

SAND2009-6858C

# Piracy Panel – Maritime Security Expo

Allison Bennett – Sr. Systems Engineer, Sandia National Laboratories

20 October 2009



# Second Line of Defense (SLD)

**MISSION:** Strengthen the capabilities of partner countries to ***deter***, ***detect***, and ***interdict*** illicit trafficking of special nuclear and other radioactive materials at international border crossings including airports, seaports, and other points of entry/exit

**STRATEGY:** Develop cooperative efforts to mitigate the risk of illicit trafficking through:

- Search, detection, and identification of nuclear and other radioactive materials
- Development of response procedures and capabilities
- Deterrence of future trafficking in illicit nuclear and nuclear-related materials





# SLD: Two Primary Programs

## Second Line of Defense

### Core Program

- Equip more than 600 points of entry: airports, border crossings, and small feeder seaports
- Bolster detection capabilities of foreign border officials or affiliated agencies
- Partner with international or multilateral organizations
  - International Atomic Energy Agency (IAEA)
  - European Union

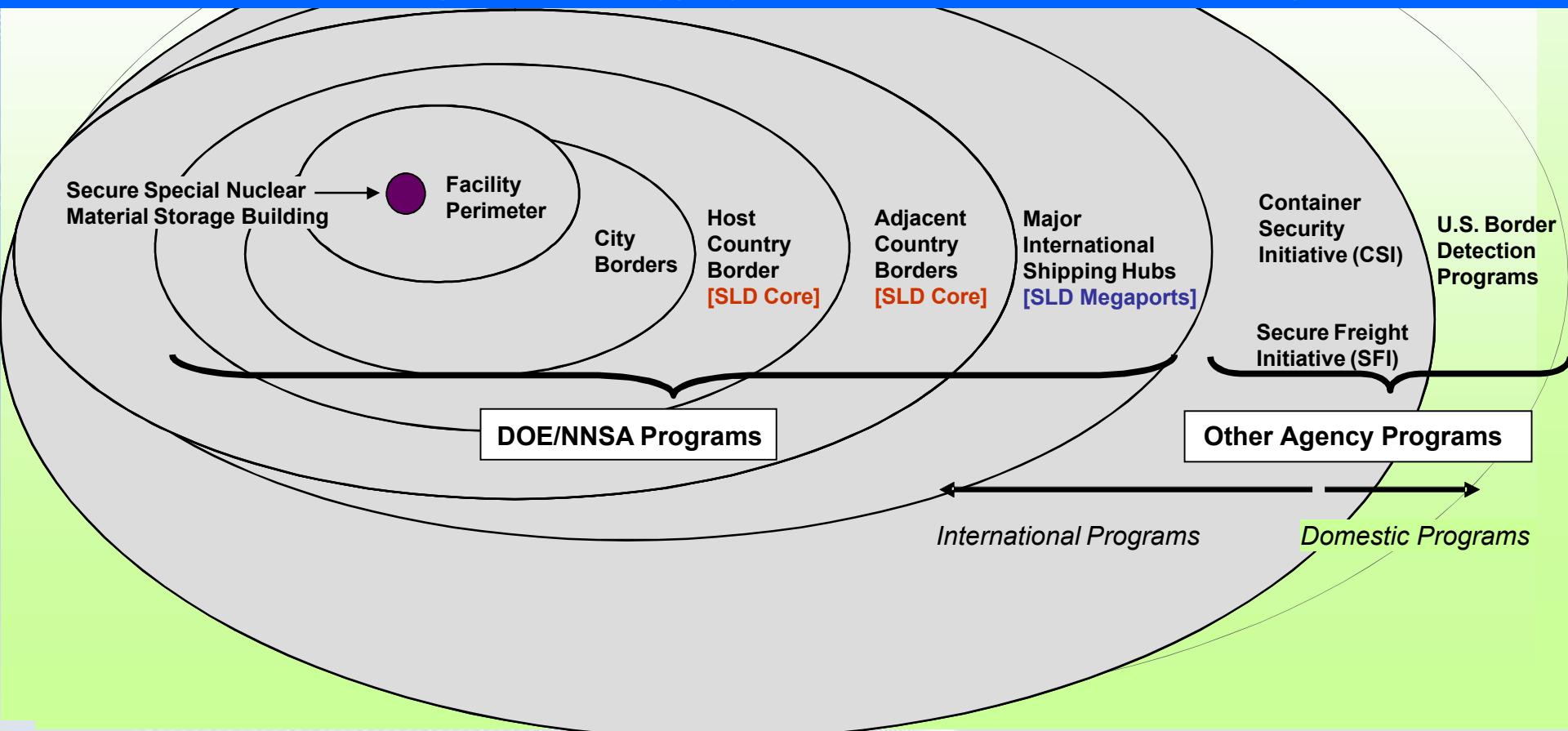
### Megaports Initiative

- Equip 100 seaports
- Bolster detection capabilities of foreign customs officials and port authorities
- Partner with other U.S. federal agencies
  - CBP/ICE: Container Security Initiative (CSI)
  - CBP/ICE: Secure Freight Initiative (SFI)
  - DHS/DNDO: ASP deployment



# International Defense-in-Depth

Multiple Barriers to Protect Against the Smuggling of Special Nuclear and Other Radiological Materials



**GOAL:** Provide additional layers of security to the first line of defense - the protection of nuclear materials and facilities – in order to reduce traffickers' ability to access and/or transport special nuclear or other radioactive materials



# Maritime Prioritization Model

- ◆ **OBJECTIVE:** Rank seaports by their attractiveness to a smuggler attempting to use maritime commerce for illicit movements of SNM or other radioactive material
- ◆ **DESIGN:** The model assesses connectivity between ports and evaluates accessibility from a nuclear material smuggler's perspective
- ◆ **USE:** The model assists the Megaports Initiative in prioritizing seaports for engagement and installation of radiation detection equipment and it is also used by DHS agencies



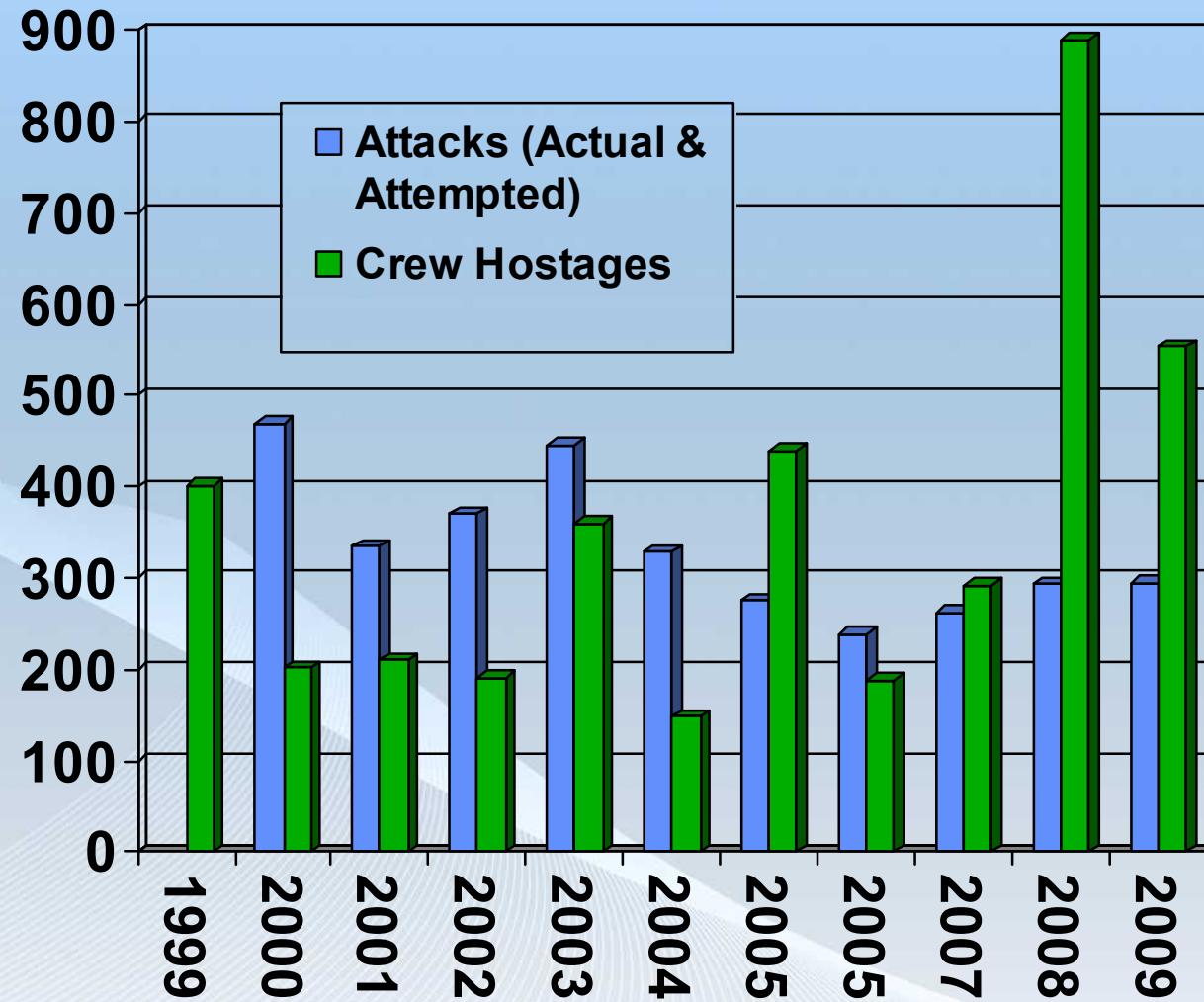
# Why is DOE concerned about Piracy?

- ◆ Potential for a nexus between piracy and nuclear smuggling/attacks
- ◆ Littoral piracy is an indicator of port security





# Piracy Trends



Source: ICC International Maritime Bureau, 2009 Stats Date: 23 Sept 09



# Maritime Nuclear Threat

- ◆ **International Atomic Energy Agency (IAEA)**
  - 15 cases of seizures of stolen plutonium (Pu) or highly enriched uranium (HEU)
  - Source: *IAEA Illicit Trafficking Database (ITDB)*, 1993-2008
- ◆ **UN Security Council – 24 Sept 09**
  - Primary Topic – Nuclear Threat at Sea



# Maritime Research Partnership

- ♦ In 2004 SLD began a partnership with the US Merchant Marine Academy – Kings Point, NY to leverage the unique expertise of faculty and midshipmen and faculty to enhance port, maritime and intermodal system security
  - Model Peer Review
  - Port Security Evaluations
  - Senior Capstone Logistics Seminar Projects
    - Maritime shipping route analysis
    - Nuclear smuggling and detection
    - Thwarting maritime piracy



# Questions Posed to Midshipmen

- ◆ **How do you effectively combat piracy?**
  - ◆ **What's next when evasive maneuvers fail?**
- ◆ **What actions are appropriate consider a pirate's level of capability and sophistication?**
  - How does government stability effect tactics?
- ◆ **Do you arm the crew or security force?**
  - Who is in charge of the security force?
  - Logistics – when/where does team board and disembark?



# Midshipmen Response Categories

1. Armed merchant vessel crew members
2. Armed security detachments (non-vessel personnel)
3. Naval escorts/convoy/security corridors
4. Non-lethal shipboard equipment and methods
5. Judicial/legal/law enforcement approaches
6. Multilateral cooperation and information exchange



# Path Forward

- ◆ Increase our understanding of piracy
  - Motivations, capabilities and tactics
- ◆ Closely monitor a potential nexus among pirates, state actors, terrorist groups and nuclear smuggling
- ◆ Create strategies to deal with piracy in lawless areas
- ◆ Disseminate lessons-learned by mariners/navy
- ◆ Facilitate trade
  - ◆ Reduce insurance premiums and hostages/ransoms
- ◆ Appropriately deploy naval assets



# Contact Information

**William Kilmartin**

**Megaports Initiative – Program Manager**

**[William.Kilmartin@nnsa.doe.gov](mailto:William.Kilmartin@nnsa.doe.gov)**

**Allison Bennett**

**Senior Systems Engineer – Sandia National Labs**

**[acbenne@sandia.gov](mailto:acbenne@sandia.gov)**