

Energy Hubs and Advanced Microreactors: Towards Land-Based Nuclear Power Capabilities in Contested and Austere Environments

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Abstract

In recent years, a number of factors are converging to initiate the use of advanced microreactors within the Army and the Department of Defense more broadly. These factors include climate change goals, the Pele microreactor project, ever increasing energy needs, and an increased awareness of logistics challenges in austere and contested environments. This presentation will describe these motivating factors and the current activities to develop safe, reliable, and right-sized land-based nuclear power solutions for the warfighter. Also presented will be a new joint effort by the Army and Air Force to combine a transportable microreactor and a containerized Synthetic Fuels for Contested Environments (SynCE) systems into a new capability concept called the Forward Integrated Energy Resources for Contested Environments (FIERCE) energy hub.

Biography

Dr. Annie Kammerer is an expert in safety and risk assessment for advanced reactors, natural hazard evaluation, oversight and regulatory processes and programs, and integrated performance-based risk-informed engineering. She is currently the Chief of the Nuclear Power Branch of the Office of the Chief of Engineers, Department of the Army headquarters. In this role, she acts as a subject matter expert on advanced reactors, including Mobile Nuclear Power Plants (MNPP) and small modular reactors. She is responsible for development of the Army's Nuclear Power Management Program defined under revised Army Regulations (AR50-7). She is the lead for a new Operational Readiness Review activity being conducted under the authority of the Army Reactor Council (ARC). As a member of the ARC, she supports the Army Reactor Office with licensing-related issues.

Her 20 years' experience in the nuclear field includes experience consulting to commercial industry and national labs, in addition to eight years as staff at the Nuclear Regulatory Commission. She has 3 degrees from the University of California, Berkeley, including a PhD in geotechnical earthquake engineering, with minors in strong motion seismology and structural engineering.

