U.S. DEPARTMENT OF ENERGY

Press Release
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The U.S. Department of Energy (DOE) today announced up to $40 million in funding for a new Advanced Research Projects Agency-Energy (ARPA-E) program that will limit the amount of waste produced from advanced nuclear reactors, protecting the land and air and increasing the deployment and use of nuclear power as a reliable source of clean energy.

WASHINGTON, D.C. – The U.S. Department of Energy (DOE) today announced $30 million in initial funding for one of three programs under its new Advanced Reactor Demonstration Program (ARDP). DOE's Office of Nuclear Energy (NE) has selected five teams to receive $30 million in FY20 funding for Risk Reduction for Future Demonstration projects. The awards are cost-shared partnerships with industry, and companies were chosen through a funding opportunity announcement issued in May 2020.

"More than half of our zero carbon energy is generated from nuclear power, and through this groundbreaking research we can expand nuclear's potential," **said Secretary of Energy Jennifer M. Granholm**. "America is an innovation leader, and DOE is proud to invest in the next generation of nuclear energy technologies that will power the nation and protect our environment."

Nuclear power is one of the most reliable sources of energy in America, and the largest domestic source of clean energy-providing 52% of the nation's carbon-free electricity in 2020, and about a fifth of U.S. electricity overall. Nuclear power production, however, produces approximately 2,000 metric tons of used fuel each year that must be disposed and safely stored.

As advanced nuclear reactor technologies move from research and development phases to deployment, ARPA-E's new "Optimizing Nuclear Waste and Advanced Reactor Disposal Systems" (ONWARDS) program addresses challenges posed by the limited disposal options for spent nuclear fuel through the development of novel processes and applications at the start of a fuel cycle that prevents the formation of nuclear waste.

ONWARDS is ARPA-E's first focused program working to identify transformative Advanced Nuclear Reactor (AR), used nuclear fuel (UNF) waste, and UNF disposal pathways. ARPA-E's statutory authority was updated in the ARPA-E Reauthorization Act of 2019, charging the agency to "provide transformative solutions to improve the management, clean-up, and disposal of radioactive waste and spent nuclear fuel.""

Proactively reducing the amount of waste from AR poses an innovative opportunity that will enable the future deployment of nuclear power. ONWARDS teams will seek to facilitate a 10X reduction in UNF and waste volume generation or repository footprint across three key areas:

- **Process:** Improvements in fuel recycling that significantly minimize waste volumes, improve intrinsic proliferation resistance, increase resource use, and bolster AR commercialization.
- **Safeguards:** Improvements in sensor and data fusion technologies that enable accurate and timely accounting of nuclear materials.

Waste form: Development of high-performance waste forms for all AR classes with an emphasis on those forms that span multiple reactor classes and disposal environments and are safe and stable over required timescales.

Find more information on the ONWARDS funding opportunity [HERE](#). Details on how to apply can be found on ARPA-E [eXCHANGE](#).

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