

The DOE National Transportation Program
An Overview of Technology Development Programs Supported
by
the National Transportation Program

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ABSTRACT

The Department of Energy (DOE) National Transportation Program (NTP) is jointly managed by DOE Headquarters/EM-20, and the DOE Albuquerque and Idaho Field Offices. Among other responsibilities in the Albuquerque office, the NTP develops, supports, and maintains a core capability at Sandia National Laboratories to address technical issues associated with the packaging and transportation of nuclear materials and other hazardous materials. Based on this core capability, NTP aggressively supports the development of new technology to promote the safe and secure packaging and transportation of all DOE shipments.

Capabilities that the NTP supports and maintains at Sandia are structural and thermal analyses, cask design, component design, testing, risk assessment, advanced concepts development, criticality and shielding analyses, and regulatory support. Directed use of these capabilities to transportation issues includes a wide range of applications in the DOE Complex. Examples include package concept development and evaluation, field test, and analytical support to various DOE shipping programs to ensure safe shipments of high-level waste, special nuclear materials, spent nuclear fuel, transuranic waste, and low-level and mixed low-level wastes.

In addition to supporting DOE Program Offices, the NTP also supports work with other U.S. government agencies and international organizations. By maintaining the technical capabilities at Sandia, NTP provides a resource for other agencies to use at reasonable cost. Since the capabilities already exist, Sandia is able to work directly on the technical issues without having to spend limited resources on “getting up to speed”. This helps the entire U.S. government. Recent examples of this synergy include transportation risk assessment work for the NRC, package development for the Army, and structural analysis of ship collisions for MARAD.

The working relationship between DOE/AL NTP and Sandia provides an infrastructure of technical capabilities that support resolution of DOE and other Federal agency transportation problems. This paper will provide a detailed overview of the NTP program at DOE/AL and Sandia. Examples of program support will be provided.

Sandia is a multi-program laboratory operated by Sandia Corporation, a Lockheed Martin company, for the United States Department of Energy under Contract DE-AC04-94AL85000.