

# Eielson Micro-reactor Quarterly Newsletter

05.03.2024



## Welcome,

This is the seventh in a series of quarterly updates from the Office of the Deputy Assistant Secretary of the Air Force for Environment, Safety, and Infrastructure (SAF/IEE) on the Micro-reactor Pilot at Eielson Air Force Base (AFB). This newsletter is intended to provide updates on the procurement process, meetings with public officials, as well as any relevant ancillary news that affects these efforts. Previous newsletters can be found on the Eielson AFB micro-reactor website at <https://www.eielson.af.mil/microreactor/>.

Please direct any questions regarding the Micro-reactor Pilot to our mailbox at [SAF.IEE.Micro-ReactorPilot@us.af.mil](mailto:SAF.IEE.Micro-ReactorPilot@us.af.mil).

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## Pilot Program Updates:

On March 11th, a bidder for the Eielson Micro-reactor Power Purchase Agreement procurement filed a bid protest with the Government Accountability Office. As a result, a stop work order was issued for the procurement followed by the rescission of the Notice of Intent to Award. As of April 12th, the procurement was placed on pause to allow for additional proposal review(s) set to be complete by the end of Summer 2024. We understand the importance of maintaining momentum while we complete due diligence requirements, including facilitating key conversations with federal and local partners on siting, licensing, and environmental health and safety. For example, the Department of the Air Force (DAF) is engaged in an ongoing dialogue with the U.S. Nuclear Regulatory Commission (NRC) regarding National Environmental Policy Act (NEPA) requirements. Unanticipated milestone shifts have not halted our efforts to build relationships through information sharing, a crucial component of the microreactor pilot's success.

This program is a critical pathfinder to gather lessons learned for future innovative advanced nuclear projects to increase installation resilience. It is imperative we adhere to acquisition protocols to ensure pilot success. Lessons learned throughout the acquisition process will inform future applications of advanced nuclear technology within the Department of the Air Force (DAF) and beyond. The department remains steadfast in our exploration of this innovative technology to assure resilience at mission critical locations and to meet the evolving challenges of Great Power Competition. The DAF remains committed to keeping our stakeholders informed and will share additional project updates as soon as they are available.

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## Meeting/Briefing Activity:

### CAMP Meetings

On March 20, SAF/IEE convened a virtual session of the Council for the Alaska Micro-reactor Program (CAMP) to engage with partners and stakeholders. During the meeting, SAF/IEE provided comprehensive updates on the pilot program and facilitated discussions pertaining to NEPA. Idaho National Lab provided an update on National Reactor Innovation Center tests and demonstrations, including advanced reactor test beds, experimental facilities, and virtual test beds. Project partners and stakeholders also provided updates and participated in discussion.

The next in-person CAMP meeting is tentatively scheduled for late August 2024 in Fairbanks, Alaska.

## Alaska Leadership Meetings

On March 18, Ms. Nancy Balkus, Deputy Assistant Secretary of the Air Force for Environment, Safety and Infrastructure had the opportunity to brief the Alaska Senate Resources Committee on the micro-reactor pilot program. Ms. Balkus emphasized the importance of collaboration and innovation for installation resilience and the communities that provide support. SAF/IEE looks forward to continuing to build relationships with Alaska state government and municipal representatives, and further exploring opportunities to strengthen local partnerships.

## Idaho National Laboratory (INL) Visit

With huge thanks to Dr Jess Gehin, SAF/IEE visited Idaho National Lab in February to learn more about their nuclear energy testing and demonstration efforts. Deep-dive briefings and laboratory tours addressed topics such as reactor licensing, fuel development, fuel reprocessing, reactor design, and technology application. Ongoing efforts at Idaho National Lab will facilitate technology demonstration toward deploying DAF's first micro-reactor. Maintaining relationships with the Department of Energy (DOE) national labs allows the Air Force to remain informed at the forefront of innovative advanced nuclear technology.



*The DAF tours the Transient Reactor Test (TREAT) Facility located on the Materials and Fuels Complex at INL.*

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## Other Relevant News:

The DAF is an active participant in the Department of Defense (DOD) Nuclear Power Community of Interest (COI). The COI provides a forum for connected learning related to nuclear power within DOD and the national labs. The DOD is pursuing a range of nuclear energy efforts, in addition to the Eielson micro-reactor pilot program, aimed at leveraging new nuclear technology to meet installation resilience needs while enhancing national security.

Hill Air Force Base (AFB) is evaluating the potential role advanced nuclear power and thermal generation could play in improving installation resilience. Radiant will develop base modeling and simulation capabilities for key energy resilience scenarios at Hill AFB through a DOD Small Business Innovation Research (SBIR) award. Radiant and Hill AFB will simulate how nuclear reactors could provide critical heat and power alongside the base's system of existing generators, grid electricity, and steam boilers, mitigating long term loss of off base grid power.

SAF/IEE, Joint Base San Antonio (JBSA), and San Antonio's utility provider City Public Service Energy, entered a memorandum of understanding in February 2024. JBSA will evaluate the potential for resilient Carbon-pollution Free Energy (CFE) provided through long lead time technologies including hydrogen, geothermal, and new nuclear on DAF land at JBSA. An ongoing community engagement effort with the Pacific Northwest National Laboratory is expected to provide insight into the community's appetite and support for various CFE initiatives.

Nuclear energy has powered the U.S. Navy for decades, and new innovations like mobile reactor technology and space nuclear propulsion are poised to continue this legacy. Project Pele is a defense reactor prototype of a micro-mobile, gas-cooled small modular reactor (SMR). Commissioned by the DOD Strategic Capabilities Office, the prototype will demonstrate the feasibility of transportable SMRs for commercial and government applications. Project Pele does not fall under the purview of the Nuclear Regulatory Commission; the DOD and DOE have agreed Project Pele will be tested and operated under DOE authorization. The SMR will be fueled at the Idaho National Laboratory and tested and operated by DOE.

The Defense Advanced Research Projects Agency (DARPA), in collaboration with the National Aeronautics and Space Administration (NASA), is advancing the world's first in-orbit demonstration of a nuclear thermal rocket engine via the Demonstration Rocket for Agile Cislunar Operations (DRACO) program. The U.S. Space Force will provide the launch vehicle that will take the experimental nuclear thermal rocket into space by 2027.

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## Resources:

Please visit <https://www.eielson.af.mil/microreactor/> for the most up to date information and the following resources:

- [Frequently Asked Questions](#)
- [Fact Sheet](#)