Global Material Security

Challenges and Opportunities in Development of Transport Security Regulations for Nuclear and Other Radioactive Materials - TS-CCAM

Office of Global Material Security

U.S. Department of Energy

National Nuclear Security Administration

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U.S. DEPARTMENT OF ENERGY

Presentation Outline

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- Importance of Transport Security Regulations
- Development Challenges for Regulatory Drafting of Transport Security Regulations:
  - Legal Considerations
  - Technical Considerations
- Strategies for Successful Drafting
- Conclusions

Importance of Transport Security Regulations

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- Transport complex
- Regulations provide legal framework to ensure secure material--throughout journey and points in between
- Multiple factors:
  - Multi-modal:
    - Road, Rail, Maritime, Aviation
  - Multi-jurisdictional:
    - Domestic Transport vs. International Transport
  - Multi-stakeholder:
    - Agencies
    - Shippers and Carriers
    - Law Enforcement

Regulatory Development Challenges

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- Challenges to developing transport security regulations
  - Adapting regulations to national situation
    - Geography, threat, other considerations
  - Challenge in defining scope of regulations:
    - Radioactive material/sources vs. nuclear material
  - Interfacing with transport safety requirements
  - Limited human resources in developing transport security regulations

Legal considerations

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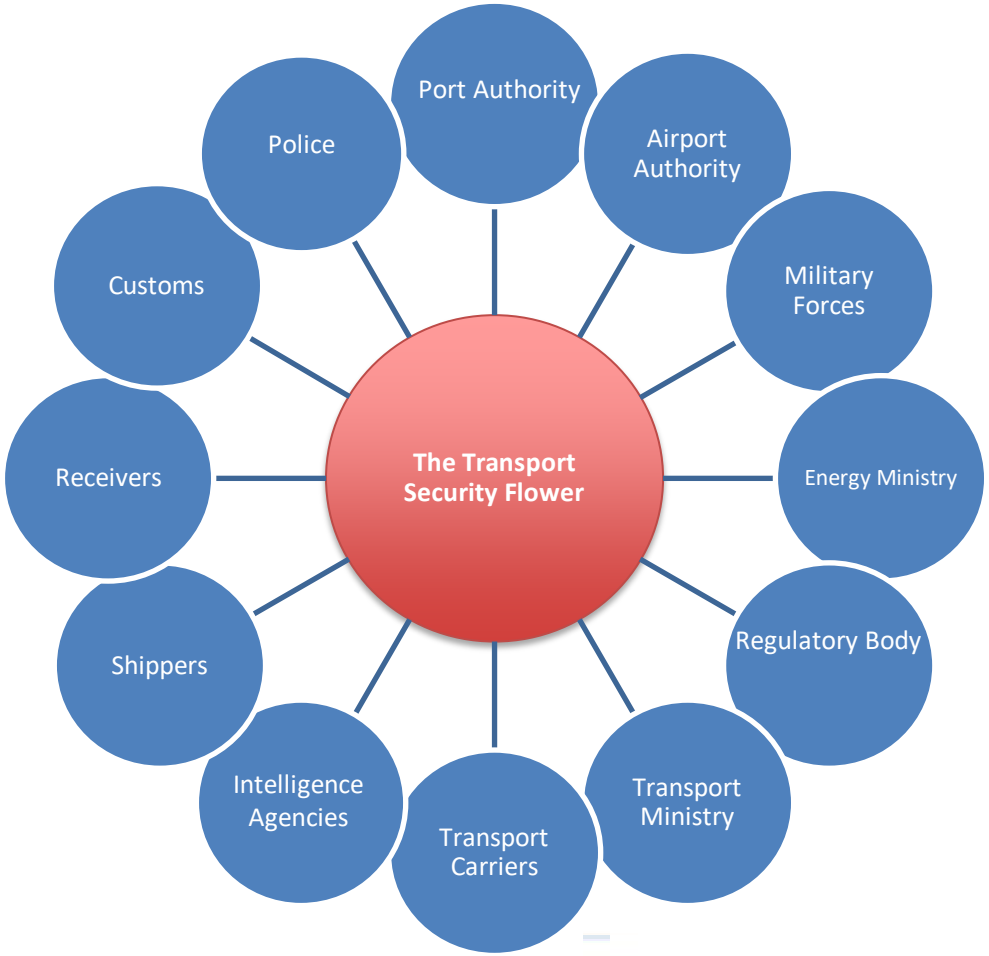
- "Shared regulatory space"
  - Multiple Agencies
  - Possible overlap in responsibility
  - Splintering of authorities
- Defining roles and responsibilities
  - Individual agency roles and responsibilities
  - Shipper and carrier roles and responsibilities
  - Local law enforcement roles and responsibilities



Legal Considerations: Continued

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- Pre-cursor: Safety and Security for Transport of Nuclear and other Radioactive Materials:
  - Safety: protecting *humans* and environment from harmful effects of ionizing radiation
  - Security: protecting *material* from malicious acts of individuals
- Not just question of language, but question of structure:
  - Two separate regulations (Security Regulation and Safety Regulation), or
  - One integrated regulation (Security and Safety Regulation)
- Translation, interpretation issues for authorized persons

Legal Considerations: Continued

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- Importance of legal inventory as discussed by IAEA
- Helps frame boundaries of regulation
  - Nuclear Law
    - Status of Nuclear Law
    - Regulatory functions of Comp. Auth. to regulate transport security
  - Other Dangerous Goods laws and International Commitments
    - Safety of Life at Sea/International Ship, Port Facility Security Code
    - Chicago Convention and International Air Transport Association Dangerous Goods Regulations
- Helps organize stakeholders for input and drafting

Technical Considerations

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- Material covered by transport security regulation?
  - Radioactive material including radioactive sources
  - Nuclear material
  - Uranium ore and material of economic but not radiological consequence
- Selection may influence structure of regulation, security levels, and corresponding security measures.
- Regional considerations may play into question--especially for international transport of nuclear and other radioactive material.

Technical Considerations: Security Level Assignment

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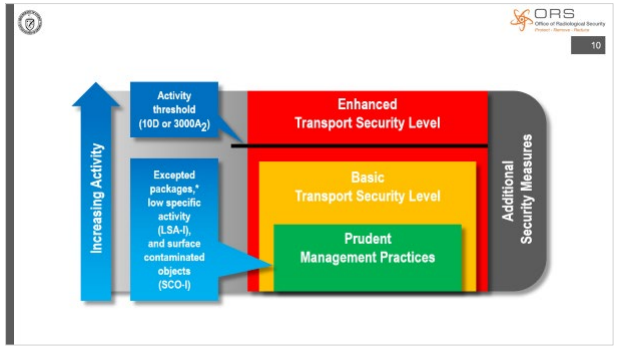
- Nuclear materials
  - Category I, II, III according to CPPNM
  - Reflected in Nuclear Security Series No. 13, NSS 26-G
- Radioactive material including sources
  - NSS 9-G (Rev. 1) added more detailed guidance to each security level
    - Prudent management practices;
    - Basic measures; and
    - Enhanced measures added



Technical Considerations: Continued

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- With developing transport security regulations, countries have begun integrating nuclear material and radioactive material into same regulation
- Poses challenge to ensure security measures protect material and in alignment with international guidance--particularly IAEA implementing guides NSS 9-G (Rev. 1), NSS 26-G

Strategies for Successful Drafting

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- Drafting Committee
  - Critical to success in drafting any regulation, more so in transport security
  - Other modal requirements
    - Maritime Security-Coast Guard, Navy, Maritime Admin.
    - Aviation Security-Airport Authority
    - Rail-Transport Ministry
  - Law Enforcement
    - Especially national and local law enforcement
  - Other relevant stakeholders (intelligence agencies, customs)
- Coordination frameworks for drafting can support effort
  - Informal networks or formal coordination agencies

Strategies for Successful Drafting: Security Levels

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- Security Level cross-walking for regulations that include nuclear, radioactive materials.
- Structural resolution:
  - Avoid trying to cross-walk, structure regulation such that there are three or more sections.
    - Example
      - I. General Requirements
      - II. Radioactive Materials
      - III. Nuclear Materials
- Technical approach:
  - Hybridization
  - Requires careful review of IAEA publications to ensure security measures are aligned to material being protected in transport

Radioactive Material (determined by activity)	Nuclear Material (determined by mass)
	I
Cat 1 & Cat 2	II
Cat 3	III
Excepted packages, low specific activity (LSA-I), and surface contaminated objects (SCO-I)	Below Cat III

An example cross-walk framework developed by an IAEA Member State in their transport security regulation

Strategies for Successful Drafting

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- Include Lawyers, Physical Protection Experts in drafting:
  - Lawyers speak one language
  - Physical protection experts speak another language
- Both needed to ensure regulation is legal within national and regulatory framework but can be implemented to ensure physical protection of material
- IAEA Guidance can help bridge language gap between legal requirements and physical protection implementation

Conclusions

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- Regulations are critical to support strong nuclear security regimes
- Strong regulatory framework ensuring physical protection of nuclear, radioactive materials during transport support protecting material during most vulnerable stage in life cycle
- While transport is complex and challenging, support from stakeholders, regional partners, and international partners, help support regulatory development needs