

Lessons learned on deployment of Security and Tracking Technology –A regulators' perspective on enhancing transportation security through technology integration, challenges, and opportunities

The implementation of new technology to support enhanced transportation security is more than just implementing the technology itself. The integration of technology into the existing regulatory framework, including adoption by shippers, carriers, and response agencies can be challenging. This paper will describe how a competent authority can work with its licensees, and other stakeholders involved in transportation of radioactive material to embrace new technology and procedures, to ultimately provide a higher level of security during the transportation of radioactive materials. In 2025, a system called the Transportation-Security, Tracking, and Reporting system (T-STAR) was implemented by Nigerian Nuclear Regulatory Authority (NNRA) and Romanian National Commission for Nuclear Activities Control (CNCAN) for use on shipments of radioactive material to provide in transit visibility and cargo intrusion detection. Developed by the Department of Energy, Office of Radiological Security, the T-STAR system can augment and strengthen existing transportation security by providing near real time tracking and detection of theft and also provide regulators and shippers with the opportunity to review operational data such as routes, stopovers, and delays. Understanding the differences in planned shipments vs actual operations can help inform all parties on needed changes to reduce unnecessary risks. However, integrating technology is not without challenges, and this paper will highlight the experiences of NNRA and CNCAN in implementing T-STAR including information security, integrating with existing transportation control centers, questions from shippers and carriers, training, and development of standard operating procedures related to both normal and off normal events. Finally, recommendations on best practices and opportunities will be provided that can inform how other regulatory bodies may prepare for and then integrate tracking technology into their transportation security regime.

Country or International Organization

Instructions

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