# Deep Isolation Completes ARPA-E-Funded Project Validating Deep Borehole Nuclear Waste Disposal Technology

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**Deep Isolation Nuclear, Inc.,** **a leader in nuclear waste disposal innovation, has announced the successful completion of Project SAVANT (Sequential Advancement of Technology for Deep Borehole Disposal), a two-year research programme funded by the U.S. Department of Energy's Advanced Research Projects Agency–Energy (ARPA-E).**

Project SAVANT confirmed that Deep Isolation's Universal Canister System (UCS) and borehole casing materials can withstand corrosion under the extreme thermal, chemical, and mechanical conditions expected deep underground. The findings provide strong validation of the system's long-term design life and mark a significant step toward a full-scale demonstration of deep borehole disposal.

The research team subjected materials to realistic stressors representative of deep geological environments, generating datasets that strengthen the scientific foundation behind the UCS design. These results reinforce confidence in the system's ability to safely and permanently isolate nuclear waste.

"This study marks another critical milestone in developing a safe solution for disposing of radioactive nuclear waste—something the world urgently needs," said Rod Baltzer, President and CEO of Deep Isolation. He noted that while global nuclear power capacity is forecast to grow by more than 300 gigawatts by 2050, no country has yet permanently disposed of spent nuclear fuel accumulated over decades. Deep borehole disposal, he said, offers a viable path forward.

Jesse Sloane, Executive Vice President of Engineering at Deep Isolation, added that the results

demonstrate wide safety margins and confirm the robustness of the company's design approach, positioning the technology for larger-scale testing.

The project also involved collaboration with Amentum, whose corrosion testing produced data representative of real deep borehole conditions, and with the Electric Power Research Institute (EPRI), which supported supply-chain analysis and cost estimation. This work highlighted opportunities to develop domestic manufacturing capabilities for canisters, casing materials, and deployment equipment, potentially accelerating commercial readiness while reducing lifecycle costs.

Project SAVANT contributes to wider industry efforts to modernise the back end of the nuclear fuel cycle. As advanced reactor deployment expands globally, the project's findings offer timely, data-driven insights to inform future regulatory, technical, and commercial decisions around permanent nuclear waste disposal.