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Industry Engagement to Establish a Robust Security Approach to Mobile Radiological Sources

The U.S. Department of Energy/National Nuclear Security Administration's Office of Radiological Security (ORS) collaborates with partner countries across the world to enhance the security of radioactive sources that are used for legitimate purposes. Defining and implementing a robust security approach across any industry that uses radioactive material requires strong coordination with multiple stakeholders. In the case of mobile radioactive sources, such as those used in the oil, gas, and geo-physical industries (also referred to as the well-logging and radiography industries), the fact that the sources move through various operational and regulatory jurisdictions increases the number of stakeholders and makes security more challenging. Success depends on the ability to look at the operational use holistically, identify the stakeholders that would be involved if a source was lost or stolen, and identify roles and responsibilities of these stakeholders to accommodate proper notification, adjudication and response to a security incident.

The mobile radiological sources used in the well-logging and radiography industries are of sufficient curie quantities to be categorized as desirable material for malicious actors. Beyond the security risk posed by these sources, there is also an understanding of the potential damage, both reputational and monetary, that a lost source would have on the licensee and the industry overall. Identifying and communicating the risk these sources pose with impacted stakeholders is a critical first step in developing a security approach.

Common day-to-day operations within both industries drive the unique security challenge of mobile sources. From storage facilities, transportation vehicles, temporary storage locations, and use in the field, each phase creates challenges regarding source control and accountability. All aspects of the operational use of these sources needs to be fully understood in order to address security equipment enhancements, policies, procedures, and training.

This paper will leverage more than ten (10) years of experience that ORS has gained working closely with industry partners and mobile radiological source users across the well-logging and radiography industries. It will identify the risk posed by mobile radiological sources, clearly define the operational phases of each industry, identify security best practices of mobile sources, and discuss what long-term, sustainable security looks like within these industries. In addition, it will explore areas of a robust security approach that are not commonly given priority in these industries, such as alarm adjudication and response.

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