



Press Release

Media Contacts: Tim Jackson, 208-526-8484

For Immediate Release: January 11, 2021

DOE invites public to review and comment on Draft Environmental Assessment for construction of MARVEL microreactor at Idaho National Laboratory

Idaho Falls, Idaho - The U.S. Department of Energy (DOE) today announced the start of a 14-day public review and comment period on a draft environmental assessment for a proposal to construct the Microreactor Applications Research Validation & Evaluation (MARVEL) project microreactor inside Idaho National Laboratory's (INL's) Transient Reactor Test Facility.

The MARVEL design is a sodium-potassium-cooled, thermal microreactor with a power level of less than 100 kilowatts of electricity using High-Assay, Low-Enriched Uranium (HALEU).

"Nuclear energy has always been a reliable power source that doesn't emit carbon dioxide into the atmosphere," said Idaho National Laboratory Director John Wagner. "MARVEL takes the next step. It will provide for prompt, small-scale demonstrations of several environmentally friendly technologies associated with advanced microreactors as well as larger reactors, which will benefit the nuclear energy industry and end-users."

"MARVEL will be capable of testing power applications such as load-following electricity demand to complement intermittent renewable energy sources such as wind and solar. It will also test the use of nuclear energy for water purification, hydrogen production, and heat for chemical processing. It will additionally provide industry partners with the ability to test new microreactor-related technologies and will provide real-world, viewable examples of how commercial end-users could incorporate microreactors into their clean energy portfolios."

Ever since the first useable amount of electricity generated by nuclear energy was demonstrated in 1951 at the Experimental Breeder Reactor-I in Idaho, nuclear power has played an essential role in U.S. electricity generation. Nuclear energy today generates nearly 20% of the nation's electricity and about 55% of U.S. carbon-free electricity. That electricity is generated by large light-water reactors that each generate hundreds and sometimes thousands of megawatts of electricity, with each megawatt being enough to power about 1,000 homes.

International interest is now growing in microreactors: very small, factory fabricated, transportable reactors. Microreactors can be used in remote communities, industrial sites and defense bases, as well as for applications such as backup generation for power plants, humanitarian assistance, water purification, hydrogen production and disaster relief missions. Just like large traditional reactors, microreactors also use fission to produce energy with no carbon emissions.

The DOE Microreactor Program supports research and development (R&D) of microreactor technologies. Led by INL, the program conducts both fundamental and applied R&D to reduce the risks associated with new technology performance and manufacturing readiness of microreactors. The intent is to ensure that microreactor concepts can be commercially licensed and deployed and to reinvestigate U.S. leadership in nuclear energy.

As part of the DOE Microreactor Program, INL is planning to develop MARVEL at INL to perform R&D on various operational features of microreactors to improve integration of microreactors with end-user applications. This will accelerate the development of commercial microreactors to provide essential electricity and energy-intensive services to power our lives.

The draft environmental assessment prepared in accordance with the National Environmental Policy Act is posted for public review at: [MARVEL Draft EA DOE EA-2146](#).

The 14-day public comment period on the draft environmental assessment will conclude on January 26, 2021. Comments can be submitted by mail to Garrett Kropp, 1955 Fremont Ave., 83415-1222 or by email to marvel@id.doe.gov. Paper copies of the document are available on request.

###