Course 404

Length: 4 days initial

Target: Persons who are responsible for compliance concerning the international multimodal packaging and transport of Class 7 radioactive materials. Those responsible for compliance must ensure a system is in place that ensures regulatory compliance, including but not limited to, Class 7 radioactive material classification, packaging, hazard communications, and transport controls.

Prerequisite: RRI's DOT Hazardous Materials & Radioactive Materials Transport Workshops (Courses 201 & 203) or equivalent.

Intensity: ☐ Mild ☐ Medium ■ Challenging ☐ Extreme

Materials: Each participant receives professionally designed training book containing a copy of all course slides, supplemental handouts, course examination, and course completion certificate. Each participant is also provided with the latest 49 CFR 100-180, IMDG Code and IATA DGR.

Objectives & Topics:

Module I: Introduction to the Radioactive Materials Transport Regulations

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

1. Identify 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 Transport Canada TDG and U.S. DOT.
4. Locate the interface regulations that allow or disallow the use of UN modal specific regulations.

Module II: Definitions and Terminology

Locate and define in a given regulation unique terms applicable to Class 7 radioactive materials packaging and transport.

1. Locate terms associated with the packaging and transport of Class 7 material.
2. Define terms associated with the packaging and transport of Class 7 material, including the defining criteria for Class 7 radioactive material.

Module III: Basic Safety Concepts – Materials and Packagings

Appreciate the graded requirements prescribed for packages intended for transporting radioactive materials.

1. State the three core philosophies behind the Class 7 material transport regulations.
2. Appreciate the application of the Q-System in establishing activity limits.
3. Describe the basic philosophy for package design.
4. Recognize the components of a package.
5. Relate the concepts for routine, normal and accident conditions of transport to the requirements for a given package type.
6. Explain the design and performance standards applicable to a given packaging type.

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Module IV: Activity Limits and Material Restrictions

Optimally categorize radioactive materials.

1. Determine if a material to be shipped is subject to the transport regulations.
2. Determine if the material is fissile or fissile excepted for purposes of the transport regulations.
3. Determine if the material may be classified as Special Form radioactive material.
4. Establish the quantity of radioactive materials in terms of A_1 and A_2.
5. Determine if the material activity is within the activity limits for excepted packages.
6. Determine if the material qualifies as LSA Material.
7. Determine if the material qualifies as SCO Material.
8. Designate if the material is a US hazardous substance.
9. Recognize the difficulty in inspecting activity limits and categorization of Class 7 radioactive material.

Module V: Selection of Optimal Package Type

Select the package type options for a given radioactive material package.

1. Select appropriate package type(s) for the material, based on content limits and material type.
2. Recognize the constraints imposed by the Regulations for the package type.
3. State the user's requirements that must be met for the use of a given packaging type.
4. Determine the requirements for US and international self-certified fissile packaging.
4. Explain the advantages in optimally classifying the radioactive contents.
5. Employ packaging options to adequately assess if the packaging used is within the scope of the regulations

Module VI: Requirements for Transport

Carry out the requirements for the transport of radioactive materials.

1. Apply the requirements for transport of an excepted package.
2. Apply the requirements for transport of LSA material and SCO in their authorized package(s).
3. Select the appropriate Proper Shipping Name.
4. Apply the marking requirements for a given package, overpack and freight container.
5. Determine the Transport Index for a given package, overpack and freight container.
6. Determine the appropriate label to be applied to a given radioactive material package, overpack and freight container.
7. Describe the vehicle and freight container placarding requirements for radioactive material.
8. Identify the particulars required for inclusion in an accompanying shipping documentation for a consignment of radioactive material.
9. Recognize the significance of the consignor's declaration.
10. Recognize when additional information must be supplied by the consignor to the carrier with the transport documents.
11. Inspect a shipment of radioactive materials for compliance to the applicable domestic regulations.

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Module VII: Controls for Transport

Identify controls that are required for the transport of Class 7 radioactive materials.

1. State the dose rate limits placed on packages and vehicles.
2. Recognize the contamination limits placed on packages and vehicles.
3. Identify the thermal limits placed on packages of radioactive materials in transport.
4. Locate the additional constraints on Class 7 packages and conveyances as identified by each given modal mode.

Module VIII: Other Packaging and Transport Requirements

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

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. List the additional requirements associated with the use of a given package or shipment type.
4. Recognize the elements of a required security plan and associated requirement to ensure in-transit security.
5. Recite the minimum training and testing requirements for hazmat employees involved in the packaging and transport of Class 7 radioactive materials.
6. Explain the role and requirements of Compliance Assurance.

Conclusion: Course examination