

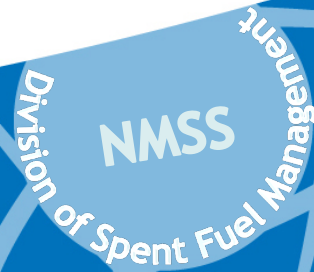


Introduction to Transportation of Radioactive Material in Type B Packages

State Liaison Officer Meeting

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Overview

- US DOT/US NRC Memorandum of Understanding
- Radioactive Materials that Require a Type B Transportation Package
- Package Testing
- NRC Transportation Studies and Related Information
- Questions

DOT/NRC Memorandum of Understanding (MOU) July 1979

U.S. Department of Transportation

- Regulates Carriers
- Regulates Type A and Low Specific Activity (LSA) Packages
- Issues Certificates of Competent Authority for International Shipments

U.S. Nuclear Regulatory Commission

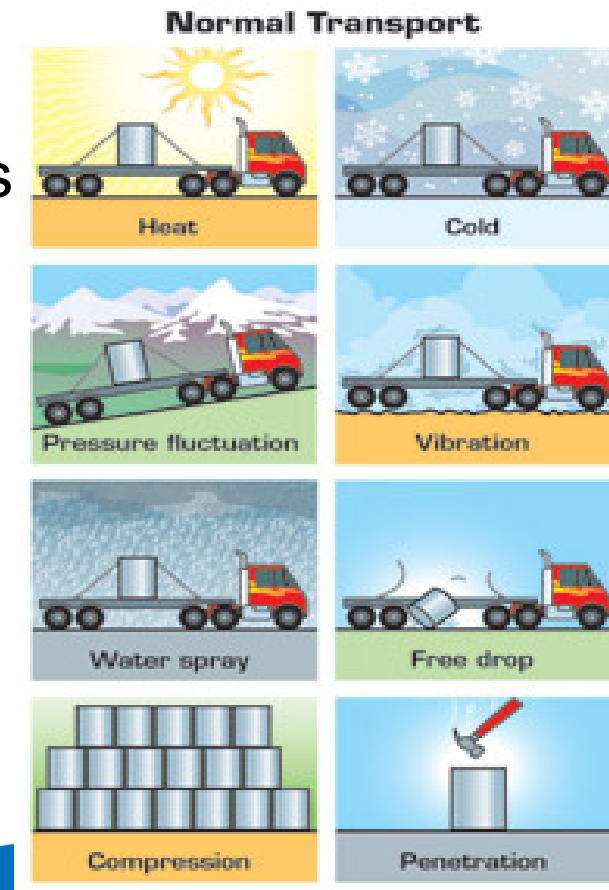
- Certifies the design of Type B and Fissile material packages
- Transportation Safeguards
- Investigates Accidents/Incidents
- Technical Advisor to DOT

Radioactive Materials that Require a Type B Transportation Package

- Type B quantities of radioactive material
 - $> A_1$ or A_2
- Highway Route Controlled Quantity (HRCQ)
 - $> 3,000 \times A_1$ or A_2 , or
 - $> 27,000$ Curies
- Category 1 and Category 2 materials
 - 10 CFR Part 37
- Spent nuclear fuel

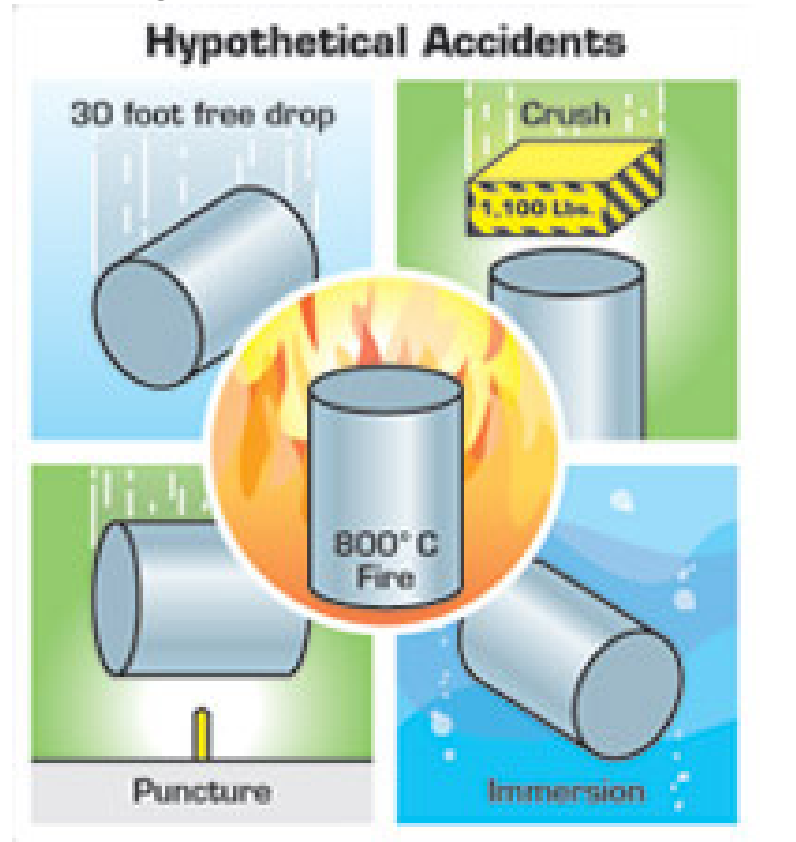
Normal Conditions of Transport Tests for Type B Packages 10 CFR 71.71

1. Heat
2. Cold
3. Pressure changes
4. Vibration
5. Water spray
6. Free drop
7. Compression
8. Penetration



Hypothetical Accident Condition Tests for Type B Packagings 10 CFR 71.73

1. Free Drop
2. Crush
3. Puncture
4. Thermal
5. Immersion - fissile package
6. Immersion - all packages



NRC Transportation Studies and Related Information

- NUREG-0170: “Final Environmental Statement on the Transportation of Radioactive Material by Air and Other Modes” (1977) [ML12192A283 for Vol. 1 and ML022590370 for Vol. 2]
- NUREG/CR-4829: “Shipping Container Response to Severe Highway and Railway Accident Conditions” (1987) [ML070810403 and ML070810404]
- NUREG/CR-6672: “Reexamination of Spent Fuel Shipment Risk Estimates” (2000) [ML003698324]
- NUREG/CR-6886: “Spent Fuel Transportation Package Response to the Baltimore Tunnel Fire Scenario” (2009) [ML090570742]

NRC Transportation Studies and Related Information continued

- NUREG-2125: “Spent Fuel Transportation Risk Assessment – Final Report” (2014) [ML14031A323]
- NUREG/CR-7209: “A Compendium of Spent Fuel Transportation Package Response Analyses to Severe Fire Accident Scenarios - Final Report” (2017) [ML17066A101]
- NUREG/BR-0292, Rev. 2: “Safety of Spent Fuel Transportation” (2017) [ML16237A133]

Thank you for your attention.

Questions?

