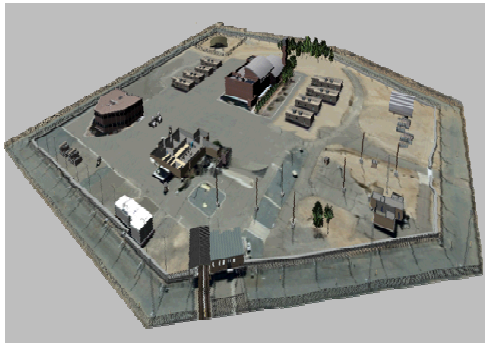
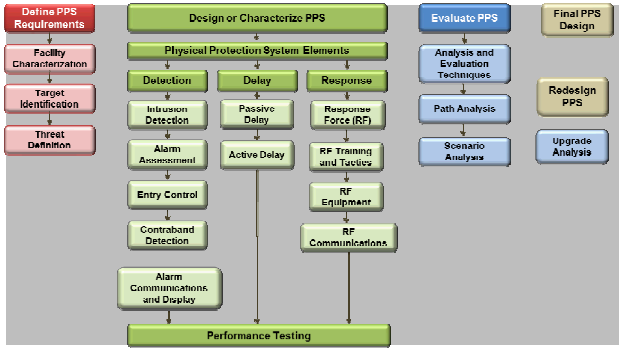
Exceptional service in the national interest

SAND2013-8124P

Sandia National Laboratories





Vital Area Identification & Consequence Analysis Working Meeting – Introduction

Felicia A. Durán, Ph.D.
Security Systems Analysis

Korea Hydro Nuclear Power/Central Research Institute Visit
September 23 – October 4, 2013

U.S. DEPARTMENT OF ENERGY | NNSA National Nuclear Security Administration

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ACKNOWLEDGEMENT: Includes content from SAND2009-1437P , SAND2011-XXXXP, and SAND2012-5719P

Presentation Outline

- Meeting Purpose
- Introduction and Overview
  - Sandia National Laboratories
  - Security Capabilities
- Overview of Meeting Schedule

Meeting Purpose

- Working meeting
  - Discuss, address issues, and collaborate on analyses
  - Vital area identification analysis – Sandia Lead, Jeffrey LaChance
  - Consequence analysis – Sandia Lead , Sam Durbin
  - Tours of Sandia facilities
    - Cylindrical Boiling (CYBL) Facility
    - SURTSEY Facility
    - International Programs – Technology Training and Demonstration Area
- Additional topics - tentative
  - Overview and introductory training for physical protection system (PPS) design and analysis
    - PPS Design and Evaluation, Facility Characterization, Target Identification, Threat Definition
  - Security Planning Requirements

Sandia National Laboratories

- *Exceptional Service in the National Interest*
  - Multiprogram research and development laboratory of the U.S. Department of Energy
  - Managed and operated by Sandia Corporation
    - A subsidiary of Lockheed Martin Corporation
- Sandia began in 1945 as Z Division, the ordnance design, testing, and assembly arm of Los Alamos National Laboratory. It became Sandia Laboratory in 1948 and, in 1949 Sandia Corporation was established.

Sandia – A National Security Laboratory

Sandia National Laboratories

KHNP

Historically, Sandia's Nonproliferation Programs Evolved and Expanded to Support Emerging Needs

1960s-70s

Nonproliferation Treaty
Nuclear Nonproliferation Act
Proliferation Detection Technologies

- Satellite Verification
- Safeguards Technology
- Ground-based Sensors
- IAEA Physical Protection Missions

1980s

INF Treaty
Conv. on the Physical Protection of Nuclear Materials

- Verification strategy (Treaty On-Site Inspection)
- Arms Control Technology Options
- IAEA unattended monitoring technologies

1990s

START I and II
Nunn-Lugar Cooperative Threat Reduction
Warhead Safety and Security Exchange

- Russian MPC&A Program
- FSU Threat Reduction

- Fissile Material Monitoring

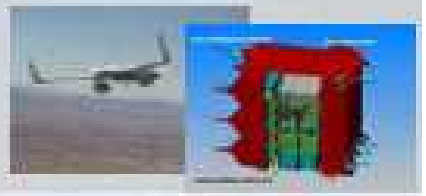
- Cooperative Monitoring Center
- Regional Security
- Visiting Scholars

2000s

Multilateral cooperation on interdiction (PSI)
UNSCR 1540, GICNT
DPRK Denuclearization

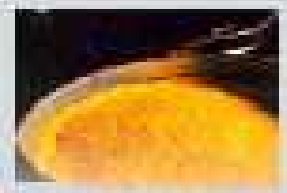
- MPC&A Transition
- Second Line of Defense
- Megaports
- Warhead Monitoring
- Bilateral Transparency

- Radiological Threat Reduction
- IAEA Support
- Next Generation Safeguards
- WMD Detection



Global Security Program Areas

- Reducing proliferation and terrorism threats through global technical engagement



International Weapons & Material Protection

Nuclear & Radiological Threat Reduction

International Border Security

International Biological & Chemical Threat Reduction

Non-Proliferation, Arms Control & International Security

Global Security

- Reducing Demand and Motivation to Acquire
  - Partnership for Nuclear Security
  - Regional Security Dialogues
- Managing Consequences
  - Emergency Response Training
- Interdicting Materials
  - Megaports
  - Second Line of Defense
  - Border Security
  - Export Control
- Addressing Emerging Threats
  - Critical Asset Protection
- Restricting Access
  - Global Threat Reduction Initative
  - Material Protection Control & Accounting
  - HEU Transparency
  - Warhead Monitoring
  - International Safeguards
  - International Biological Threat Reduction
  - Physical Protection
  - Chemical Security

Physical Security Training Mission

- The mission of Sandia's training team is to develop and maintain the proficiency and competence of domestic and international personnel in security disciplines
- The mission of the training has evolved over decades to meet the changing needs of the security community
  - Initial courses focused on basic concepts and principles of PPS
  - Over time the expertise of our audiences have increased, therefore requiring the development of intermediate and advanced courses
  - Additional security topics are continually being added

Integrated Facilities and Capabilities

Overview of Meeting Schedule

- WEEK 1
  - Monday – 1:00 to 4:30 PM
    - Facility Tours
  - Tuesday – 10:45 AM to 4:30 PM IPOC 1214
    - Overview Presentations and Introductory Training
  - Wednesday through Friday – 8:30 AM to 4:30 PM 823 Room 2413E
    - VAI Analysis – presentations/discussions led by Jeff LaChance
    - References to be provided – Training materials, Sandia/IAEA reports
    - Presentations/discussions based on implementation for APR1400
  - Wednesday through Friday – 12:30 to 4:30 PM 823 Room 3411A
    - Consequence Analysis – discussions with Sam Durbin
- WEEK 2
  - Monday through Thursday
    - 12:30 to 4:30 PM 823 Room 2413E – VAI Analysis continues (Wednesday Room 2093)
    - Thursday morning – PPS Design and Evaluation Activities (tentative)
  - Friday
    - 9:00 to 11:00 AM – Integrated Security Facility Tour (tentative)
    - 12:30 to 4:30 PM 823 Room 2413E – Path Forward