

INSE

International Nuclear Security Engineering

INTERNATIONAL NUCLEAR SECURITY PROGRAM

The International Nuclear Security Engineering (INSE) department, part of Sandia National Laboratories' Center for Global Security and Cooperation, improves the security of vulnerable stockpiles of nuclear weapons and weapons-usable nuclear materials worldwide by providing engineered solutions to physical protection system analysis, design, and installation for NNSA's International Nuclear Security Program, the Defense Threat Reduction Agency's (DTRA) International Nuclear Security mission, and the International Atomic Energy Agency's (IAEA) mission.

INSE is the principal organization providing engineered solutions to physical protection system analysis, design, and installation as well as implementation of nuclear security best practices and technical exchanges for the International Nuclear Security Program.

INSE also leads the development and operation of the Integrated Security Facility (ISF) at Sandia National Laboratories. The ISF provides a unique venue for physical protection, nuclear materials management, and nuclear safety training, demonstration, and equipment testing/evaluation to domestic and international partners.

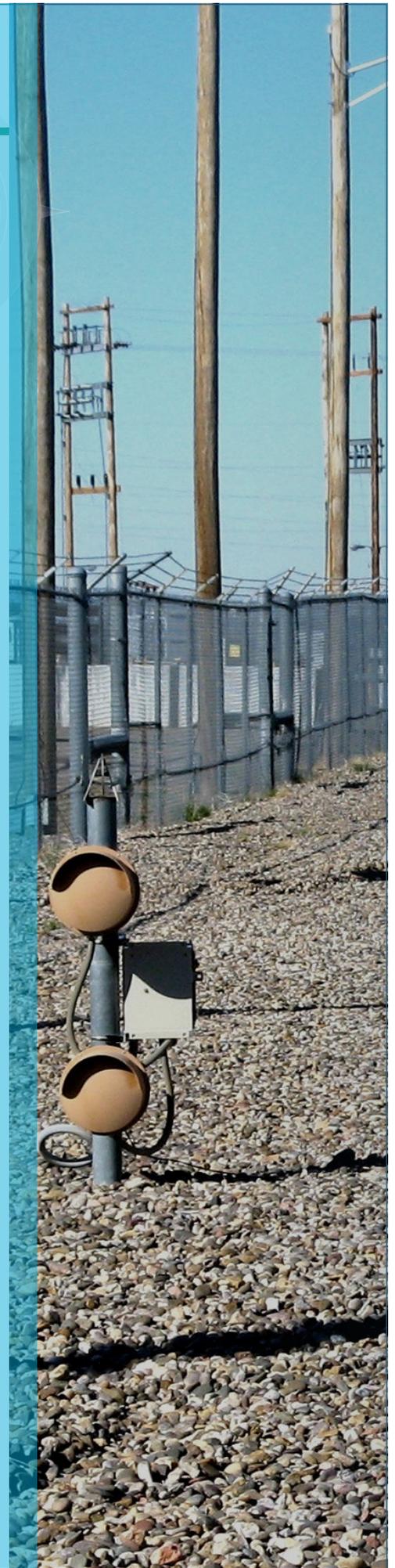
Core INSE Capabilities

Physical Protection Systems:

- Engineering, design, and analysis
- Vulnerability Assessments (VA)
- Modeling and simulation
- Performance testing and evaluation
- Integration and implementation
- Program and project management
- Subject matter experts (SMEs) in Detection/Delay/Response, VA, Mod/Sim, etc.
- Fixed Site and Transportation Security

Physical Security Professional Development and Capacity Building:

- Technical exchanges and best practices
- Fundamentals of physical protection systems



INSE Engagements and Capabilities

Nuclear Non-Proliferation

INSE helps defend against nuclear proliferation and nuclear terrorism by increasing the security of vulnerable stockpiles of nuclear weapons and weapons-usable nuclear materials. The primary focus of this work is increasing physical protection measures for nuclear weapons, storage areas, nuclear power plants, and research reactors.

Nuclear Security Training and Professional Development

Sandia employs world-class facilities and technical expertise to offer a wide array of training courses on physical protection topics, including a focus on nuclear security professional development and other interrelated subjects such as cyber security. Tailored programs are created to engage the recipients and their specific needs, with a focus on systems analysis, design, integration, and oversight.

Nuclear Security Centers of Excellence (COE)

Sandia serves as a leading resource for countries developing Nuclear Security COE's, providing subject matter expertise in a variety of areas including technical design and implementation of physical protection systems (PPS) and training for technical staff tasked with operating and maintaining the systems.

Integrated Security Facility

Sandia's ISF is a research, development, testing, and training area that utilizes a fully functional and integrated physical protection system. The ISF serves as a venue for engagement on international and domestic nuclear security, safeguards, and safety issues.

Modeling and Simulation

INSE has established a modeling and simulation capability to analyze and assess the effectiveness of physical protection systems for both fixed sites and transportation systems. INSE primarily provides training, demonstrations, and design and application assistance for international partners seeking to develop a modeling and simulation capability.

For more
information,
please contact

Dominic R. Martinez, Manager
International Nuclear Security Engineering
dmartin@sandia.gov , 505.284.4003



Sandia National Laboratories is a multission laboratory managed and operated by National Technology and Engineering Solutions of Sandia LLC, a wholly owned subsidiary of Honeywell International Inc., for the U.S. Department of Energy's National Nuclear Security Administration under contract DE-NA0003525. SAND2018-0060 M

