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A SUCCESSFUL VIRTUAL TECHNICAL EXCHANGE BETWEEN INDIA, THE UNITED KINGDOM, AND THE UNITED STATES ON SECURITY BY DESIGN FOR DEVICES AND FACILITIES THAT USE RADIOACTIVE MATERIALS

IAEA International Conference on Safety and Security of Radioactive Sources

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Overview

- India, United Kingdom, and United States conducted a virtual technical exchange focused on Security by Design for devices and facilities that use radioactive materials.

- **Objective**: What does "Security by Design" mean for devices and facilities that use radioactive materials?

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Technical Exchange

- Conducted in September 2021
- Virtual event (4 days)
- Comprised of presentations, discussions, and practical exercises

United States
- Department of Energy's (DOE) National Nuclear Security Administration's (NNSA) Office of Radiological Security (ORS)
- Sandia National Laboratories

India
- Department of Atomic Energy (DAE) Global Centre for Nuclear Energy Partnership (GCNEP)
- Board of Radiation & Isotope Technologies (BRIT)
- Bhabha Atomic Research Centre (BRAC)

United Kingdom
- Home Office
- Environment Agency
- Department Business, Energy, and Industrial Strategy

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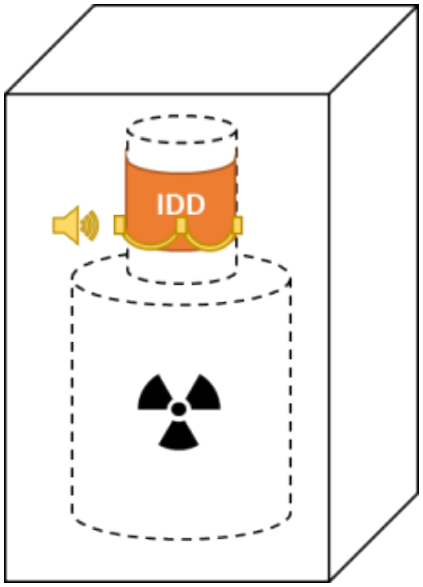
Content

- Room and Facility-Level Enhancements are very important (as are Security Culture, Response, and Security Management) however focus was on device-level enhancements:
  - Access Delay
  - Intrusion Detection
- Additional Topics:
  - Regulatory Frameworks
  - Alternative Technologies



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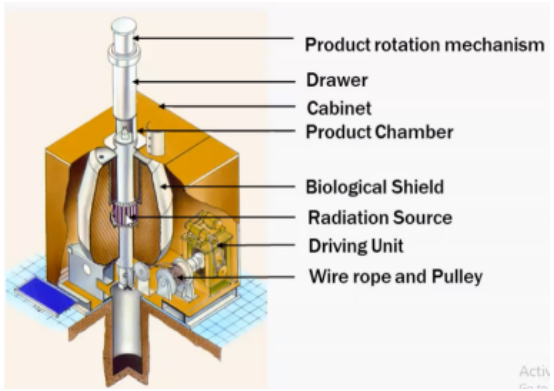
Featured Presentations

United States

- Economic Impact Studies
- Perspectives from a Contamination Event
- ORS's In-Device Delay (IDD)
  - Partnerships with global manufacturers
  - Implementation of Security by Design
- Alternative Technology Implementation in U.S.

India

- BRIT Enhancements to Laboratory
- Regulatory Framework in India
- Alternative Technology - A Way Forward



Courtesy: Bhabha Atomic Research Centre

United Kingdom

- Regulatory Framework
- Addressing Knowledge Gaps in Alternatives to 137Cs

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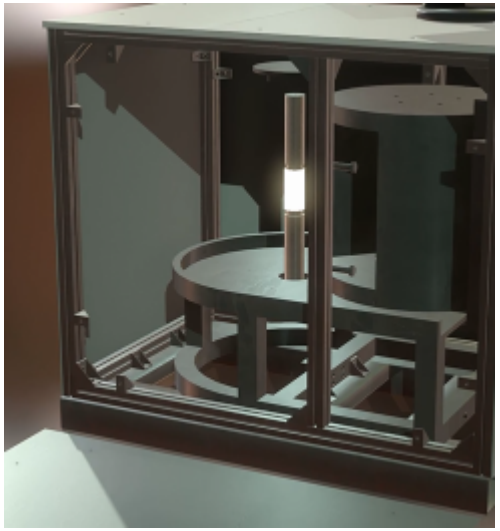
Practical Exercises

Objectives:

1. Share perspectives on vulnerability analysis
2. Share perspectives and best practices on Security by Design

How was this accomplished:

- Designed hypothetical irradiator with various attack pathways in CAD.
- Developed two practical exercises where participants broke up into smaller virtual rooms to accomplish each exercise



Practical Exercise 1: Identify attack pathways on a hypothetical irradiator

Practical Exercise 2: Develop physical protection measures on a hypothetical irradiator

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Results

- Shared Best Practices
  - In-Device Delay vulnerability assessments, design process, and implementation
  - Gamma Chamber enhancements and testing
  - Alternative Technologies – challenges and how to overcome them
- Spawned ideas and proposals for follow-on efforts
  - Mobile Irradiator Security
  - Verification of irradiator security enhancements
  - Alternative Technologies dialog

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Questions?

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