State of California

Interior Layer of the Global Radiological & Nuclear Architecture
By quantifying the Interior Layer of the Radiological / Nuclear Architecture, we transition from today’s reality of disparate instruments to tomorrow’s integrated system.
“The single most serious threat to American national security is nuclear terrorism”
President George W. Bush

“What keeps you awake at night?” It is the thought of a terrorist ending up with a weapon of mass destruction, especially nuclear.”
Secretary of Defense Robert Gates

“The single most important national security threat we face is nuclear weapons falling into the hands of terrorists”
President Barack Obama
Threat

• There is direct evidence that terrorists are trying to acquire WMD

• Acquiring WMD fits the tactical profile of terrorists

• Demonstrated global reach and the organizational sophistication to obtain and use WMD

• The opportunity to acquire and use such weapons is growing exponentially because the proliferation of nuclear material

Prevention of WMD Proliferation and Terrorism Report Card January 2010
The Chain of Nuclear Terror

1. Embrace extreme objectives and possess the necessary technical and financial resources
2. Choose to engage in an act of nuclear terrorism at the highest level of violence
3. Acquire sufficient weapons – useable fissile material through gift, purchase, theft or diversion
4. Build the IND
5. Transport components for final assembly (or intact IND) to a high value target
6. Detonation
The Chain of Nuclear Terror

1. Embrace extreme objectives and possess the necessary technical and financial resources
2. Choose to engage in an act of nuclear terrorism at the highest level of violence
3. Acquire sufficient weapons –useable fissile material through gift, purchase, theft or diversion
4. Build the IND
5. Transport components for final assembly (or intact IND) to a high value target
6. Detonation
Threat

- Improvised Nuclear Device (IND)
- Radiation Dispersal Device (RDD)
- Radiation Exposure Device (RED)
A multi-layered, international system is crucial for the security of all nations.
Second Line of Defense

Materials Protection, Control, & Accountability

Coast Guard Inspection

Seaport and Border Scanning

Port-of-Departure Screening

Potential source of SNM

Potential target
Ground Truth

Stovepiped Programs

- Duplicative Processes
- False Linkages
- Overstating Capabilities
- Failing to Recognize Opportunities for Integration
- Authorities spread across multiple agencies and jurisdictions
Ground Truth

State and Local Communities

- Few have a coordinated response plan for the aftermath nuclear terrorism
- There is a general lack of understanding of the response needs
- Uncertainty of the Federal, State, and Local roles and responsibilities

Decisions made in the first few hours

- Have the greatest public health and medical impact
- Are not likely to be *technically informed* (correct actions can be counter-intuitive)

There is a lack of scientific consensus on response strategies
Emerging Interior Layer

- Common Strategy
- Rational Approach to Resource Allocation
- Communications Plan
- Intelligence Sharing Protocol
Interior Layer Architecture

- Interior Layer Architecture
- Preventative Radiological Nuclear Detection
- Nuclear Regulatory Agreement
- Radiological Community Awareness Program
- Rad/Nuc Annex to State Emergency Plan
- Rational Approach to Resource Allocation
- Communication Plan
- Intel ConOps
- Threat Briefing
- Architecture Strategy
- Quantifiable Source Security Plan
- REP
- Curriculum
- Communication
- NPP
- Regional MAARPs
- Prevent
- Protect
- Respond
Linkages to Other Programs

- Response and Mutual Aid
- Intelligence Sharing
- Critical Infrastructure Protection
- CBRNE Initiatives
- Training and Exercises
Academic Collaboration

• Continued Research
• Concerted Effort to Remove Stovepipes
• Multi-Disciplinary, Multi-Governance Level
• Consistent Definition of Risk
• Recognition of an Asymmetric Landscape
• Vision Beyond What Currently Exists
The Horizon

By quantifying the Interior Layer of the Radiological / Nuclear Architecture, we transition from today’s reality of disparate instruments to tomorrow’s integrated system.
Contacts

California Emergency Management Agency
Division of Planning, Preparedness and Emerging Threats

Chris Holbrook
christoper.holbrook@calema.ca.gov

Elaine Jennings
elaine.jennings@calema.ca.gov
Back Up Slides

- Capabilities
- Regional Collaborative Networks
- Architecture
- Architecture Table Format
Capabilities
All Channel Network Theory
Threats could originate in either the Exterior or Interior layers. Depending upon origin, threats may pass through one or three layers. Adversaries may use one or more pathways in each layer or layer transition.