TRANSPORTATION SECURITY RULEMAKING ACTIVITIES AT THE U.S. NUCLEAR REGULATORY COMMISSION

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PATRAM
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Security Rulemakings

NRC Focus Prior to September 11, 2001

- Historically, NRC Transportation Security Regulations Focused on Highest Risk Radioactive Material, consisted of Special Nuclear Material (SNM) and Spent Nuclear Fuel (SNF)

NRC Actions Since September 11, 2001

- Domestically, reviewed materials transported by NRC licensees and re-evaluated security requirements considering:
  - applicable threats to shipments,
  - material considerations, and
  - magnitude of adverse consequences

- Internationally, participated in the development of the IAEA Code of Conduct on the Safety and Security of Radioactive Sources

NRC photo of empty container on truck

DOE/OCRWM photo of locomotive pulling cask.

Security Rulemakings

NRC Actions Since September 11, 2001

- IAEA Code of Conduct
- Identified 16 radioactive materials and associated quantities that could be useful to a terrorist
- Three categories identified based on potential consequences if an individual remains in close proximity to unshielded source.
  - Category 1 - fatal within few minutes to an hour
  - Category 2 - fatal within hours to days
  - Category 3 - fatal within days to weeks, however unlikely

Category 1 and 2 Quantities of Radioactive Material

Radioactive Material	Category 1 (Terabequerels)	Category 2 (Terabequerels)
Americium-241	60	0.6
Americium-241/Be	60	0.6
Californium-252	20	0.2
Curium-244	50	0.5
Cobalt-60	30	0.3
Cesium-137	100	1.0
Gadolinium-153	1,000	10.0
Iridium-192	80	0.8
Plutonium-238*	60	0.6
Plutonium-239/Be*	60	0.6
Promethium-147	40,000	400
Radium-226	40	0.4
Selenium-75	200	2.0
Strontium-90 (Y-90)	1,000	10.0
Thulium-170	20,000	200
Ytterbium-169	300	3.0

Security Rulemakings

NRC Actions Since September 11, 2001 (continued)

- Interim solution - enhance existing regulations through Orders
- Objectives of the Orders are enhanced control of material to
  - Prevent unauthorized access,
  - Prevent malevolent use of material, and
  - Mitigate consequences
- Orders were issued to NRC licensees that transport:
  - IAEA Code of Conduct Category 1 and 2 radioactive material and quantities
  - Spent Nuclear Fuel

Security Rulemakings

NRC Ongoing Activities

- Orders are an interim measure
- Long term approach is to enhance transport security through public rulemaking
- Rulemaking process in progress for
  - Physical Protection of Category 1 and 2 material
  - SNF Transportation Security

Security Rulemakings

Objectives of In-Transit Security

- Prevent theft and/or diversion for malevolent use
- Prompt detection, assessment, and reporting
- Prompt LLEA response

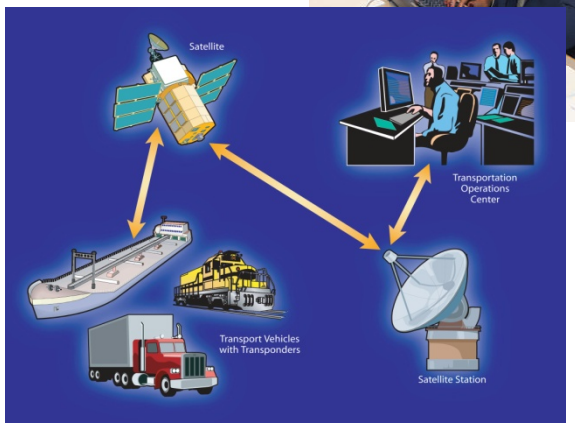
Security Rulemakings

Proposed Rule, Physical Protection of Byproduct Material, 10 CFR Part 37

- Applicable to Category 1 and 2 Quantities of Radioactive Material and small quantities of SNF
- Proposed Rule Published June 15, 2010
  - Considered Security Concepts and Lessons Learned from past Orders
  - Stakeholder feedback from public meetings and comments on preliminary draft rule language
- Requirements proposed for
  - Facility Security
  - **In-Transit Security**
  - Access Authorization
- Comments due by October 13, 2010

Security Rulemakings
Proposed 10 CFR Part 37

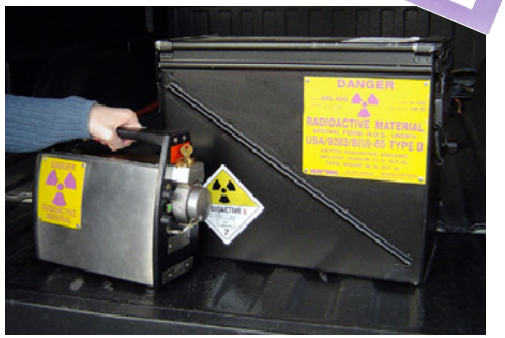
- Licensee Verification
- Planning & Coordination
- Notifications & Communications
- Shipment Monitoring



DOE/OCRWM illustration

Security Rulemakings
Proposed 10 CFR Part 37

- Drivers and Accompanying Individuals
- Procedures, Training and Control of Information
- Background Investigations
- Additional Requirements for Portable and mobile devices



Security Rulemakings

Proposed Rule, Physical Protection of Spent Nuclear Fuel in Transit

- Applicable to SNF shipments >100 gram and >100 rem/hr @ 3 ft unshielded
- Proposed rule to be published, Fall 2010
  - Considers security concepts and lessons learned from past security Orders
  - Addresses, in part, Petition for Rulemaking from the State of Nevada (PRM-73-10)
- Proposes enhanced requirements for
  - Preplanning and coordination of shipments
  - Control and monitoring of shipments
  - Trustworthiness and reliability of personnel

Security Rulemakings
Proposed 10 CFR 73.37

- Planning & Coordination
  - Coordination with States
- Notifications & Communications
- Continuous & Active Shipment Monitoring

DOE/OCRWM Illustration

Security Rulemakings
Proposed 10 CFR 73.37

- Armed Escorts

DOE/OCRWM Photo of PA police walking along side rail shipment

- Procedures, Training and Protection of Information

- Background Investigations

Security Rulemakings

Next Steps

- Proposed 10 CFR Part 37 published for comment June 15, 2010
- Proposed 10 CFR 73.37 to be published Fall, 2010

Questions?