Information and Data in Nuclear Security

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Abstract:

Nuclear security can be defined as reducing the risk, through design or control, that materials, technologies, or products in civilian or military nuclear enterprises could be illegally or accidentally used to harm society, people, or the environment. It requires that the responsible parties ensure that nuclear materials, technologies, and operations be safe, properly accounted, and secure. To accomplish this, technologies and methods are used to support monitoring, assessing and verifying documentation, declarations and operations. Technologies provide information to decision makers for critical decisions. The integrity and accuracy of this information is vital to the quality of those decisions. This presentation introduces the three pillars of nuclear security: arms control, safeguards, and physical security and the key information linkages between them. I will provide a brief history of the nonproliferation regime, introduce the role and responsibilities of Safeguards, and the role of information and sensors. I will also present some of my contributions to the field of sensors and information security.

Bio:

Dianna Blair is a PhD Chemical Engineer with broad technical and management backgrounds in systems analysis, nonproliferation, nuclear materials properties and processing, process monitoring, analytical instrumentation, and creating technology solutions for verification, detection, and assessment challenges. Recent work includes establishing requirements and creating a robust and quality tamper indicating seals program for a U.S./R.F. nuclear material disposition agreement, examining cyber security supply chain issues, developing and evaluating containment and surveillance technologies for safeguards applications, and guiding research on information assurance. She currently is the Senior Manager overseeing safeguards, security and arms control activities at SNL.