Transportation of Spent Fuel Samples

Anna Dormann, Studsvik Nuclear AB
May 2010
Objective

Presenting activities involved in an international transport of small spent fuel samples and outline bottlenecks and issues

1. Packaging
2. Authority Approvals
3. Transportation Regulations and Requirements
4. Bottlenecks and Issues
1. Packaging

- Finding a suitable package
- Authority approvals
  - Certificate
  - Package validation, countries concerned
2. Authority Approvals

- **Import license**
  - According to the subjective country legislation

- **Export license**
  - According to the subjective country legislation, dual-use

- **Transit permit**
  - According to the subjective country legislation

- **Transport permit**
  - According to the subjective country legislation

- **2006/117/Euratom**
  - Transfer of fissile material between member states of the EU and import/export to the union

- **Safeguard**
2. Authority Approvals
   - Safeguard for Members of the EU

   • Euratom
     - For nuclear weapon state and countries outside the union
       Advanced notification (incl. ESA reference No.) for quantities
       > 1 effective kg fissile material/year and state

   • ESA (Euratom Supply Agency)
     - < 200 g fissile, information about transfer of ownership and loan
     - > 200 g fissile, approval of transfer of ownership

   • Obligation code
     - Approval of all movements of material outside the EU, except from code
       N and P, from the country concerned

   • Advanced notification
     - According to the subjective country legislation
3. Transportation Regulations and Requirements

- IAEA Regulations for the Safe Transport of Radioactive Material  
  Good but....
  - IATA DGR
    - State and Operator variations!
- IMDG Code
- ADR
- RID
- CFR
- Japan “The Law”
- Physical protection
- Nuclear Liability Insurance
- Advanced notifications for the transport
4. Bottlenecks and Issues

- **Finding a package**
  - Few options
  - Limiting approved content

- **IATA DGR**
  - State and Operator Variations, additional approvals might be necessary
  - Denials!

- **Safeguard Obligation Code**
  - The handling procedure time is undefined

- **2006/117/Euratom and Export control**
  - 2006/117/Euratom unknown outside the EU
  - Handling time depending on responsible person at the Competent Authority