

March 6, 2007

MEMORANDUM TO: Chairman Klein  
Commissioner McGaffigan  
Commissioner Merrifield  
Commissioner Jaczko  
Commissioner Lyons

FROM: Luis A. Reyes */RA/*  
Executive Director for Operations

SUBJECT: PERIODIC UPDATE ON THE TECHNOLOGICAL  
DEVELOPMENTS CONCERNING THE NATIONAL SOURCE  
TRACKING SYSTEM

The Staff Requirements Memorandum for SECY-06-0080, dated May 25, 2006, included the following direction:

As part of its interagency activities, the staff should keep abreast of technological developments and the efforts of other federal agencies involved in tracking radioactive materials on the ability to provide for real time tracking of nationally tracked sources in the future. The staff should periodically update the Commission on this aspect of source tracking.

The staff last updated the Commission in a memorandum, dated September 13, 2006 (ML061990216). The technological developments related to tracking radioactive materials are being explored through the Working Group (WG) on Vision of Technology as part of the Interagency Coordinating Committee (ICC) for the National Source Tracking System (NSTS). This WG was formed at the ICC's October 27, 2005, meeting. The group includes representatives of 13 Federal organizations, with the possibility of adding several more. The WG's focus is to foster the generation and exchange of ideas, among agency partners, in order to formulate a vision concerning the possibility of technologically enhancing a national system for cost-effective and timely tracking of radioactive materials throughout their life cycle.

Since the last update, the ICC met on October 11, 2006, and several issues related to technology developments were discussed. The presentation materials from the March 2006 and December 2004 Annual Federal Tracking Technology Conferences were distributed to ICC and WG members. These conferences were hosted by the Department of Homeland Security (DHS) and included commercial manufacturers, shippers, rail and motor carriers, technology users, commercial tracking technology firms, and integration companies.

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The ICC also heard presentations from the Department of the Army on Department of Defense (DOD) Tracking Systems and from DHS/Customs and Border Protection (CBP) on the Customs Automated Commercial Environment (ACE) and International Trade Data System (ITDS). DOD uses a number of systems to track vehicles and items (e.g. pallets of supplies). The components available for item tracking include barcodes, contact memory buttons, active memory buttons, and passive and active Radio Frequency Identification (RFID) tags. DOD currently uses on-board vehicle global positioning systems with satellite tracking, radio-frequency identification, and the Qualcomm system for communication. DOD is moving to a web-based system and adding other security enhancements as technologies mature. DOD does not use these systems to track individual radioactive sources. One concern is the compatibility of the tracking systems with radiation environments.

CBP's ACE and ITDS systems are being modernized to automate the submission, analysis, and distribution of information on cargo and other matters relevant to imports and exports. This process will take five years. All government agencies involved with international trade are required to contribute to and use the ITDS. The modernized ACE system will be designed to consolidate information on imports and exports from all modes of border crossings and to enable more than 80 Federal agencies to contribute to and receive relevant information from the system. It will allow agencies to view aggregated and sorted information by carrier, location, and product and allow tracking of shippers and transporters through the stages of the system.

The Office of Nuclear Security and Incident Response (NSIR) met on February 6, 2007, with a RFID vendor to discuss the various types of equipment the vendor manufactures and the possibilities for using RFID devices to tag radioactive sources. The vendor presently provides RFID devices for monitoring of personnel and operates a wireless control and tracking system for trucking companies to support supply chain management. To date, the vendor has not developed any technology directly applicable to radioactive source tracking. NSIR suggested to the vendor representatives that they contact various source manufacturers and the Nuclear Energy Institute to begin a dialog with those entities in an effort to gain a better understanding of requirements for radioactive source tracking.

The WG has developed a form to survey Federal agencies to determine their evolving information needs with respect to radioactive sources with particular reference to three areas:

- Radioisotope Source Geolocation Tracking
- Security Monitoring and Emergency Response, and
- National Database and Communications.

The WG currently plans to send the survey to Federal agencies in the Spring of 2007 and compile the data in the Summer of 2007. Based on the data collected, the WG will determine which needs are in the process of being satisfied and can be leveraged through current agency initiatives, and which needs are candidates for integration among Federal agencies. The WG will also explore which needs can be met through commercial-off-the-shelf solutions, and which needs may need government research and development. The WG will also consider the costs

and benefits of any further development or application of tracking technology. The WG will prepare a summary of this information and provide recommendations to the ICC at its Fall 2007 meeting.

The staff will provide updates to the Commission on this subject every six months or when there are significant developments.

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