

PNNL-33749

Sodium Demonstration Reactor Support (Abstract)

CRADA 559 (PNNL 78413)

November 2022

Andy Casella

TerraPower, LLC

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Pacific Northwest National Laboratory
Richland, Washington 99354

Abstract

TerraPower, LLC (TerraPower, Participant) and other private industry partners endeavor to design, license, construct, and operate a sodium-cooled fast-spectrum nuclear reactor technology demonstration plant called Natrium. This demonstration plant is supported by the U.S. Department of Energy (DOE) through the Advanced Reactor Demonstration Program (ARDP; DE-FOA-0002271). TerraPower, together with its technology co-developer GE Hitachi Nuclear Energy (GEH) and engineering and construction partner Bechtel, submitted a proposal under the program's Advanced Reactor Demonstration Pathway for its Natrium reactor and energy system and recently received an award. TerraPower is partnering with Battelle Memorial Institute, the Management and Operating Contractor of Pacific Northwest National Laboratory (PNNL, Contractor) under the Natrium project to provide critical research outcomes necessary to demonstrate the reactor technology.

Over the expected five-year timeframe of the project, PNNL will provide TerraPower and its partners with vital support in the areas of post-irradiation examination (PIE) of specimens irradiated in test reactors. These efforts will be combined and managed as a program titled "Natrium Demonstration Reactor Support."

Pacific Northwest National Laboratory

902 Battelle Boulevard
P.O. Box 999
Richland, WA 99354
1-888-375-PNNL (7665)

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