

Exceptional service in the national interest



Nuclear Security Capabilities at Sandia

Robert Finch

*Sandia National Laboratories
Albuquerque, New Mexico, USA*



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Core Security Competencies

- Risk Analysis & Assessment
- Modeling & Simulation Tools
- Security System Design & Engineering
 - *Systems Engineering*
 - *Safeguards*
 - *International Affairs*
 - *Cyber Security*
 - *System Testing & Evaluation*
 - *Vehicle System Design*
 - *Incident Response*
 - *Agent Transport Science*
- Physics & Chemistry of Threats
 - *CBRNE*
- Simulation-based Engineering of Threats & System Performance



Nuclear Security Programs & Facilities

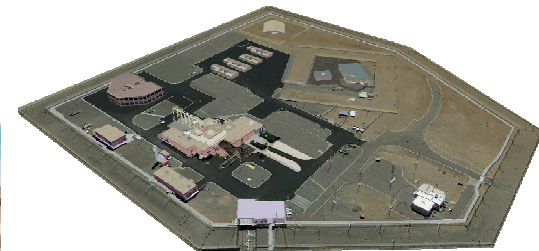
■ Programs

- Physical Protection
- Containment & Surveillance
- MPC&A
- Nuclear Security Culture
- Export Control
- Security Policy Analysis
- Megaports & Second-line of Defense
- Scientist Retraining
- Capacity Building
 - GNEII, Egypt TC, Research Reactor Workshops, RMCC
- Nuclear Forensics Science
- IAEA Support



Facilities

- Integrated Security Facility (ISF)
- International Programs Building (IPB)
- Cooperative Monitoring Center (CMC)
- Training & Technology Demonstration Area (TTD)
- Outdoor Test Facility (OTF)
- Technical Evaluation Assessment Monitor Site (TEAMS)



TECHNICAL CAPACITY BUILDING



Strengthen capacities for technical engagement on nuclear safety, security, and safeguards (Gulf Nuclear Energy Infrastructure Institute (GNEII), Abu Dhabi, UAE).



Train foreign officials on commodities identification in support of global export control efforts (Beirut, Lebanon).



Promote the responsible use of nuclear material, technology, and expertise (training on safe and secure operation of nuclear research reactors, Rabat, Morocco).



Engage scientists through the Global Initiative for Proliferation Prevention (GIPP), (Food Safety Training, Iraq).

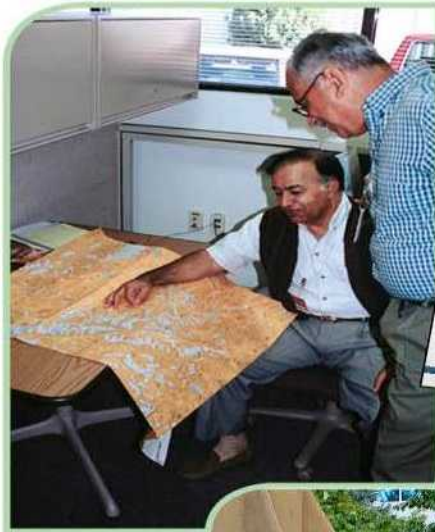


Course in Safety & Security Procedures and Quality Assurance for Radioactive Waste Management

January 8-February 1, 2011
Sandia National Laboratories
Albuquerque, New Mexico, USA



TECHNOLOGY-BASED POLICY ANALYSIS



Collaborate with foreign research scholars and develop concepts for cooperative monitoring to reduce regional tensions. In addition, conduct Sandia research and analyses in support of program missions.



Develop creative, technically informed policy solutions that address nuclear threats and the underlying motivations for proliferation (India-Pakistan missile dismantlement transparency exercise, Sofia, Bulgaria).



SYSTEMS DESIGN, TEST, AND EVALUATION



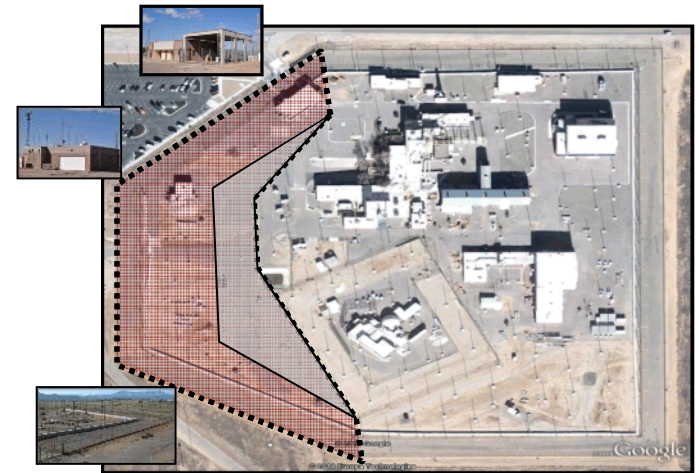
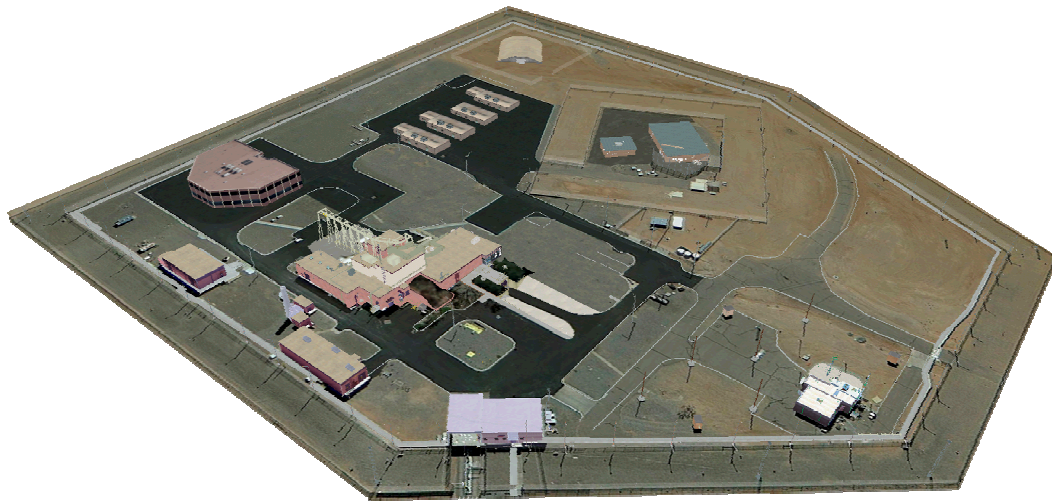
Demonstrate technologies and systems to address global security issues (Cooperative Monitoring Center, Albuquerque, New Mexico).



Evaluate commercial as well as prototype monitoring technologies and systems (Outdoor Test Facility, Sandia National Laboratories, New Mexico).



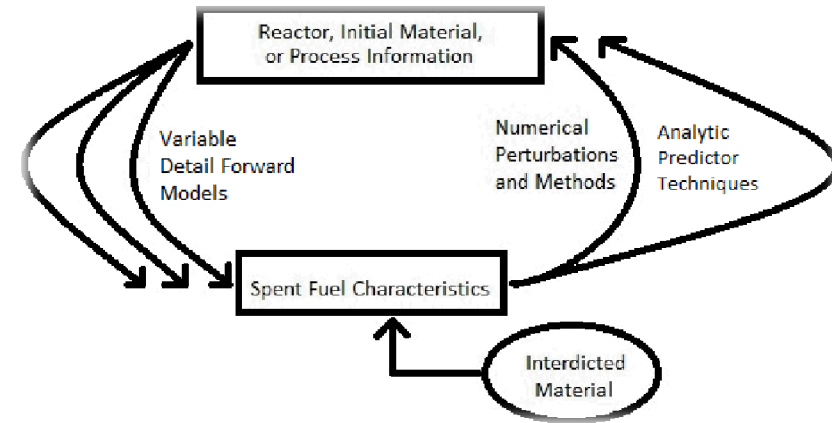
Integrated Security Facility (ISF)



Nuclear Forensics Research



Sandia Radio-Analytical Capabilities



Inverse Forensic Analysis Model



معهد الشرق الأوسط العلمي للأمن
Middle East Scientific Institute for Security



Borders:

Policy and Control
Monitoring and Detection
Technology



Energy:

Renewable Energy
Nuclear nonproliferation



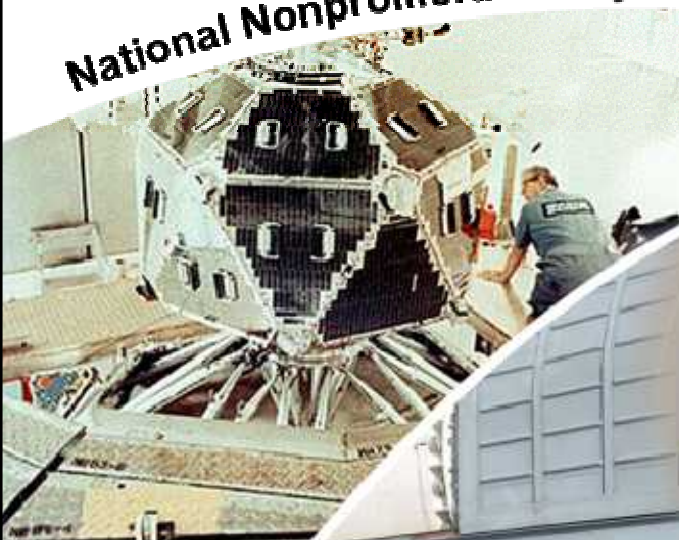
Environment:

Safety & Sustainability

Established by Sandia at the *Royal Scientific Society of Jordan* in Amman, Jordan

Sandia's systems approach enables Science & Technology to both inform and implement policy...

National Nonproliferation Systems



**Increasing Transparency
Increasing Collaboration**



**International
Treaties and
Negotiated
Agreements**



Global Cooperative Threat Reduction



... and focuses on risk reduction

- ENDURING PARTNERSHIPS
- POLICY ENGAGEMENT
- SYSTEM SOLUTIONS



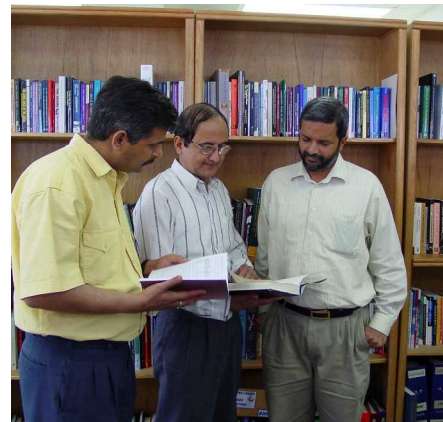
- RESEARCH and DEVELOPMENT
- SYSTEMS ANALYSIS
- SOLUTIONS ENGINEERING



International Training Course for the Physical Protection of Nuclear Facilities and Materials



Gulf Nuclear Energy Infrastructure Institute



Visiting Research Scholars

CMC

Albuquerque



cmc.sandia.gov



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Cooperative Monitoring Center

Visiting Research Scholars
Training and Technology
Demonstration Area
International Programs
Building
CMC Publications

Cooperative Monitoring Center



"Achieving International Security Through Technical Collaborations"

Established at Sandia National Laboratories in 1994, the Cooperative Monitoring Center (CMC) provides a venue in which experts on technology and policy from around the world can explore the use of shareable, unclassified technology and research to:

- Implement Confidence Building Measures (CBMs)
- Monitor compliance with treaties or other agreements

As part of Sandia's Global Security Program, the CMC offers facilities, subject matter expertise, and partnerships that enable all stages of international technical cooperation. These include:

- Analyzing security issues and developing options for implementing solutions
- Training on methods, technologies, and procedures
- Testing and evaluating technical approaches, and
- Implementing and operating technical measures.

Contacting the CMC

For more information on Sandia's Cooperative Monitoring Center, please contact us via email at cmc@sandia.gov

THANK YOU



**Sandia
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