

NEUP Project Selections

September 21, 2011

These projects have been selected for negotiation of awards; final award amounts may vary.

Lead Research University	Grant Amount	Lead University Location (City, State)	Project Description
1) Integrated Research Project Awards			
Texas A&M University	\$4,500,000	College Station, TX	Researchers will receive \$4.5 million over the next three years to research aging of used nuclear fuel and canisters that are stored for an extended period of time. Partners include Boise State University, North Carolina State University, the University of Florida, the University of Illinois-Urbana Champaign, the University of Wisconsin-Madison, Savannah River National Laboratory and Pacific Northwest National Laboratory.
Massachusetts Institute of Technology	\$7,500,000	Cambridge, MA	Researchers will be awarded \$7.5 million over the next three years to test a new, advanced reactor design that generates electricity using a technology similar to what is used in modern natural gas plants. The design will also generate higher temperatures than seen in typical reactors and thus high temperature "process heat." This heat can be used in refineries to produce transportation fuels. It will also include advanced safety features. Partners include the University of California-Berkeley and the University of Wisconsin-Madison.
2) Major Reactor Upgrades			
Oregon State University	\$1,495,000	Corvallis, OR	Oregon State will upgrade its research reactor's annular reflector assembly, which reflects neutrons back into the reactor core to burn the fuel more evenly. The award will also fund instrumentation, control and monitoring upgrades, bolstering the university's ability to conduct cutting-edge nuclear energy research in a safe environment. The Department's award for this project is \$1,645,000.
University of Massachusetts, Lowell	\$678,300	Lowell, MA	Researchers will use \$678,300 to replace equipment to monitor reactor power levels as well as radiation detectors to assess emissions for NRC and EPA regulatory compliance.
3) Minor Reactor Upgrades			
University of Missouri	\$200,000	Columbia, MO	The University of Missouri will use \$200,000 of federal funds with \$599,814 of matching funds to change out the reactor reflector to maintain operability. The reflector "reflects" neutrons back into the reactor core to burn fuel more evenly.
University of Wisconsin	\$149,268	Madison, WI	Researchers at the University of Wisconsin will use \$149,268 in grant money to purchase water purification equipment to facilitate the replacement of an existing steam system in order to reduce maintenance costs and increase reactor availability, modernize water level sensing and control equipment, upgrade reactor instrumentation and control modules, and improve radiation monitoring systems.

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Massachusetts Institute of Technology	\$147,950	Cambridge, MA	MIT will provide nearly \$50,000 of funds in addition to \$147,950 of federal funds to replace the detectors that are used in the MIT Research Reactor (MITR) nuclear safety system. These detectors will improve safety and also operational reliability of the reactor.
Ohio State University	\$150,000	Columbus, OH	The Ohio State University will use \$150,000 of federal funds to enhance safety systems of their research reactor. The upgrades will help ensure the long-term viability of the reactor and facility, and it will enhance the safety and reliability of the reactor by removing aging equipment from service.
Missouri University of Science and Technology	\$200,000	Rolla, MO	Researchers and staff will use \$200,000 of federal funds and \$50,000 of matching funds to implement an internet-driven distance learning program to enhance outreach efforts and make the reactor available to other institutions of higher education as well as provide real-time remote tours to high school students. The project is a collaborative effort with the University of Illinois at Urbana-Champaign (UIUC), University of Tennessee at Knoxville (UTK), and Tuskegee University.
Rhode Island Nuclear Science Center	\$150,000	Narragansett, RI	Researchers will use \$150,000 to upgrade the instrumentation and control systems of the Rhode Island Nuclear Science Center reactor.
Idaho State University	\$150,000	Pocatello, ID	Researchers will use \$150,000 to create a unique system for testing the power and neutron production capabilities of next generation nuclear power plants. The equipment benefits several educational programs including nuclear engineering, physics, and health physics.

4) General Scientific Infrastructure

Clemson University	\$170,585	Clemson, SC	Researchers at Clemson University will use \$170,585 of federal funds to develop new analytical capabilities to measure fundamental heat flow properties to support advanced fuel cycle chemistry. The information is important in consideration of storage and disposition of reactor fuel.
University of Illinois	\$125,000	Urbana, IL	Grant money will be used to upgrade materials testing equipment to study aging of nuclear fuel cladding under extreme environment conditions. The equipment will support the research and education missions of the Department of Energy and other associated national agencies. Federal funding is \$125,000.
University of Michigan	\$300,000	Ann Arbor, MI	This project upgrades equipment to conduct radiation damage studies of materials to enhance design of new materials as well as predict limitations of existing materials. Federal funding of \$300,000 will be augmented by \$600,000 of cost match.
Lakeshore Technical College	\$147,300	Cleveland, WI	Lakeshore Technical College will use \$147,300 of federal funds to purchase laboratory equipment necessary to provide instruction in established competencies designed to ensure the quality of the entry level workforce and support the transition of knowledge from near retirement workforce to the next generation of Nuclear Technicians.

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University of Wisconsin	\$292,756	Madison, WI	Researchers will use funds to purchase a new detection system for a scanning electron microscope, upgrade the control systems of a particle accelerator, and upgrade testing, monitoring, and control systems of for key university facilities to further their education and research activities. Federal funding of \$292,756 is cost matched with \$50,000 by the university.
University of Tennessee	\$249,994	Knoxville, TN	The University of Tennessee will use \$249,994 of federal funds to develop new facilities and techniques to study irradiation of materials. The project will develop fundamental understanding or irradiated materials, test new materials under extreme conditions, and validate materials performance models.
Ohio State University	\$196,680	Columbus, OH	The Ohio State University will use \$196,000 of federal funds in addition to \$50,000 of cost match to develop new neutron detection techniques, develop a nuclear power plant simulator, and optical fiber performance characterization under intense reactor irradiation at high temperature conditions.
University of Utah	\$197,777	Salt Lake City, UT	Researchers at the University of Utah will use \$197,777 of federal funding to purchase laboratory equipment to provide higher quality hands-on education and training for aspiring nuclear engineers, scientists, and policy-makers, in graduate and undergraduate studies.
Colorado School of Mines	\$64,738	Golden, CO	The Colorado School of Mines will use \$64,738 of federal funds to upgrade a transmission electron microscope with a digital imaging system for the Nuclear Science and Engineering Laboratory.
Rensselaer Polytechnic Institute	\$200,000	Troy, NY	Researchers at Rensselaer Polytechnic Institute will use \$200,000 of federal funds to purchase equipment and instrumentation to aid in the fabrication and design of new nuclear materials, and purchase computing workstations to support advanced scientific computing in nuclear engineering.
University of Nevada, Reno	\$298,129	Reno, NV	The university will use grant money to establish a materials testing and evaluation facility at the University of Nevada, Reno. This nearly \$300,000 award will be augmented by almost \$50,000 in cost share funds from the university.
Midlands Technical College	\$123,000	Columbia, SC	Midlands Technical College will use \$123,000 to provide equipment for student education in nuclear operations and nuclear chemistry.
TOTAL FUNDING	\$17,686,477		