

DEPARTMENT OF ENERGY NATIONAL TRANSPORTATION PROGRAM

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SUMMARY

This paper presents the overview of the U.S. Department of Energy's (DOE) National Transportation Program (NTP). The program was recently restructured to meet the Department's projected needs for packaging and transporting a large volume of hazardous radioactive waste and materials. DOE's office of Environmental Management (EM) is proposing a strategy to accelerate site cleanup and to increase efficiency (DOE 1997). The strategy has a particular focus on completing as much of this process as possible in the next 10 years. Integral to the successful implementation of EM's cleanup strategy, is the safe and economical transfer of radioactive and hazardous materials and wastes. Several types of materials and wastes, including spent nuclear fuel, uranium, plutonium, transuranic-waste (TRU), low-level waste, mixed low-level waste, and hazardous waste, will be packaged and shipped on-site, intersite, or to disposal. The safety of radioactive waste and material shipments is an important issue to stakeholders and workers at the sites and along potential routes. The NTP addresses crosscutting issues, including transportation and packaging logistic management, routing of shipments, emergency preparedness, and impacts along the shipping corridors.

INTRODUCTION

The Office of Transportation, Emergency Management, and Characterization Management (EM-76) was tasked with conducting an options analysis for reinventing the Department's transportation and packaging complex, as a result of the recommendations made in the Secretary's Alignment Initiative #38 (DOE 1995). With a significant reduction in Federal budget and a significant increase in the hazardous materials and other materials being shipped by the Department, it became imperative for the Department to reengineer its transportation function and implement actions to reduce transportation costs while insuring safety and regulatory compliance. The University of Maryland Best Practices Study Group, which consists of logistic and transportation experts from academic, private, and government sectors, reviewed transportation practices at DOE's Headquarters and site operations, and compared these to the practices of leading companies and organizations as a part of the needs assessment.

NATIONAL TRANSPORTATION PROGRAM

The NTP plan was developed and implemented in 1997 as part of the Department's overall effort in reengineering (DOE 1997). The NTP is the corporate center of packaging and transportation expertise and is located and managed within EM. The program supports the infrastructure and coordinates transportation activities for all non-classified shipments of hazardous materials (including radioactive materials and mixed wastes) and other commodities such as coal, other fuels, maintenance materials, and supplies. The NTP is responsible for ensuring the availability of safe, secure, and economical transport services; consistency in regulatory implementation; coordinated outreach; and emergency preparedness. The NTP is managed by a joint Headquarters, Albuquerque, Idaho Operations Offices Team through the Transportation Operations at Albuquerque, New Mexico, and the Transportation System Engineering at Idaho Falls, Idaho.

Within this team arrangement, all decisions are mutual; however, Headquarters has a primary responsibility for program coordination; the Albuquerque Transportation Operations Office has a primary responsibility for ensuring efficient transportation operations; and the Idaho Transportation System Engineering Center has a primary responsibility for systems engineering functions. The Implementation Plan for carrying out the NTP sets forth a fully integrated, coherent, balanced and, thus, a highly effective approach to conducting this national program (DOE 1996). The Implementation Plan emphasizes identifying and supporting DOE program needs for transportation services, including hazardous materials, hazardous and radioactive wastes, commercial spent fuel, and EM fissile materials.

The NTP goals are achieved through several methods: (1) establishing good communications with field offices to facilitate coordination; (2) identifying packaging and transport needs in site Ten-Year Plans; (3) conducting a forward-looking, aggressive transportation technology program to resolve complex transportation system problems (including packaging and transportation risk); (4) establishing an economically viable privatization program for transport package final design, fabrication, and pursuit of regulatory certification; and (5) establishing a privatized logistics and operations program.

The NTP manages the science-based transportation technology program to resolve complex transportation system (including packaging) issues, confront regulatory excesses, and present the DOE technical position before regulators and consensus-standards bodies. The NTP also develops and maintains integrated transportation and packaging tools for Headquarters and field applications. This includes the application of systems and automation technology to DOE's transportation and packaging activities. The NTP develops and provides transportation and packaging management and safety training, including training in domestic and international regulations, and in implementing DOE orders, guidance, and standards. The Transportation infrastructure and base technology, which NTP develops and maintains for the Department, supports the packaging and transportation needs of the EM Ten-Year Plan and other DOE program offices/field offices.

DOE SHIPMENTS

In FY 1996, DOE transported 430,000 shipments of non-defense-related materials, which consisted of 412,000 (96%) non-hazardous shipments and 18,000 (4%) hazardous materials, of which 5,200 were radioactive. These radioactive materials shipments comprise less than 1 percent of total shipments. However, DOE transports 75% of all curies shipped in the United States. DOE transports its materials by all modes of transportation through commercial and private carriers. In FY 1996 the distribution of shipments was as follows: air-77%, motor-22%, rail-less than 1%. NTP's tracking and communication system, TRANSCOM, monitors the status of specified DOE shipments of spent nuclear fuel, high-level radioactive waste, and other high-visibility shipping campaigns.

The Department uses Department of Transportation (DOT)-authorized packagings for its non-defense transportation activities. These packagings are designed to minimize the risk of materials release during transportation. Nuclear Regulatory Commission certified packagings are used for spent fuel shipments. The Department's quality assurance program determines the appropriateness of the packagings for transportation.

The Department follows DOT routing regulations and coordinates with states and tribes for identification of alternative routes. In addition, rail route selection is based upon best track, fewest rail interchanges, and programmatic requirements. DOE is subject to DOT regulations for non-defense shipments. These regulations cover packaging and transportation of hazardous materials on public highways, airways, and waterways. These non-defense shipments are also subject to applicable state, tribal, and local government requirements.

STAKEHOLDER INVOLVEMENT

The NTP has established several forums to involve key stakeholders in transportation activities. Stakeholders include internal and external parties. Internal coordination is accomplished through the Senior Executive Transportation Forum, which comprises senior managers from all programs with transportation activities and the Department's Office of Congressional and Public Affairs. The Transportation Internal Coordination Working Group brings program and field staff together to discuss transportation policy and program issues that affect all programs, and recommends actions to resolve issues.

External Coordination is achieved through several forums, including the Transportation External Coordination Working Group, consisting of state, tribal and local organizations; industry; and professional and technical associations. This working group meets twice a year, in January and July, to identify and discuss issues of concern regarding DOE transportation activities. These issues include planning for transportation, routing, emergency preparedness and training, and technical assistance (DOE 1995).

EMERGENCY PREPAREDNESS

NTP's Transportation Emergency Preparedness program ensures Federal, tribal, state, and local responders have access to the plans, training, and technical assistance necessary to safely, efficiently, and effectively respond to transportation accidents involving DOE unclassified radioactive materials. State, tribal, and local governments respond to any accident involving DOE shipments. DOE maintains a 24-hour emergency point-of-contact at each field office. The local responders are responsible for safety and enforcement within their jurisdictions. During and after an accident, DOE provides advice, radiation monitoring, and other support as requested by the state or tribal government (DOE 1994).

PATH FORWARD

As we go forward with the implementation of the NTP, we will establish transportation-specific requirements and performance criteria to measure our success. This process must be designed from the bottom up, and we will solicit support from the academic, private, and government sectors to help make DOE's transportation operations even more efficient, effective, and better positioned to meet our future mission needs (DOE 1996).

REFERENCES

- USDOE (U.S. Department of Energy). Accelerating Cleanup: Focus on 2006, Discussion Draft. Washington, DC: U.S. Department of Energy Office of Environmental Management; 1997.
- USDOE (U.S. Department of Energy). Consolidation of Transportation Management. (SAI-38): for DOE. Washington, DC: U.S. Department of Energy; 1995.
- USDOE (U.S. Department of Energy). Draft National Transportation Program, Implementation Plan. Washington, DC: U.S. Department of Energy; 1997.
- USDOE (U.S. Department of Energy). Draft Strategic Plan for Reinventing Department of Energy's Transportation and Packaging Complex. Washington, DC: U.S. Department of Energy; 1996.
- USDOE (U.S. Department of Energy). Logistics Challenges and Opportunities in the 1990's. University of Maryland: for DOE. Washington, DC: U.S. Department of Energy; 1995.
- USDOE (U.S. Department of Energy). Transportation Best Practice Study. University of Maryland: for DOE. Washington, DC: U.S. Department of Energy; 1994.
- USDOE (U.S. Department of Energy). U.S. Department of Energy: Summary of Transportation Activities for Fiscal Years 1995 and 1996. Washington, DC: U.S. Department of Energy; 1996.

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Sea Transport

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Sea Transport