

Vision

To enhance the nation's security and prosperity through sustainable, transformative approaches to our most challenging energy, climate, and infrastructure problems.

For more information, contact

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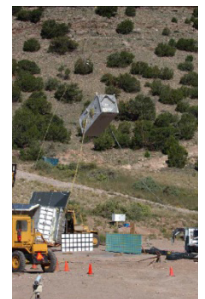
Website: energy.sandia.gov

Nuclear Waste Storage & Transportation

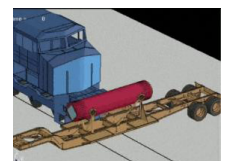
Sandia National Laboratories has a long history in the development of technologies to enhance the safety and security of transporting and storing radioactive materials. The capability set needed to address safe and secure management of these radioactive materials includes a broad set of engineering and scientific disciplines such as physics; nuclear, mechanical, civil, and systems engineering; and chemistry. In addition, Sandia has a tool set that enhances the ability to perform high level experiments and analyses that can be coupled to provide accurate results to unique problem sets that arise as the United States' nuclear fleet moves to more reliance on dry cask storage with expectation that large shipping campaigns will result from the plan to design, build, and operate one or more consolidated interim storage facilities.

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The main customers for this work include the DOE to support extended storage and planned shipping campaigns for commercial used fuel, as well as support for storage and transport of a variety of materials that are under DOE control, from legacy weapons waste to return of research reactor fuel of U.S. origin. In addition, SNL supports the NRC in the development of technical bases to support various rule-making activities associated with storage and transport. SNL also has a long history of support both the DOE and NRC on security analyses associated with terrorist threats against storage and transportation packages. While Sandia has been working on security issues since the late '70s, this work has steadily increased since 9/11 when Sandia did comprehensive vulnerability analyses for storage and transportation packages for the NRC.



Currently, Sandia is the lead lab for the DOE/Office of Nuclear Energy Storage and Transportation R&D program. This effort includes supporting the mission and vision for this work, managing the technical work of 8 DOE national laboratories supporting the program, and conducting analyses and experiments to address specific issues relative to the storage and transportation of commercial high burnup used fuel. Sandia is also supporting the NRC in conducting fire ignition tests on PWR/BWR assemblies simulating a loss of coolant accident and is developing the technical basis for potential rule-making for revision the NRC physical protection regulation 10CFR73.



Sandia has developed a broad-ranging network of industry and international collaborations that enhances the ability to address these important issues from a global perspective.