



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

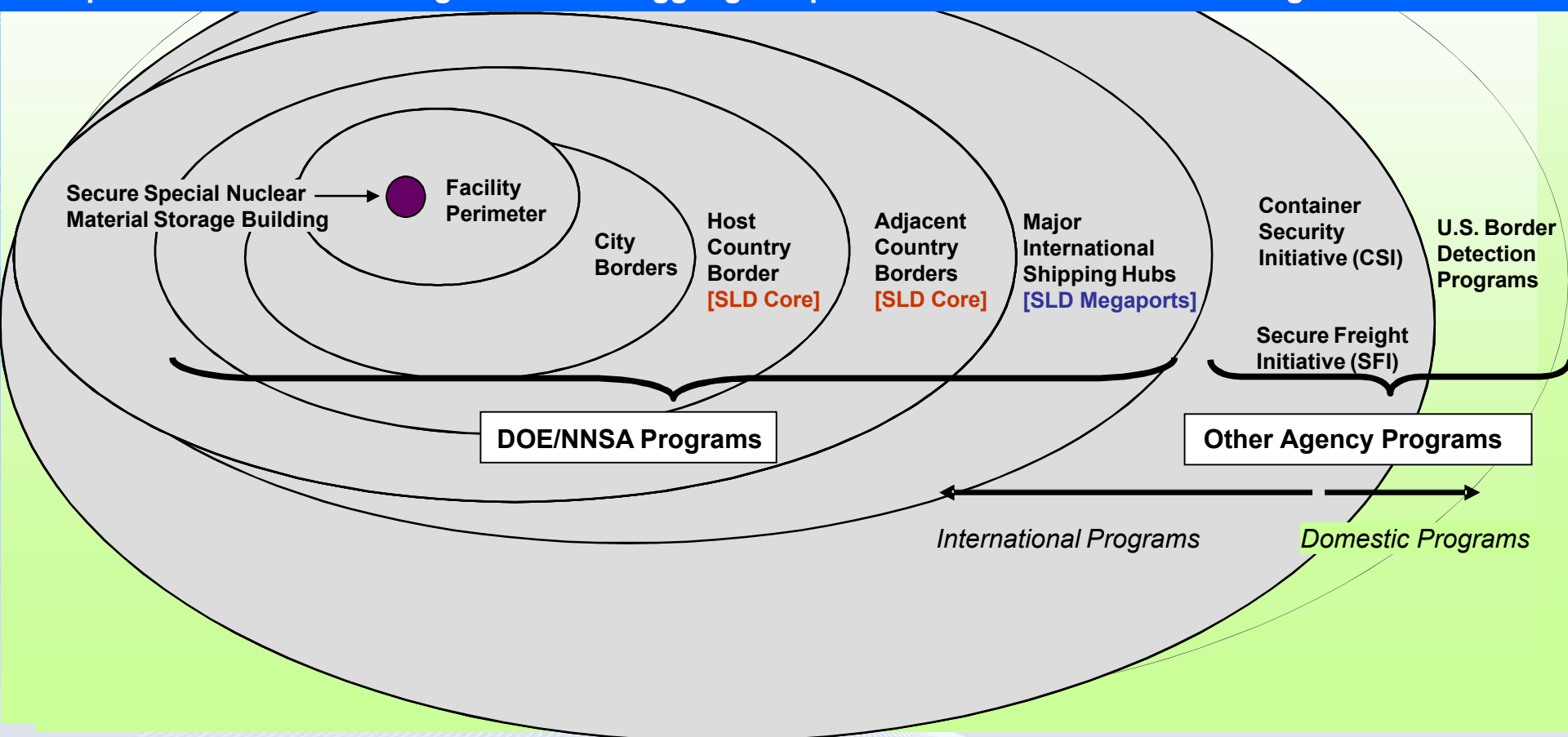
Megaports Initiative

- 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



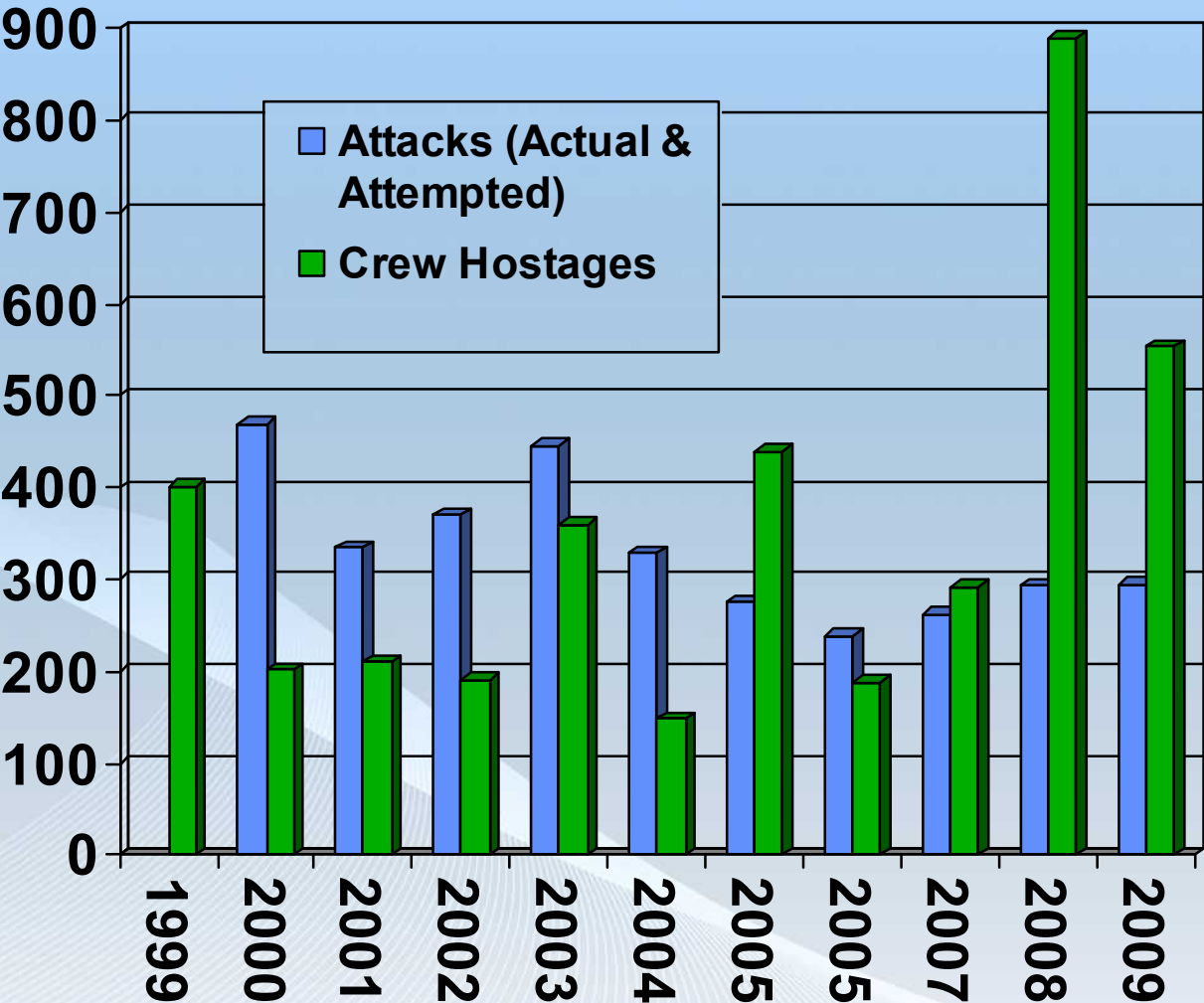
Why is DOE concerned about Piracy?

- ◆ **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/convoys/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

Allison Bennett

Senior Systems Engineer – Sandia National Labs

acbenne@sandia.gov