

## **SHIPMENT SECURITY UPDATE - 2003**

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### **ABSTRACT**

At the 2002 RERTR, NAC reported on the interim measures taken by the U.S. Nuclear Regulatory Commission to enhance the security afforded to shipments of spent nuclear fuel. Since that time, there have been a number of additional actions focused on shipment security including training programs sponsored by the U.S. Department of Transportation and the Electric Power Research Council, investigation by the Government Accounting Office, and individual measures taken by shippers and transportation agents. The paper will present a status update regarding this dynamic set of events and provide an objective assessment of the cost, schedule and technical implications of the changing security landscape.

## **Introduction**

At the 2002 RERTR, NAC International reported on the interim actions taken by NRC to enhance security following 9-11. The assessment of the adequacy of security applied to the shipment of spent fuel and radioactive contents has continued since that time. The regulatory framework for transport of spent nuclear fuel in the United States is contained in the US Code of Federal Regulations, Title 10 for the Nuclear Regulatory Commission (NRC) and Title 49 for the Department of Transportation (DOT). NRC security upgrades were promulgated in 2002 as a set of interim measures to be implemented pending rule making. In 2003, formal changes to the DOT Title 49 regulations have been promulgated dealing with security for hazardous goods shipments including route controlled quantities of nuclear material. In addition, a number of studies, investigations, and international meetings have been held to establish a general standard for shipment security.

## **Nuclear Regulatory Commission**

The Nuclear Regulatory Commission (NRC) continues to impose the security requirements of 10CFR73, augmented by Interim Compensatory Measures (ICMs) promulgated in 2002. The 10CFR73 regulations are available to the public while the ICMs remain safeguarded information accessible only to those with a need to know. The 10CFR73 regulations include such factors and notifications, communications, and escorting requirements imposed on spent fuel shipments.

## **Department of Transportation Regulations**

In contrast to the approach taken by the NRC, the Department of Transportation (DOT) has been very open in its approach to transportation security enhancement. The process and requirements have been given a high public visibility. In 2003, DOT promulgated HM-232 Hazardous Materials Security Regulatory Requirements (Final Rule (68 FR 14510) Effective Date: March 25, 2003). The specific wording of the new requirements can be obtained over the internet by accessing the Federal Register internet site. There are three elements to the new requirements:

### **Security Awareness Training Requirement (49 CFR Section 172.704(a)(4))**

Each hazmat employee must receive training that provides an awareness of security risks associated with hazardous materials transportation, and methods designed to enhance transportation security. Training must be provided by the hazmat (or Dangerous Good) employer no later than the date of the first scheduled DOT recurrent training given after March 25, 2003, and in no case later than March 25, 2006.

### **Security Plans Requirement (49 CFR Part 172 *new* Subpart I)**

By September 25, 2003, each hazardous materials shipper and each hazardous materials transporter that is subject to DOT Shipper/Carrier Registration Requirements (49 CFR Section 107.601) must develop and adhere to a Security Plan for hazardous materials in accordance with Section 172.802. Any shipper and/or carrier of a select agent or toxin regulated by the Centers for Disease Control and Prevention under 42 CFR Part 73, is also subject to DOT Security Plan Requirements.

**In-depth Security Training Requirement (49 CFR Section 172.704(a)(5))**

By December 22, 2003, each hazmat employee of a shipper/carrier required to have a Security Plan in accordance with Part 172 Subpart I, must be trained concerning the Security Plan and its implementation (Security Plan Implementation Training).

These Security Plans addressed by the regulations include the following elements:

- A ***Risk Assessment*** to determine possible transportation security risks for shipments of hazardous materials.
- ***Personnel Security*** to “confirm information provided by job applicants hired for positions that involve access to and handling of the hazardous materials covered by the security plan.”
- ***Unauthorized Access*** to indicate measures taken to reduce the “risk that unauthorized persons may gain access to the hazardous materials covered by the security plan.
- ***En Route Security*** to ensure the security of “hazardous materials covered by the security plan en route from origin to destination, including shipments stored incidental to movement.”

In addition to these measures, DOT has initiated a series of research programs to look at more advanced measures for assuring security of transportation. NAC participates in one of these programs under the National Consortium on Safety, Hazards, and Disaster Assessment for Transportation Lifelines directed at use of remote sensing (aerial, satellite, active and passive transmission) applied to shipment planning, accident assessment, and emergency response.

DOT has been very proactive in dealing with the new requirements. A Web based training program has been made available to shippers, carriers and receivers of hazardous waste called HAZMAT Transportation Security Awareness Training. In addition, checklists for each have been provided. Copies of the three checklists are shown below.









