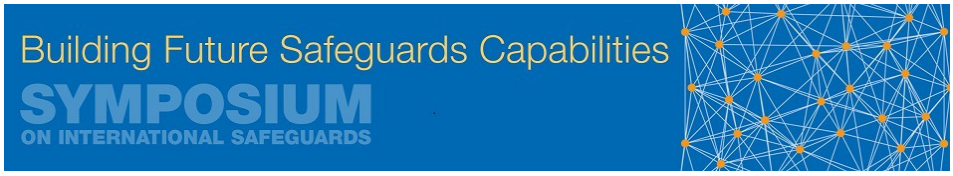

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Disparate Data Integration for Advanced Facility Monitoring

Tuesday, 6 November 2018 16:21 (7 minutes)

The International Atomic Energy Agency (IAEA) must ensure the peaceful use of all nuclear materials with a budget that has been compared in size to that of the police department in Vienna. This includes, for example, coverage of over 1,200 nuclear facilities spread around the globe and evaluation of over a million nuclear material reports annually. The amount of information the IAEA collects is on an upward trajectory, and data overload is poised to be an ever-increasing stress on the IAEA's ability to perform its safeguards mission.

Los Alamos National Laboratory (LANL) has been investing over the past several years in experimental studies within a number of its unique facilities to characterize activity patterns and operational modes using automated methods for disparate data integration. Building on the success of these preliminary studies, there is currently an effort funded by LANL's Laboratory-Directed Research and Development (LDRD) program to develop a testbed at one of the Laboratory's radiological facilities for advancing this work, specifically aimed at safeguards-relevant data streams such as unattended radiation monitoring systems, surveillance systems, and nuclear material inventory reports. The overarching goal of this work is to develop and experimentally validate methods to improve the efficiency and effectiveness of safeguards verification at nuclear facilities, which will allow the IAEA to better utilize the data it is already collecting. This paper describes work that has been done to date as well as implications for future areas of research.

Which "Key Question" does your Abstract address?

TEC3.1

Topics

TEC3

Which alternative "Key Question" does your Abstract address? (if any)

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