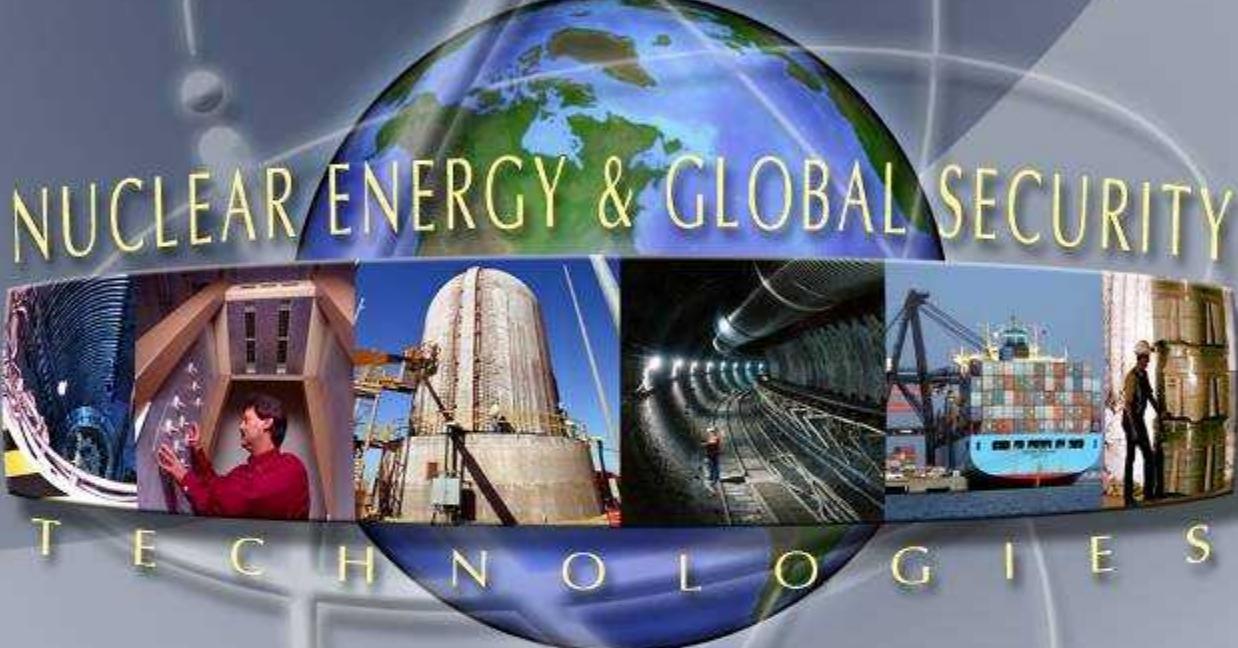


# International Security Projects

SAND2010-1573P

## Department 6754



TECHNOLOGIES

**John C. Matter**  
**Manager**



Sandia is a multiprogram laboratory operated by Sandia Corporation, a Lockheed Martin Company, for the United States Department of Energy's National Nuclear Security Administration under contract DE-AC04-94AL85000.





# Presentation to JAEC

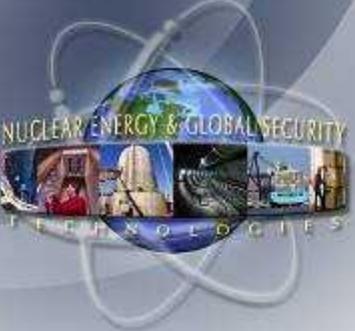
Dr. Tatsujiro SUZUKI  
Vice-Chairman of JAEC

Mr. Tomoki SAKATA  
Secretariat of JAEC

March 24, 2010

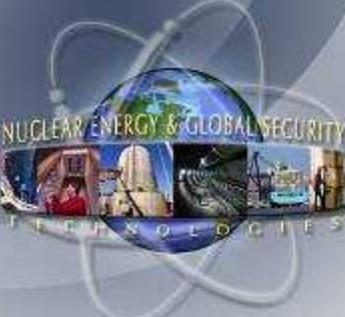
Sandia National Laboratories  
Albuquerque, New Mexico





# Mission Statement

The mission of International Security Projects Department 6754 is to provide leadership and support to the U.S. Department of Energy (DOE) and the International Atomic Energy Agency (IAEA) in international physical protection of nuclear materials in use, storage, and transport, against the threats and risks of theft and radiological sabotage.



# Program Sponsor

U.S. Department of Energy (DOE)

National Nuclear Security Administration (NNSA)

Office of Defense Nuclear Nonproliferation (NA-20)

Office of Nonproliferation and International Security (NA-24)

Office of International Regimes and Agreements (NA-243)

- Richard Goorevich, Office Director
- Melissa Krupa, Team Lead



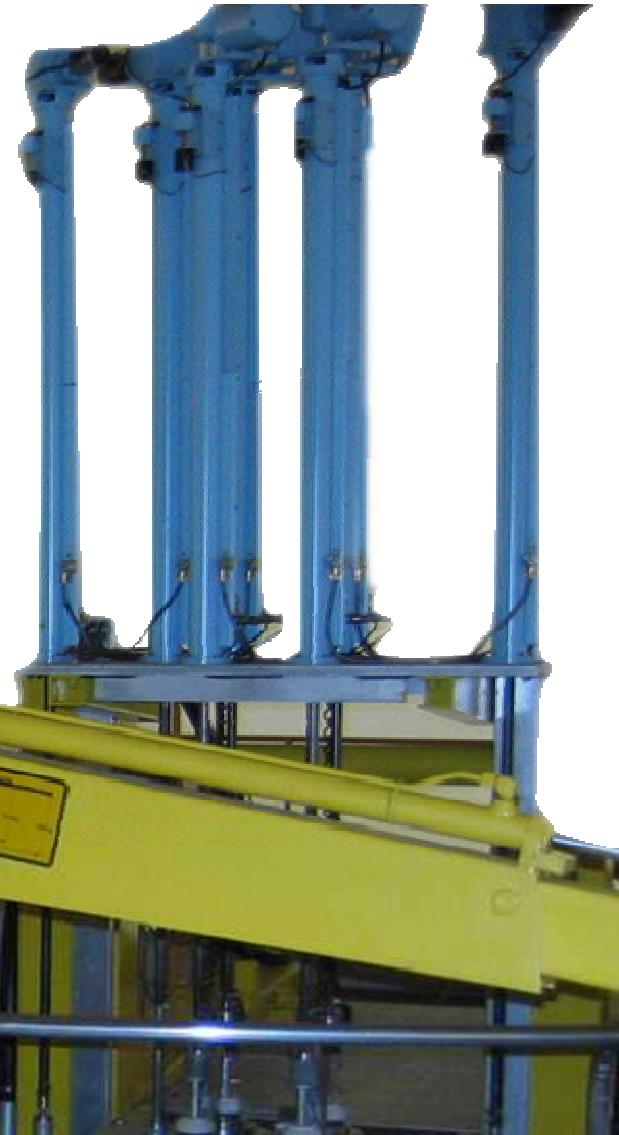
# Program Areas

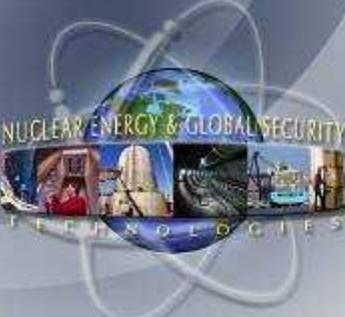
- We perform four major types of activities:
  - Assessments
  - Guidance
  - Training
  - Collaboration



# Assessments

- On-site assessments of physical protection systems
  - Countries with US-obligated nuclear materials
- IAEA assessments of physical protection regime
  - Member State request
  - International Physical Protection Advisory Service (IPPAS) mission
- Basis for assessments is recommendations in IAEA INFCIRC/225, The Physical Protection of Nuclear Material and Nuclear Facilities





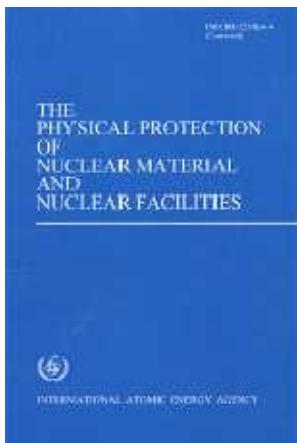
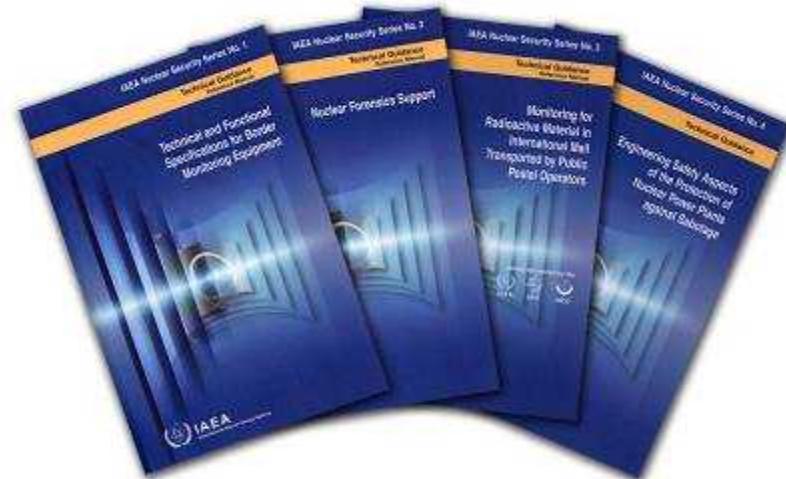
# Guidance

- Technical consultation and input to IAEA Nuclear Security Series
- IAEA process steps:
  - Document Preparation Profile (DPP) approved by Director General's Advisory Group on Nuclear Security (AdSec)
  - Consultancy Services Meeting (CSM) of international subject matter experts write draft
  - Technical Meeting (TM) of Member States provides comments for IAEA consideration



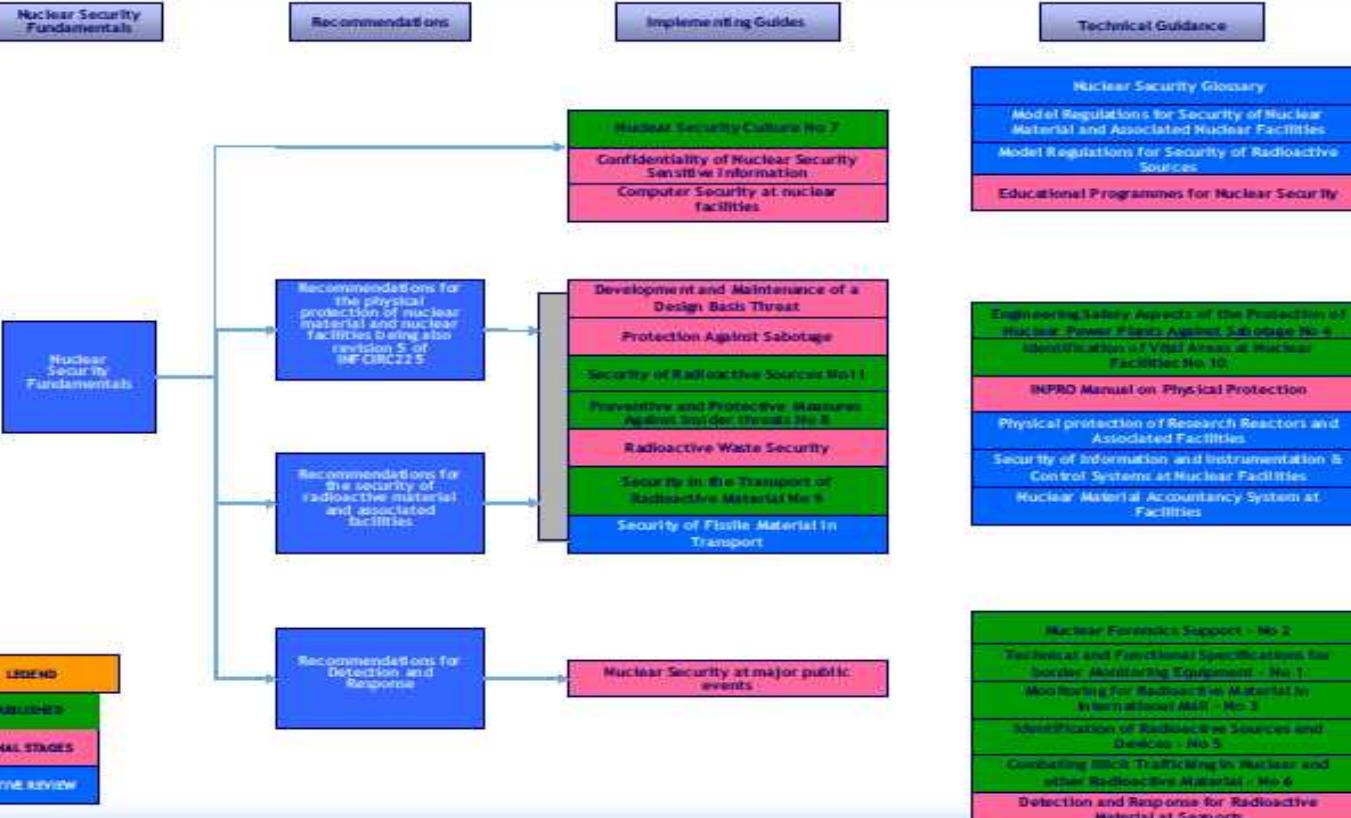
# IAEA Nuclear Security Series

- NSS Framework is hierarchical:
  - Nuclear Security Fundamentals
  - Recommendations
    - e.g. INFCIRC/225
  - Implementing Guides
    - e.g. Development, Implementation, and Maintenance of a Design Basis Threat
  - Technical Guidance
    - e.g. Identification of Vital Areas at Nuclear Facilities



# NSS Framework

## Nuclear Security Series



- Two titles for one document:
  - Nuclear Security Recommendations on Nuclear Material and Nuclear Facilities
  - Physical Protection of Nuclear Material and Nuclear Facilities (INFCIRC/225/Rev.5)
- Nearing completion of IAEA process:
  - Drafting Group Meeting (Last – Nov. 2009)
    - NMCC
  - Consultancy Meeting (Last – Nov. 2009)
    - MEXT, NMCC, JNES, JAEA
  - Technical Meeting (First – Feb. 2010)
    - MEXT, NMCC, JNES, JAEA

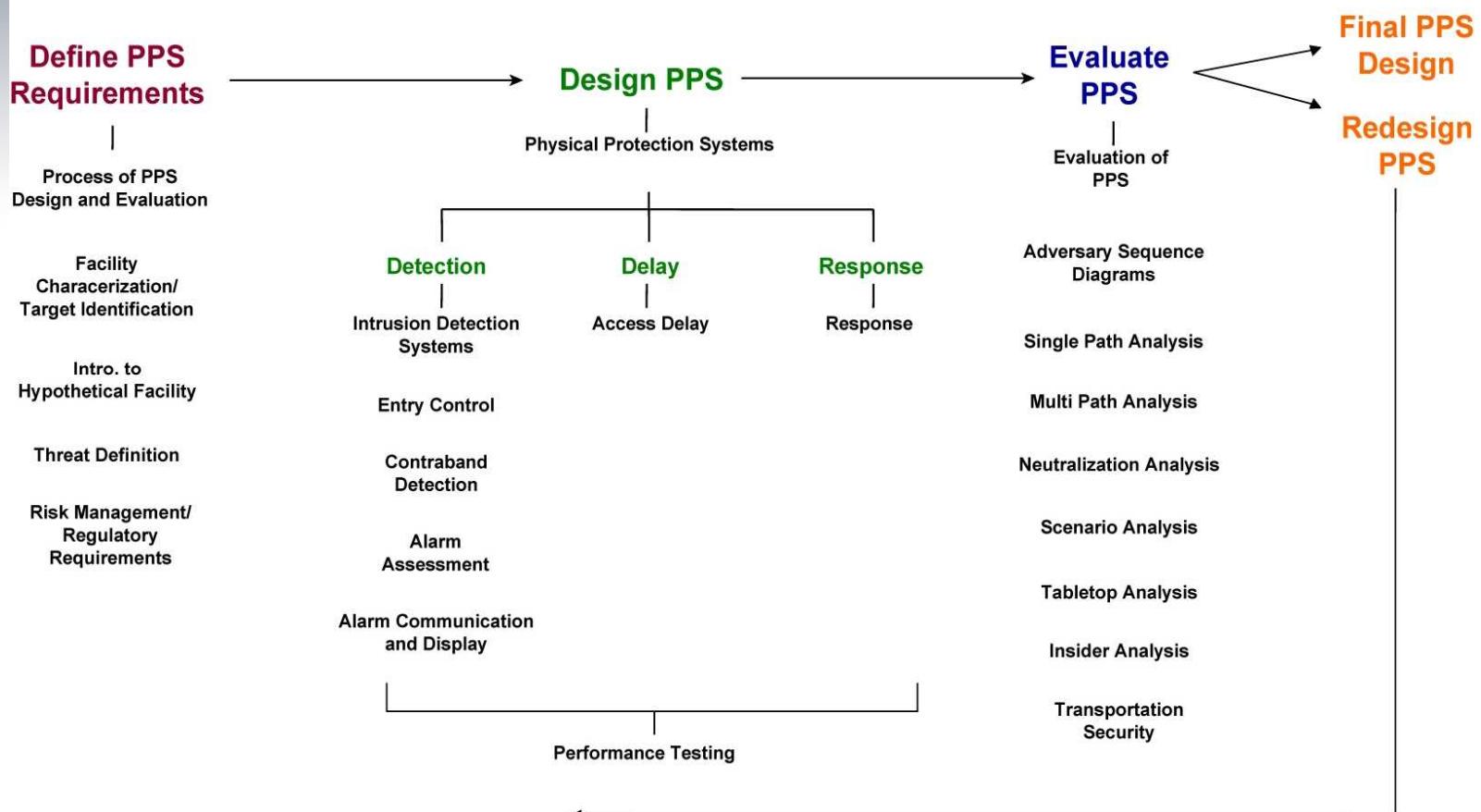


# Training

- Development of international physical protection training courses and workshops
  - Trend is for training that parallels and addresses NSS of guidance documents/topics
- Presentation of international physical protection training course and workshops
  - Benchmark is International Training Course on Physical Protection of Nuclear Facilities and Materials
    - US commitment in Nuclear Non-Proliferation Act of 1978
    - ITC-22 scheduled for October 17 – November 5, 2010



# Design and Evaluation Process Outline (DEPO)



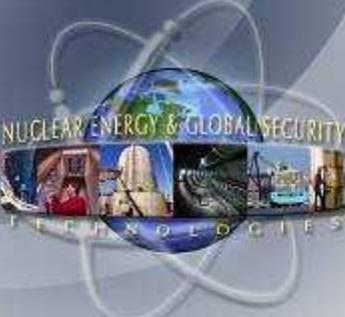


# Collaboration

- Technical collaboration with other IAEA Member States for topics of mutual interest in physical protection
  - Current engagements with
    - France
    - Japan
      - Government-to-Government
      - Laboratory-to-Laboratory
    - Korea
  - Current topic examples
    - Performance testing workshops
    - Vulnerability assessment methodologies
    - Nuclear material transport sabotage mitigation measures

- Third Annual Physical Protection Consultations
  - December 8-9, 2009 in Washington, DC
  - Japan: METI, MEXT, JNES, NMCC
  - U.S.: DOE/NNSA, DOS, NRC, SNL
- Four topics with dual presentations
  - Graded approach to physical protection
  - Power reactor regulatory oversight
  - Physical protection inspections and exercises
  - Performance testing of security equipment

- Currently, four Project Action Sheets on Physical Protection
  - PAS-PP01: Demonstrations of Physical Protection System Effectiveness and Efficiency Analysis
  - PAS-PP02: Guard Post Optimization and Automated Access Control Portal Study
  - PAS-PP03: Video Detection and Tracking Testing and Development
  - PAS-PP04: Development of Security by Design for Future Facilities



# Conclusion

- Our program is designed to positively impact global nuclear security:
  - Assessments provide specific nuclear security recommendations to IAEA Member State's Competent Authority and Licensees
  - Guidance documents provide general recommendations on best practices to all IAEA Member States
  - Training supports development and sustainability of human resources and indigenous capabilities
  - Collaborations focus on specific countries and topics of interest with mutual benefits