

Exceptional service in the national interest



Nonproliferation and Nuclear Security Capacity Building

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Reducing nuclear threats is a U.S. national security imperative

“ We've agreed that nuclear terrorism is one of the most urgent and serious threats to global security ...[and] to the goal of securing the world's nuclear materials in four years. We committed ourselves to specific and concrete actions ... [and] to create an architecture in which we could share best practices, help to enforce many of the commitments that we had already made, and continue to improve every aspect of this issue.

What is also undeniable is that the threat remains ... [and that] the security of the world depends on the actions we take ... to reduce the dangers of nuclear weapons and nuclear terrorism.

”
*President Barack Obama
Prague, April 5, 2009*



Reducing Nuclear Threats includes a commitment to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT)

Sandia National Laboratories has a wide variety of programs that support key provisions of the NPT

- Article III: international nuclear safeguards
- Article IV: peaceful use of nuclear energy
- Article VI: arms control, treaty verification, and dismantlement transparency
- Article VII: transparency and confidence building

Sandia's relationship with the IAEA goes back more than 40 years.



Starting in the late 1970's

IAEA Department of Safeguards

- Safeguards technology and systems development for nuclear material containment and surveillance
 - Staff and cost-free expert assignments
- Later, Sandia has expanded support to the
- IAEA Department of Nuclear Energy
 - IAEA Department of Nuclear Safety and Security



Sandia has a long history of supporting the international nuclear safeguards enterprise

- Working with the IAEA Department of Safeguards through the U.S. Member State Support Program with staff, technology development, training, and other support
- Bilateral collaboration with other international safeguards entities through the International Nuclear Safeguards and Engagement Program
 - Regional organizations (Euratom, ABACC)
 - State-level safeguards partners
- Technology development through government-funded R&D
- Technical focus
 - Containment and surveillance to maintain continuity of knowledge
 - Unattended and remote monitoring
 - Information management and security
 - Geological repository safeguards

The IAEA has now begun using a Sandia-developed electronic seal: The Remotely Monitored Sealing Array

“The IAEA confirms that the RMSA has been authorized for drawing SG conclusions. We anticipate commencing deployment of the RMSA in nuclear material and spent fuel storage facilities in 2015.

”

- November 20, 2014

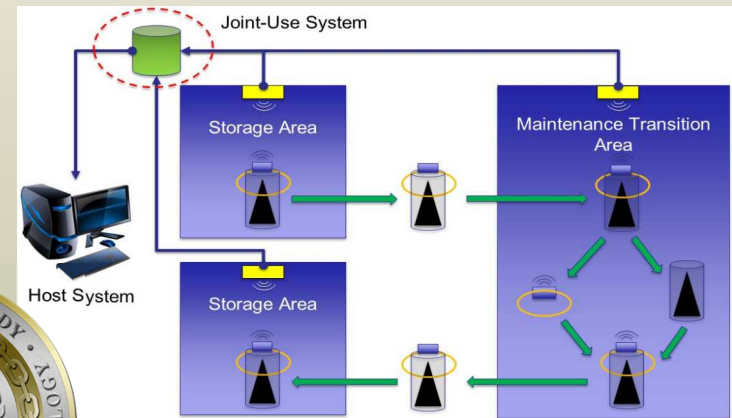
Jill N. Cooley, Director,
Division of Concepts and Planning
Department of Safeguards



Sandia contributes to current and future arms control needs

Developing technologies and applications

- Radiation detection for treaty monitoring, warhead confirmation
- Monitoring approaches for warhead treaty accountability
- Chain of custody technologies for tracking and monitoring
- Protecting sensitive information/verifying info authenticity



Creating key regional and national-level institutions through partnerships



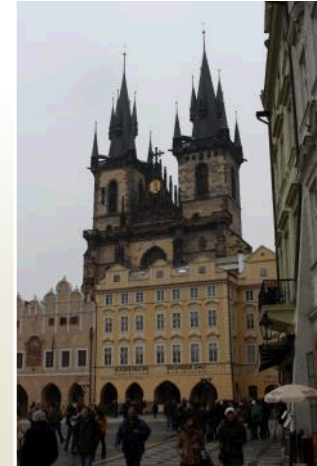
MESIS   
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Middle East Scientific Institute for Security



Active participation in Track II Engagements

- Contributing ideas and technical expertise to informal international dialogues on arms control, nonproliferation and regional security
 - Produce white papers and journal articles
 - Convene special working groups
 - Provide subject matter expertise
 - Explore new approaches to further security

- Academic, NGO and Government sponsors
 - Middle East
 - South Asia
 - East Asia



UCLA Regional Security in the Middle East Meeting
Prague, Czech Republic



Strategic Studies Network Meeting
Bangkok, Thailand
November, 2012

Sandia's capacity building efforts enabled the capabilities at Centers of Excellence



中美核安保示范中心建设
China-U.S. Center of Excellence

Japan Center for Nuclear
Nonproliferation and Nuclear
Security (ISCN)



Sandia's contributions to reducing nuclear dangers go well beyond the NPT

- Nuclear security: the need to secure nuclear facilities and materials worldwide
 - The NPT assumes signatory states in fact maintain control, but it does not explicitly dictate that states must do so
 - Physical protection is a long-standing Sandia core competency
- Nuclear security: addressing the dangers from terrorists and other non-state actors
 - NNSA's Radiological Security Initiative
 - Addressing the dangers from covert supply networks
 - Export control, NSDD, contraband detection
- Complementary nonproliferation work
 - Radiological material security
 - Chem/bio nonproliferation and security

Sandia conducts the main IAEA course in Physical Protection of Nuclear Materials and Nuclear Facilities



- Every 18 months for the past 37 years, Sandia has hosted the International Training Course (ITC)
- More than 800 people from 73 countries have attended the 3-week class. The students return to their home countries well-versed in the latest techniques and technologies.
- This year, the 25th ITC hosted 45 students from 37 nations



Contraband detection support is another element of global security



Active Engagements

Sandia National Laboratories

Nuclear Smuggling Defense and Deterrence Program

Contraband detection support is another element of global security



Securing radioactive materials is a key priority



Upgrading physical protection measures at medical and research facilities



Search and Secure Training – locating and identifying orphaned sources