
RRI'S DOT RADIOACTIVE MATERIALS MULTIMODAL TRANSPORT WORKSHOP

Syllabus — Course 404

Length: 4.5 days

Target: Persons responsible for, or involved in, the preparation of and actual operation of radioactive materials packaging and transportation by ground, air or vessel. This includes, but is not limited to, materials handlers, technicians (operators, health physicists, analysts, etc.), QA/QC personnel, safety engineers, front-line management, and shippers. This workshop combines the requirements of the U.S. 49 CFR, IATA Dangerous Goods Regulations, and International Maritime Dangerous Goods Code for Class 7 radioactive materials.

Prerequisite: RRI's DOT Radioactive Materials Transport Workshop (Course 203)

Intensity: __ Mild __ Medium X Challenging __ Extreme

Materials: RRI provides all training materials including the latest 49 CFR 100-185, IATA DGR, and IMDG Code Volumes 1 and 2. Testing and course completion certificate are also provided.

Objectives & Topics:

Module 1: Introduction to the Multimodal Radioactive Materials Transport Regulations

Establish the basis for and acceptance of the IAEA Regulations for the Safe Transport of Radioactive Materials.

1. Recognize the role of the IAEA in the development of regulations for Class 7 materials.
2. Identify the regulatory bodies governing the Class 7 transport regulations by a given mode of transport.
3. Identify the Class 7 transport regulation interfaces between the U.S. DOT and U.S. NRC.
4. Locate the U.S. DOT interface regulations with the ICAO Technical Instructions by application of the IATA DGR Class 7 regulations.
5. Locate the U.S. DOT interface regulations with the IMDG Code Class 7 regulations.

Module 2: Terminology and Definitions

Define unique terms in the Class 7 radioactive materials packaging and transport regulations.

1. Define terms associated with Class 7 packaging and transport.
2. Determine if a given material meets the defining criteria for Class 7 radioactive material.

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Module 3: Activity Limits and Material Restrictions

Optimally categorize radioactive material.

1. Recognize the three core philosophy behind the Class 7 regulations.
2. Determine the activity limit for a given radioactive material.
3. Apply the excepted material activity limits to a given radioactive material.
4. Designate, based on definition and activity, a material as Low Specific Activity material (LSA) or a Surface Contaminated Object (SCO).
5. Apply the fissile exception criteria to a given radioactive material.
6. Select the primary hazard for multiple/mixed Class 7 and dangerous goods materials.
7. Determine if a given Class 7 material meets the definition of a CERCLA hazardous substance.

Module 4: Packagings and Packages

Appreciate the graded requirements prescribed for packages intended for transporting radioactive material, and select the package options.

1. State the basic principle regarding radioactive material packaging.
2. List the Factors to Consider when selecting a radioactive material packaging type.
3. Recognize the package options for Class 7 radioactive materials.
4. Recognize the importance of the general packaging requirements.
5. Identify the various design and performance criteria for a given radioactive material packaging type.
6. State packaging concerns associated with Class 7 material.
7. Write out a given Class 7 package certification marking.
8. Identify the appropriate packaging for a given radioactive material shipment.
9. State the user requirements for a given radioactive material package type.

Module 5: Requirements for Transport

Carry out the hazard communication requirements for transport of radioactive materials.

1. Decipher and apply information located in the Hazardous Materials Table and List of Dangerous Goods.
2. Select the most appropriate proper shipping name for a given Class 7 material.
3. Mark a Class 7 material package for shipment in compliance with the mode of transport.
4. Determine the appropriate category of label for a given Class 7 material package.
5. Determine the Criticality Safety Index for a given fissile package.
6. Apply the necessary label(s) to a Class 7 package.

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Module 5: Requirements for Transport (continued)

7. Prepare the transport documentation for a Class 7 material in compliance with the mode of transport.
8. Apply a given exception to a shipment of an excepted package of Class 7 material.
9. State the placarding requirements for a given Class 7 package/shipment in compliance with the mode of transport.
10. Recognize the hazardous communication requirements for an overpack containing Class 7 material packages.

Module 6: Controls for Transport

Carry out the controls for the transport and in-transit storage of radioactive material.

1. List the necessary QA requirements before the first use of a Class 7 package in shipment.
2. List the necessary QA requirements before each shipment of Class 7 radioactive material.
3. Identify the maximum dose rates authorized for a Class 7 package and transport vehicle.
4. Identify the maximum contamination limits for a Class 7 package and transport vehicle.
5. Recognize the thermal limits imposed on packages and transport vehicles.
6. Determine the LSA and SCO conveyance limit.
7. State the separation and segregation requirements for a Class 7 package.

Module 7: Other Packaging and Transport Requirements

Identify other requirements and considerations that affect or are affected by the transport of Class 7 radioactive material.

1. State the notifications that must be made to Competent Authority for a given package or shipment situation.
2. Recognize the importance and requirements for a Quality Assurance program.
3. Identify the package use requirements for a given Class 7 package.
4. Recognize the special shipment requirements for HRCQ and INF shipments.
5. Recognize the elements of a DOT required security plan and associated requirement to ensure in-transit security.
6. Recite the minimum training and testing requirements for hazmat employees involved in the packaging and transport of Class 7 radioactive materials.