International Maritime Transport of Sensitive Nuclear Material

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Shipments – Perspectives

Shipments world wide
• Total > 20 million transport/year
• Radiopharmaceutical == therapeutic and diagnostic
  (accounts for 70% ++)
  • annual average growth of 11%
  • >60 companies producing radiopharmaceutical
  • used in nearly 195 countries
• Industrial use == radiography, gauging applications, mineral analysis,
  tracing (accounts for 25%++)
  • Cat 1 / 2 sources, unknown quantity shipped but significant
• Nuclear == power production (accounts for 5%--)
  • Cat i / ii nuclear == very small part of NUCLEAR and even SMALLER
    part of the total shipments (</day)
The Graded approach to Security

- Cobalt 60
- Nuclear Fuel
- X-ray Equipment
- Brachytherapy Seeds

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How do the general public see the graded approach

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General Transport Security CAT I/II requirements (UK)

- Class A Carrier Status under UK Nuclear Industry Security Regulations
- Additional Security Escorts
- Higher Level of Controlled Access to Vessel and Nuclear Material
- Secure Communications
- Enhanced
  - Intelligence Picture and architecture
  - Information Security Protection
  - Additional Tracking Systems

General Transport Security CAT I/II requirements (UK)

- Enhanced
  - Contingency Planning and Exercising
  - Vessel Security Features
  - Regime of Searching Vessel
- Outboard Threat Identification, Avoidance & Mitigation
- Insider Threat Counter Measures
- Inter-Government Agreement
Threat Assessment & Trustworthiness

Threat assessment
Only as good as the intelligence
- international transports a particular challenge
- differing attitudes between countries
  - what is a credible threat in one country may not be in another

Trustworthiness
Only as good as the information provided
- Terrorist are smart, 2nd generation home grown
- important when need for a last minute reassignment of personnel
- terrorist organisation will know of the background assessment (insider) and will adapt
  - what is a trustworthiness in one country may not be in another

Regulations - The challenge is to make sense of the them

Regulators and industry share a common goal;
- To protection the public from the material
- To protect the material from the public (malicious acts, sabotage and theft)

The regulations are complicated
- somewhat challenging, never straightforward and open to interpretation

Made easier by an open communication approach between parties
- it should not be about “them and us”
- it calls for a level of mutual respect and understanding of each parties responsibilities and accountabilities
- a good regulator requires a high level of practical knowledge and experience
Pacific Nuclear Transport Limited (PNTL)

Dedicated Vessels 2nd Generation
1st Generation 1974 – 2010
Accessibility of spare parts

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PNTL Vessel

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Strategic Escort Group (SEG)

- These officers are highly trained and skilled in the use of many weapons systems as well as working at sea in international waters, which is unique to British policing.
- SEG officers operate within a mature legal framework, the governance for which is provided by the Civil Nuclear Police Authority and regulated by the Office for Nuclear Regulation.

SEG Officers

- All planning and training is in accordance with the required protective standards, including those from the Office for Nuclear Regulation, the Association of Chief Police Officers, the Ministry of Defence and the College of Policing.
- SEG is made up of officers from CNC operational policing units throughout the UK who perform regular unit policing duties when not engaged in any training or operations.
Other vessels

Roll on – Roll off

Advantages
- Drive straight on/off vessel
- No stopping and transferring of cargo
- Escorts can accompany cargo
- Quicker closure times
- Quicker securing of cargo into the vessel

Disadvantages
- Open cargo space
- Navigation officers look forwards

Preparing the crews

Types of security clearances
- Baseline Security Clearance (entry level security check)
  - Identity
  - Employment history (past three years)
  - Nationality and Immigration Status
  - Criminal record (unspent convictions only)
- Counter Terrorist Check
  - Association with groups
  - Places visited
- Security Clearance (Secret documents and assets of significance importance)
- Developed Vetting (Highest level)
Crew Preparedness

- Bring the crew together early
- Familiarisation
- Testing of systems
- Exercises with the guards
- Guard // Crew relations
- Timely information

Preparing the crews

- Exercises
  - Make sure everyone knows what they are supposed to do
  - Security checks/searches
  - Stowaway searches
  - Bomb Searches
- Force on Force
  - Transports are not like facilities
- Lesson learnt
  - Radar
  - Secure multiple communications
  - Crew and security staff relations (50+days at sea)
Preparing the crews

- Control of information
  - Brief the crew on a need to know basis
  - Leave no papers/route information lying around
  - Lock up at night
  - Where there is a need for written instructions shared information
- Leak controls
  - Coloured paper
  - Tpyos

When security is no longer secure

![Graph showing the relationship between time to departure and information security diminishing](image)

- Time to departure
- Information security diminishes
Public notice of events

• Several weeks before departure
  • Before departure we will name the port of the departure and the vessel/s involved

• After departure
  • We will confirm the departure, the maritime route and the approximate arrival time at the destination

• Arrival of the vessels
  • We will also announce the arrival at destination and also the completion of the voyage

WHAT ELSE

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Have you asked all the right questions

- Have you established clear responsibilities and accountabilities for the transport operations?
- Have you received all the information regarding the threat to the materials during transport?
- Are you satisfied of the skills and professionalism in your staff in security related issues?
- Do you have a communications plan?
- Do you understand the liability issues in case of an incident?
- Do you fully understand the security requirements of the states though which the material will travel?
- Can you demonstrate all your employees competence?
- Do you have a formal and comprehensive contractual agreement with other stakeholders?
- Do you have the legal basis to perform all the anticipated actions?
- ?
- ?
- ?
- ?

Questions

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