

U.S. Department of Energy Office of Environmental Management Minority Serving Institutions Partnership Program

Webinar for Notice of Funding Opportunity No. DE-FOA-0003422

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September 19, 2024



**U.S. DEPARTMENT OF
ENERGY**

**OFFICE OF
ENVIRONMENTAL
MANAGEMENT**

Discussion Items

- ❖ **Overview of Office of Environmental Management (EM)**
- ❖ **Overview of EM Minority Serving Institutions Partnership Program (MSIPP)**
- ❖ **Key Information of Notice of Funding Opportunity (NOFO)**
- ❖ **Questions**

****Recordings of this Webinar can be found here:**

<https://www.emcbc.doe.gov/SEB/Files/Video/MSIPP%20Webinar%20DE-FOA-0003422%20Recording%201.mp4>

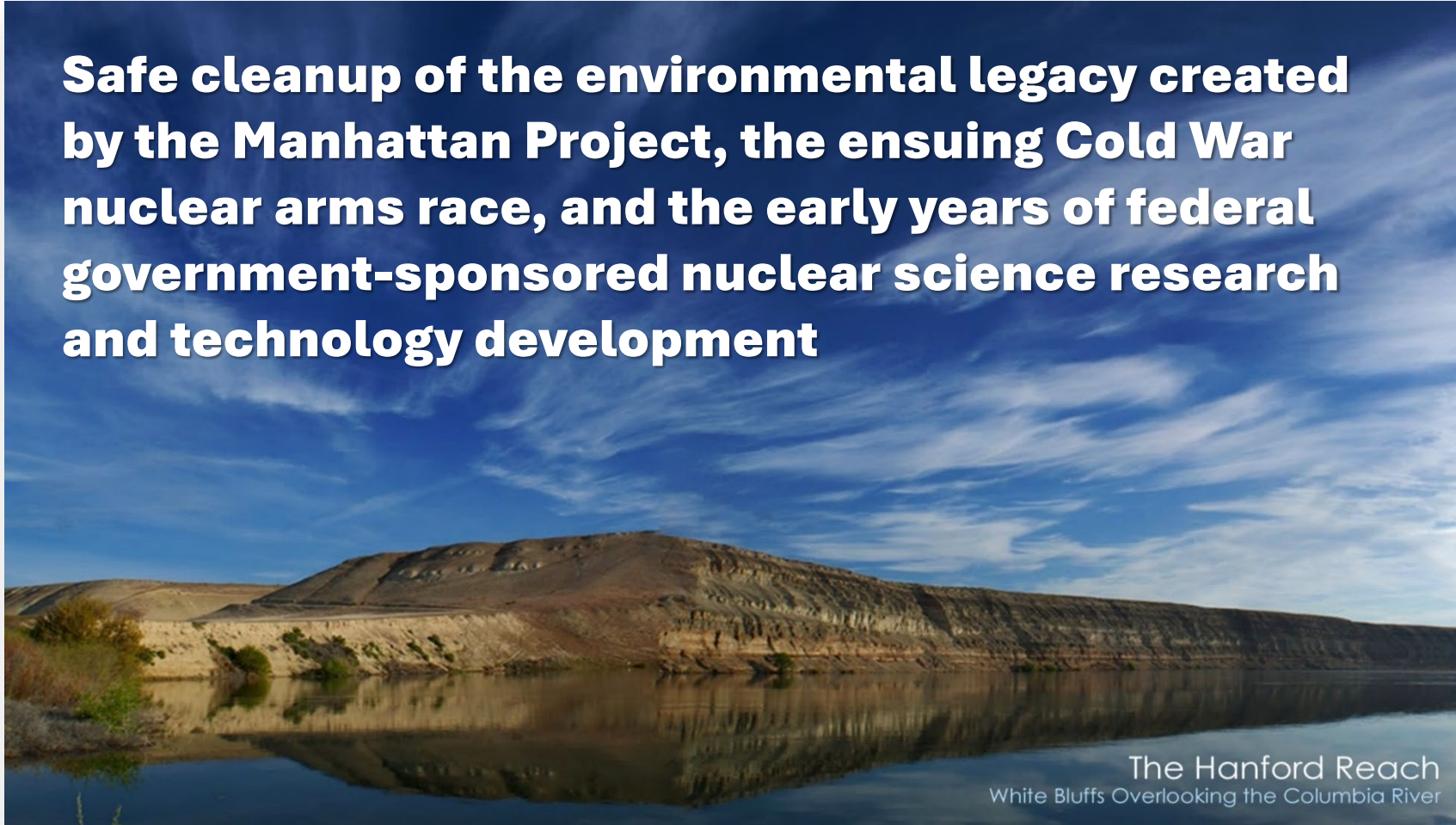
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Overview of Office of Environmental Management

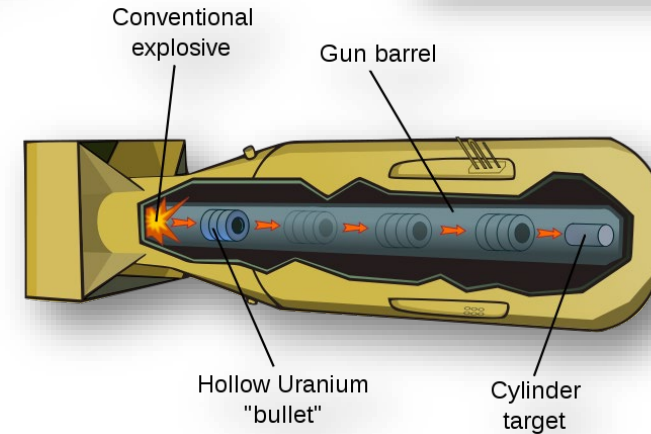
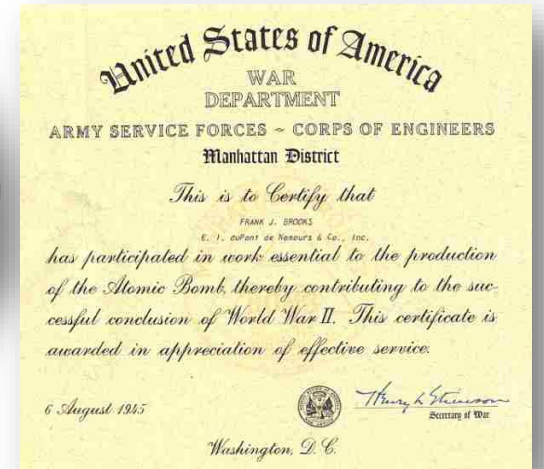
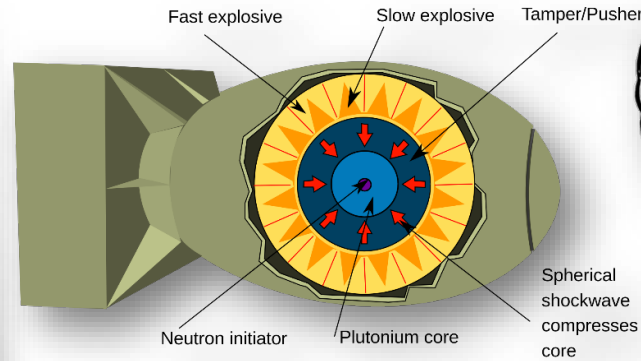
Mission

Safe cleanup of the environmental legacy created by the Manhattan Project, the ensuing Cold War nuclear arms race, and the early years of federal government-sponsored nuclear science research and technology development



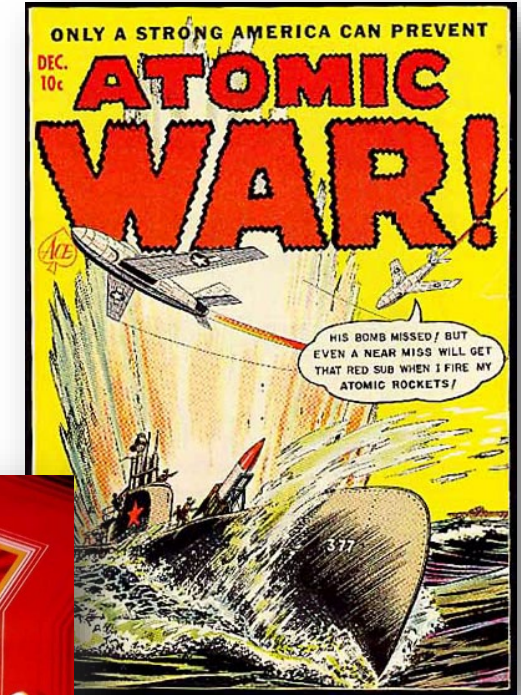
Manhattan Project (1942 to 1946)

Codename: Development of Substitute Materials



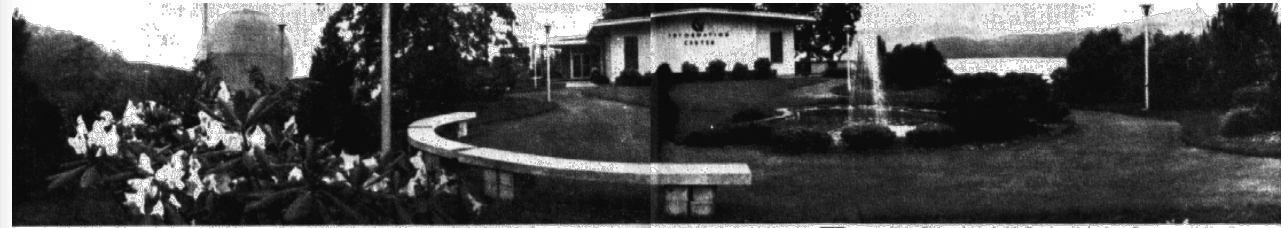
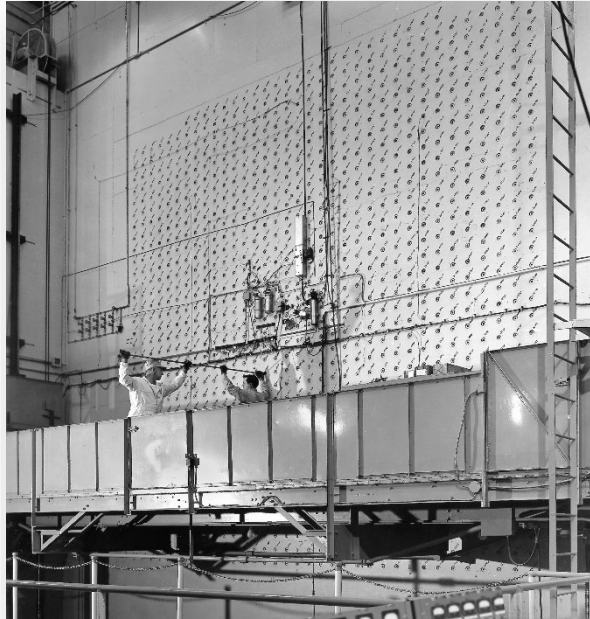
Cold War (1947 to 1991)

Nationwide Industrial Complex for the Cold War Nuclear Arms Race



Early Nuclear S&T (1953 to 1990s)

Early Years of Government-Sponsored Nuclear Science and Technology



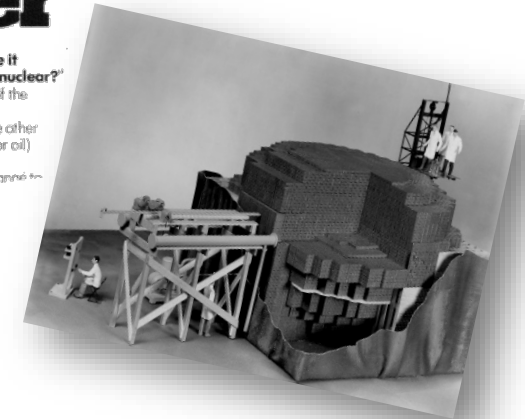
"Go play in the nuclear power park."

It's possible, you know. The grounds adjacent to nuclear power plants are safe and clean enough for children's playgrounds. In fact, today, most nuclear power plants are places of education and enjoyment for thousands of adults and children.

...equate nuclear fuel sources with nuclear explosions. This is the result of far more publicity about bombs than about power-producing nuclear fuel. The fact is, rigid safety precautions make the nuclear industry in the United States and abroad perhaps the safest industry in the history of technology. Before the go-ahead is ever given to build a nuclear power plant, the Atomic Energy Commission...

...each American to an average of 5 millirems of radiation a year. (A millirem is 1/1000 of a rem, the standard unit of measurement of the biological effect of radiation.) Cosmic rays expose us to another 30 millirems. This varies widely depending on what elevation we live. Just living on a hill exposes us to 5 more millirems than if we lived in a valley 400 feet below. Natural radiation is in the earth. Radioactive materials in the soil and rock expose...

"Why can't electricity be made like it always has without using anything nuclear?"
It can, and is. Right now, only 1% of the electricity generated in this country is produced by nuclear power plants. The other 99% comes from fossil fuel (coal, gas or oil) or hydro (falling water) plants. However, this ratio will have to change to keep up with future needs.



Peacetime Atomic S&T Leadership



**Formed in 1946
Dissolved in 1975**



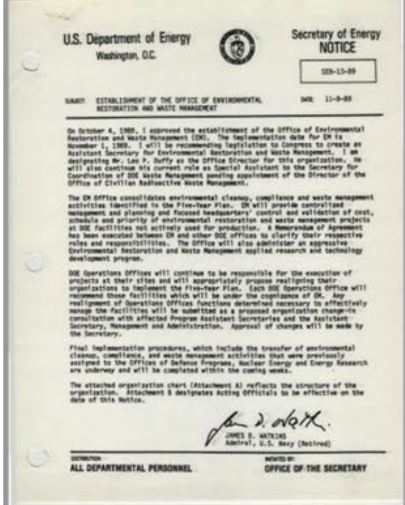
**Formed in 1974
Dissolved in 1977**



Formed in 1977



Formed in 1974



DOE Office of Environmental Restoration and Waste Management Formed in 1989

Mission Areas

Nuclear Facility Decommissioning

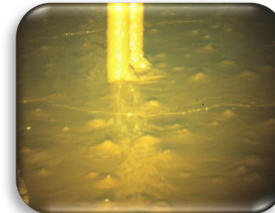
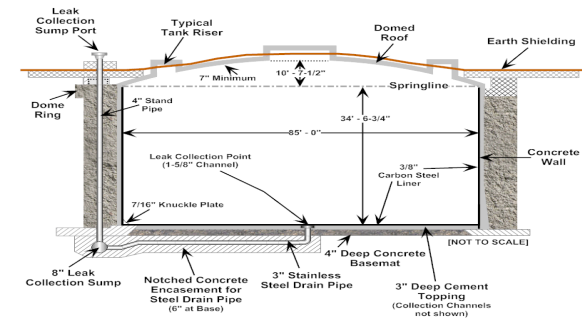
NOFO Topic



Soil and Water Cleanup



Liquid Radioactive Waste Processing

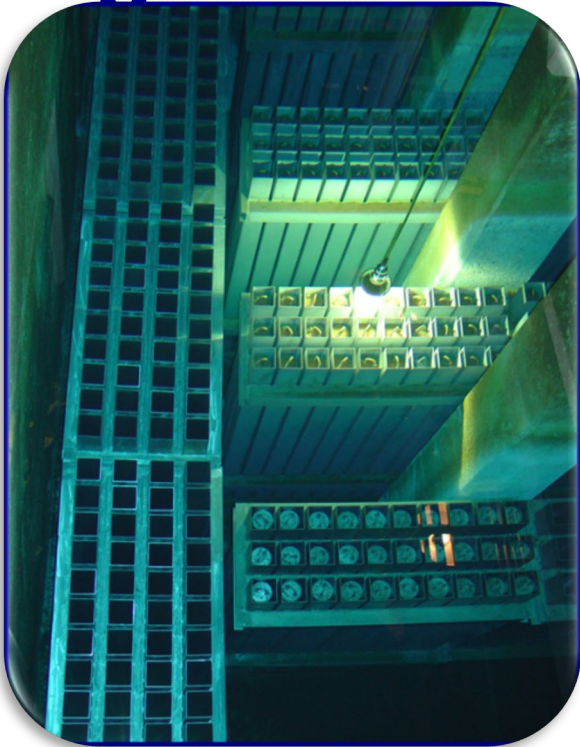


Mission Areas

Solid Radioactive Waste Treatment, Storage & Disposal

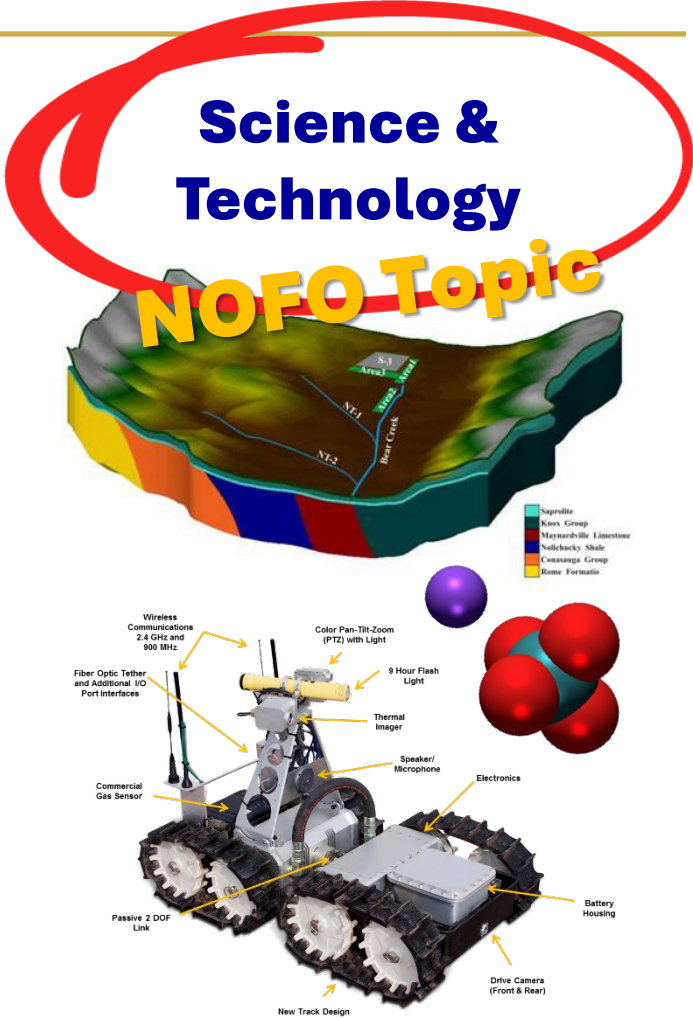


Nuclear Materials & Spent Nuclear Fuel



Science & Technology

NOFO Topic



Initial Footprint of the Cold War Legacy



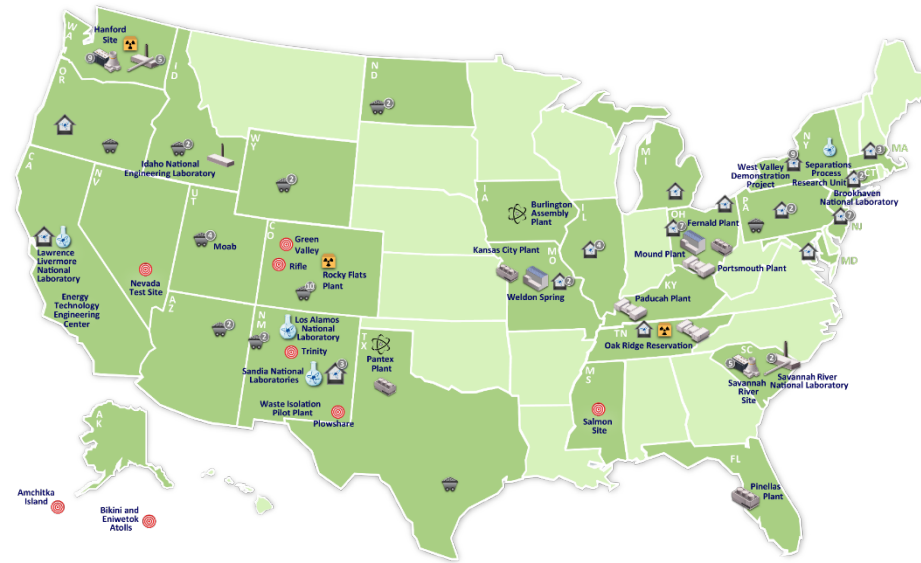
Initial Scope of the Cold War Legacy



Over 780,000 metric tons of depleted uranium produced as a by-product of enriching uranium



Millions of cubic meters of soil and billions of gallons of groundwater contaminated by releases of radioactive and hazardous materials to the environment



Over 6,200 facilities were contaminated from nuclear operations



Over 90 million gallons of highly radioactive liquid waste was generated from producing plutonium and uranium

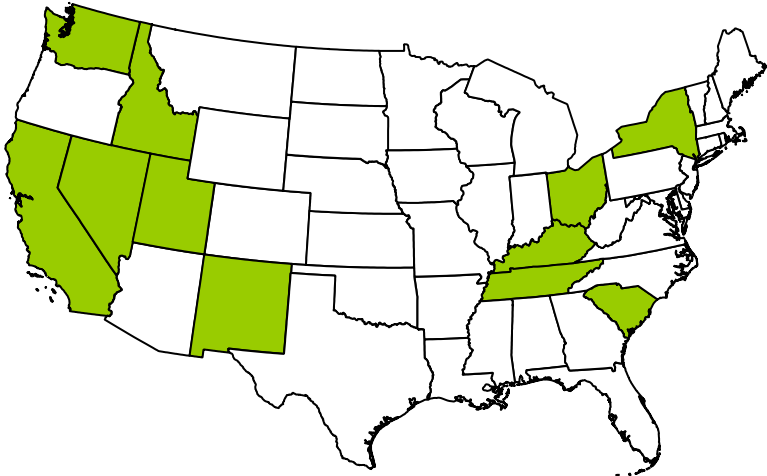
Current Footprint of the Cold War Legacy



Mission Outlook

Mission Completion Estimates

- ◆ Year: 2078 - 2091
- ◆ Cost: \$488,504M - \$723,332M
- ◆ SNF: 2040 ◀ **D&D: 2086**
- ◆ SNM: 2060 ◆ Soil & GW: 2091
- ◆ Tank Waste: 2065 ◆ Solid Waste: 2091



FY2024 Enacted Budget: \$8,482M

- ◆ SNF/SNM: \$563M
- ◆ Tank Waste: \$3,157M
- ◆ TRU, SW: \$1,073M
- ◀ **D&D: \$1,682M**
- ◆ Soil & GW: \$540M
- ◆ Site Services: \$1,495M



DEPARTMENT OF ENERGY PROUDLY CELEBRATES



NATIONAL

HISPANIC

HERITAGE MONTH



Overview of EM

Minority Serving Institutions

Partnership Program

University Partnering

❖ Generational Workforce

- ◆ EM promotes the education and development of next generation workforces in STEM-related disciplines that complement the mission of legacy cleanup
- ◆ The enduring mission of legacy cleanup requires maintaining a highly-trained, technically skilled, and diverse workforce

❖ Minority Serving Institutions Partnership Program

- ◆ Minority representation is an important part of EM's vision
- ◆ MSIPP provides students and graduates of Minority Serving Institutions with hands-on education and experience by supporting collaborations among the MSIs, EM field sites and project offices, and DOE national laboratories

Key Program Features

- ❖ Internships
- ❖ Savannah River Environmental Sciences Field Station and Cyber Security
- ❖ Graduate Fellowship Program
- ❖ Postdoctoral Fellows Program
- ❖ STARS Fellows Program
- ❖ Competitive Research Awards
- ★ Notice of Funding Opportunity
 - ★ Grant Awards





**Key Information for EM MSIPP
Notice of Funding Opportunity
No. DE-FOA-0003422**

General Information

- ❖ EM released NOFO number DE-FOA-0003422, “Minority Serving Institutions Partnership Program (MSIPP)” via www.Grants.gov on September 12, 2024.
- ❖ The NOFO targets accredited U.S. Minority Serving Institutions with a population of less than or equal to 5,000 enrolled students.
 - Subawards to MSI's with more than 5,000 student population cannot exceed 20% of total grant value
 - Non-MSI subawards are unallowable
- ❖ The total estimated value of the NOFO is \$15,500,000.
- ❖ Several financial assistance awards (grants) will be made with individual awards ranging from approximately \$1,000,000 to \$3,000,000.
- ❖ Targeted period of performance (project duration) is 12 to 36 months.

Areas of Emphasis

- ❖ The awards resulting from the NOFO will focus on enhancing Minority Serving Institutions programs to help foster a sustainable and diverse DOE EM Science, Technology, Engineering, and Mathematics (STEM) workforce pipeline.

- ❖ The awards will also aid in promoting the development of a nationally engaged scientific and engineering workforce that will lead to future career pathways in the DOE EM complex for underrepresented groups.



Topic Areas

❖ Deactivation & Decommissioning

- ◆ Deactivation and decommissioning (D&D) is the process of taking a retired facility to a final disposition end state. Because of the presence of residual radioactivity, chemical hazardous, and aged condition of facilities, D&D presents unique radiological and chemical hazards as well as changing and dangerous work conditions.

❖ Digital Technologies

- ◆ The topic area is focused on anticipating and leveraging the opportunities offered by the emergence of leading-edge and future-of-the-art technologies including, but not limited to, rapidly advancing artificial intelligence along with its subset of machine learning; specialized sensor technologies; alternative realities; and wearable technologies and smart devices.

Topic Areas (continued)

❖ Robotics

- ◆ **This topic area covers use of robotics, remote systems, and related technologies to support EM's broad mission areas. Devices include:**
 - **Unmanned Ground Vehicle (UGV):** Tracked, wheeled, legged, and marsupial UGVs
 - **Unmanned Aerial System (UAS):** Fixed wing, rotary wing, and counter-/anti-UAS
 - **Wearable Systems:** Exoskeletons, exosuits and other wearable robotic devices
 - **Industrial and Specialty Robots:** Articulated robots, Cartesian robots, delta robots, polar robots, collaborative robots, and selective compliance assembly robot arm robots; aquatic and submersible robots; marsupial and hybrid robots; and other specialty robotic devices

Preferences

- ❖ Partnerships with other MSIs
- ❖ Partnerships with DOE Sites where EM cleanup work is being conducted
- ❖ Engagement in other DOE EM activities (i.e. site visits, workshops, etc.)
- ❖ Existing working relationship with DOE Sites



Submission Guidelines

- ❖ **Restricted to accredited U.S. Minority Serving Institutions with a population of less than or equal to 5,000 enrolled students**
- ❖ **Two-Step NOFO**
 - 1) **First Step: Concept Paper, six (6) pages in length, including cover page (refer to NOFO pages 16-18 for content requirements)**
 - 2) **Second Step: Full Application**

Submission Guidelines (continued)

- ❖ **Notification:** E-mail your Expression of Interest and Intent to submit a Concept Paper to msipp-foa@emcbc.doe.gov
- ❖ **Submission:** Submit your Concept Paper to msipp-foa@emcbc.doe.gov
 - ◆ **Note:** A Concept Paper must have been submitted to be eligible to submit a Full Application
- ❖ **Key dates and deadlines**
 - ❖ **September 19, 2024, 11:00 AM ET:** Informational Webinar
 - ❖ **October 4, 2024, 5:00 PM:** Deadline for submitting Expression of Interest/Intent
 - ❖ **October 15, 2024, 5:00 PM ET:** Deadline for submitting Concept Papers

Concept Paper Content

Section	Page Limit	Description
Cover	1 page	The cover page shall include the project title, lead organization/entity, organization type and size (i.e., number of employees and students enrolled), the specific announcement Topic Area(s) being addressed, both the technical and business points of contact, names of all collaborating institutions, and any statements regarding confidentiality.
Project Description	4 pages	<p>Applicants are required to describe succinctly:</p> <ul style="list-style-type: none"> • The proposed program, including its basic operating principles and how it is unique and innovative; • The proposed program’s target level of performance (applicants should provide program metrics and goals or other support to show how the proposed target could be met); • The relevance and application to DOE-EM field sites, including key shortcomings, limitations, and challenges; • How the proposed program will overcome the shortcomings, limitations, and challenges in the relevant field and application; and the potential impact that the proposed program would have on the relevant field and application; • The key risks/issues associated with the proposed program; • The impact that EM funding would have on the proposed program; and • Cost Rough Order of Magnitude (ROM) for the program and length of award.

Concept Paper Content (continued)

Section	Page Limit	Description
Addendum	1 page	<p>Applicants are required to describe succinctly the qualifications, experience, and capabilities of the proposed Project Team, including:</p> <ul style="list-style-type: none">• Whether the Principal Investigator (PI) and Project Team have the skill and expertise needed to successfully execute the program plan;• Whether the applicant has prior experience which demonstrates an ability to perform tasks of similar risk and complexity;• Whether the applicant has worked together with its teaming partners on prior projects or programs; and• Whether the applicant has adequate access to equipment and facilities necessary to accomplish the effort and/or clearly explain how it intends to obtain access to the necessary equipment and facilities; and• Applicants may provide graphs, charts, or other data to supplement their Program Description.

Concept Paper Evaluation Criteria

❖ Overall NOFO Responsiveness and Viability of the Project

- ◆ The applicant clearly describes the proposed program objectives and link to EM priorities;
- ◆ The applicant has identified risks and challenges, including possible mitigation strategies, and has shown the impact that EM funding and the proposed project would have on the relevant field and application;
- ◆ The applicant has the qualifications, experience, capabilities and other resources necessary to complete the proposed program;
- ◆ The applicant references whether partnering with other MSI's, including 2-year institutions, is an approach used in application;
- ◆ The applicant references partnering with other EM sites and/or National Laboratories; and
- ◆ The proposed work, if successfully accomplished, would clearly meet the objectives as stated in the NOFO.

Next Steps

- ❖ **Concept Papers will be evaluated in accordance with criteria listed in the NOFO (refer to prior slide and NOFO pages 34 and 35)**
- ❖ **Based on the Concept Paper evaluations, selected applicants will be notified to request a Full Application (tentatively, January 15, 2024)**
 - ◆ **Additional information/instructions for Full Application will be provided at that time**



**DOE EM-MSIPP
LinkedIn Page**



**DOE EM-MSIPP
Program Page**