraged to form teams with Euratom counterparts to jointly propose collaborative R&D projects that leverage the U.S. funding in achieving R&D program objectives.

R&D Areas: The areas of collaboration for the 2022 call are as follows:

- Light water reactor (LWR) materials aging and degradation
- Technologies to enhance the safety and operational efficiency of existing nuclear power plants (including plant lifetime management and lifetime extension for LWRs)
- Technologies to enhance the safety, operational efficiency, and safeguards and security posture of advanced nuclear reactor designs currently under development
- Innovative concepts for Small Modular Reactors (SMRs)
- Improvements in core nuclear physics
- Technologies to maximize the safety and proliferation resistance of advanced nuclear reactor and fuel cycle technologies
- Hybrid energy systems that integrate nuclear energy with other energy technologies and applications beyond electricity production
- Advanced nuclear fuels including accident-tolerant LWR fuels, claddings and materials

¹ Euratom includes

- 1) The European Commission's Joint Research Centre
<https://ec.europa.eu/jrc/en/science-area/nuclear-safety-and-security>
- 2) Participating institutions in the European Research co-founded projects with EU Member states Call 2021-2022: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/euratom/wp-call/2021-2022/wp_euratom-2021-2022_en.pdf

Note: Direct Cooperation with EU Member states national Research entities (e.g. CEA, France) is possible only if an Euratom entity is also involved (JRC, or a EU-funded project). Due to Brexit and the current absence of an EURATOM-UK agreement, the UK entities identified cannot participate in this specific call. Once UK becomes an associate partner in Euratom Research then this limitation will be lifted.

- Advanced waste forms characterization and management
- Decommissioning
- Used nuclear fuel storage and disposition technologies
- Nuclear science and ionizing radiation applications, radiation protection, emergency preparedness
- Modeling and simulation, including experiments, validation and verification, and data sharing for model benchmarking and validation
- Innovative manufacturing and fabrication techniques
- Advanced sensors and instrumentation
- Studies on the public perception and policy of nuclear energy

Note: DOE and Euratom would prefer to perform international collaboration in Gen-IV reactor-related R&D within the framework of the Generation IV International Forum (GIF). However, DOE will consider opportunities for bilateral collaboration in instances where multilateral collaboration under the GIF is not likely to occur.

Period of Performance and Funding: Proposals for projects with periods of performance of one to three years will be considered. Funding will be determined on an annual basis subject to the availability of funds (i.e., DOE national laboratory or U.S. university must have a funded NE work package). While it is intended that DOE and Euratom will fund INERI projects in equivalent amounts, equal cost-sharing is not required.

Proposal Process: The process for proposal submission begins with the screening of mini-proposals for relevance to DOE/NE's and Euratom's R&D programs. The work scope and corresponding funding of all participants must be separately identified, as called for in the mini-proposal template provided in Attachment A. A single mini-proposal for each collaborative project shall be jointly prepared by the U.S. and Euratom lead organizations. The U.S. lead organization will submit their mini-proposal to the DOE/NE contact listed below; the Euratom lead organization will submit the same mini-proposal to the Euratom contact listed below. Mini-proposals must have concurrence from at least one Laboratory Technical Lead with a stake in the proposed work.

Following the review and selection of joint mini-proposals, full proposals will be submitted by participants to the respective DOE/NE and Euratom contacts for review. Project approvals will be based on the merits of the full proposal.

Proposal Schedule:

January 20, 2022	Request for mini-proposals/abstracts released
February 16, 2022	Mini-proposals/abstracts due; evaluation begins
March 4, 2022	Notification of qualified mini-proposals and request for full proposals
April 1 25, 2022	Full proposals due
April 15, 2022	Final project selections (U.S.)
April 19, 2022	U.S./Euratom concur on final project selections
April 20, 2022	Send award notification to PIs
April 20, 2022	Project start date

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ATTACHMENT A

International Nuclear Energy Research Initiative (I-NERI)

I-NERI JOINT MINI-PROPOSAL TEMPLATE

*The following title structure and content are required for joint mini-proposal submissions for I-NERI projects. Mini-proposals, including the required Milestone and Budget tables, should total **no more than two pages**.*

Proposed Project Title:

Lead U.S. Investigating Organization and Principal Investigator:

Lead Collaborating Investigating Organization and Collaborating Principal Investigator:

Other Key Collaborating Organizations:

Proposed Project Period of Performance:

Program and Work Package number/University R&D Project number:

R&D Field:

Approving Laboratory Technical Lead:

Technical proposal requirements:

All proposals shall include the following major sections with the indicated content as described:

- **Project Description** - Provide a brief description of the proposed project, citing the applicable DOE R&D Program and the corresponding work package/University R&D Project number; include a brief statement of key objectives and outcomes and of the proposed project.
- **Project Organization** - Provide a project organization chart (or table) showing primary responsibilities and relationships of the participants by top-level task.
- **Project Schedule and Milestones** - Include key milestones and deliverables in each budget year based on a 12-month interval.
- **Facilities and Resources** - Provide information on the experience of the applicant organization and the adequacy of required, staff and facilities.
- **Project Summary Budget** - Include a summary budget table defining total and individual funding requirements for each participating organization by major task, by year and total project period.