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DOE invites the public to review the Final Environmental Assessment for construction of the MARVEL microreactor at Idaho National Laboratory

Idaho Falls, Idaho -The U.S. Department of Energy (DOE) today announced the start of a 31-day public review period on a Final 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.

MARVEL, a sodium-potassium cooled, thermal microreactor with a power level of less than 100 kilowatts of electricity using High-Assay, Low-Enriched Uranium (HALEU), will be capable of testing power applications such as load-following electricity demand to complement intermittent renewable energy sources such as wind and solar - to help ensure reliable energy around the clock. It will also test the use of nuclear energy for water purification, hydrogen production, and heat for chemical processing.

From January 11 to February 9, 2021, DOE conducted a public review and comment period on the project's Draft Environmental Assessment. Comments received during that public review period, along with the agency's corresponding responses, are published in the Response to Public Comments section of the Final Environmental Assessment issued today. DOE invites the public to comment on a proposed Finding of No Significant Impact for the project.

"Nuclear energy has always been a reliable power source that doesn't emit carbon dioxide into the atmosphere," said INL Director John Wagner when the Draft Environmental Assessment was issued for public review on January 11. "MARVEL is the next step that will allow 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 energy consumers."

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 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 reinvigorate U.S. leadership in nuclear energy.

MARVEL will be an important step forward to provide industry partners with the ability to test new microreactor-related technologies and provide real-world, viewable examples of how commercial end-users could incorporate microreactors into their clean energy

portfolios. The Final Environmental Assessment and proposed Finding of No Significant Impact, prepared in accordance with the National Environmental Policy Act, are posted for public review at: [MARVEL FINAL EA](#) and [FONSI](#).

The 31-day public review period on the Final Environmental Assessment and proposed Finding of No Significant Impact will conclude on July 8, 2021. Comments on the proposed Finding of No Significant Impact 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.