



Syllabus — Course 203

Length: 2 days

Target: Initial training for persons responsible for, or involved in, the preparation of and actual operation of radioactive materials packaging and transportation. 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 is also ideal for those who require retraining or those who wish to continue on in one of RRI's advanced shipper courses.

Prerequisite: RRI's DOT Hazardous Materials Transport Workshop (Courses 201) or equivalent.

Intensity: Mild Medium Challenging Extreme

Materials: RRI provides all training materials including the latest edition of the 49 CFR 100-185. Testing and course completion certificate are also provided.

Course Objective

Upon completion of this course, and given the reference materials, the participant will be able to prepare and inspect a compliant radioactive material shipment using the applicable U.S. DOT Hazardous Materials Regulations.

Objectives & Topics:

Module 0: Introduction to the Radioactive Materials Transport Regulations

1. Recognize the goal of this course.
2. Identify the primary origin of the Class 7 regulations.
3. Distinguish DOT and NRC areas of responsibility with regard to Class 7 packaging and transport regulations.

Module 1: Radiation and Contamination

1. Recognize basic atomic structure.
2. Explain the difference between radiation and contamination.
3. Explain what is meant by "fission".

Module 2: Terms & Definitions

1. Locate terms associated with Class 7 packaging and transport.
2. State the hierarchy in the precedence of how a term is defined.
3. Define terms associated with Class 7 packaging and transport.
4. Determine the exempt values to use for an unknown or unlisted nuclide.
5. Determine if a material meets the defining criteria for Class 7 based on a single nuclide.

Module 3: The Graded Approach to Packages

1. State the three core philosophies behind the Class 7 regulations.
2. Recognize the value of the Q-System in determining activity limits.
3. Appreciate the graded requirements prescribed for packages intended for transporting Class 7 materials.
4. Recognize the general packaging requirements for Class 7 material packages.



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Module 4: Activity Limits and Material Restrictions

1. Recognize if a material contains a fissile nuclide.
2. Categorize a single nuclide, by activity limits and definitions.
3. Select the primary hazard for multiple/mixed Class 7 and dangerous goods materials.
4. Determine if a single nuclide Class 7 material meets the definition of a hazardous substance.

Module 5: Packaging and Packages

1. Identify the appropriate packaging for a given radioactive material shipment.
2. Locate the DOT quality control requirements for a packaging used for Class 7 material.
3. State the recordkeeping requirements for a given Class 7 package.

Module 6: Requirements for Transport

1. Decipher and apply information located in the Hazardous Materials Table.
2. Select the most appropriate proper shipping name for a given radioactive material.
3. Mark a Class 7 material package for shipment.
4. Determine the appropriate label(s) for a given Class 7 radioactive material package.
5. Properly label a Class 7 radioactive materials package.
6. Prepare the transport documentation for a Class 7 radioactive material.
7. Apply a given exception to a shipment of an excepted package of Class 7 radioactive material.
8. Determine when Class 7 placards are required for display on a transport vehicle or package.

Module 7: Controls for Transport

1. Identify the maximum dose rates authorized for a Class 7 package.
2. Identify the maximum contamination limits for a Class 7 package.
3. Recognize when a conveyance used for Class 7 material transport requires a survey.
4. State the separation and segregation requirements for a Class 7 package.

Module 8: Other Packaging and Transport Requirements

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. Recognize the elements of a DOT required security plan and associated requirement to ensure in-transit security.
4. Recite the minimum training and testing requirements for hazmat employees involved in the packaging and transport of Class 7 radioactive materials.