RRI'S ADVANCED UN NON-BULK & CLASS 7 PACKAGING WORKSHOP

Courses 305 & 306

Length: 4 days

Target: Personnel responsible for, or involved with, the creation of the packaging purchase specification; packaging selection; packaging inspection; packaging filling, assembly and closure; and documentation surrounding such packaging.

Prerequisite: RRI's DOT Hazardous Materials Packaging and Transport Workshop (Courses 201 or 301)

Intensity: __ Mild X Medium __ Challenging __ Extreme

Materials: RRI provides all training materials including the latest Mangan Communications, Inc. 49 CFR 100-185 and applicable letters from the regulators. Testing and course completion certificate are also provided.

Objectives & Topics:

UN Packagings

Module 1: Introduction and Definitions

Recognize how packaging is subject to the Hazardous Materials Regulations (HMR) and how packagings terms used in the HMR are defined.

1. Identify how packaging and functions regarding packagings are subject to the HMR.
2. Locate and apply the definition of a given packaging and package term used in the HMR.

Module 2: General Package and Packaging Requirements – Ground

State the minimum design requirements prescribed for packages intended for ground transport of hazardous materials.

1. Apply the requirements for forbidden materials and packages to all hazmat packages.
2. State the general requirements for all packagings and packages.
3. State the additional requirements for all non-bulk packagings and packages.
4. State the additional requirements for all bulk packagings and packages.
5. Identify the additional design requirements applicable to packagings and packages intended for transport by air.

Module 3: UN Package Design & Test Requirements

State the design and test requirements prescribed for UN Packages intended for transport of hazardous materials.

1. Identify the design requirements and limits for UN packagings.
2. List the tests required for UN packages.
3. Recognize the performance tests required for UN single and composite packages.
4. Recognize the performance tests required for UN combination packages.
5. State the pass criteria for a given UN package test.
6. Identify the requirements for the marking of the UN packaging certification on a given packaging type.
7. Decipher the UN packaging certification code marked on a UN packaging.

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Module 3 (continued)

8. Recognize the difference between the responsibilities for UN packaging manufacturers and users of such packaging.
9. Recognize the variations applicable to UN tested package configuration.
10. Identify the importance for evaluating changes in a packaging design.
11. Appreciate the records and documentation required for a given UN package type.

Module 4: Selection of Optimal U.N. Package Types

Select the packaging type options for a given hazardous material.

1. Select appropriate packaging type(s) for the material, based on content limits and physical properties.
2. Recognize the constraints imposed by the Regulations for the hazardous material packaging types.
3. Recognize the advantages in packaging which are authorized by a selective testing variation.

Module 5: UN Packaging User Requirements

Recognize the importance of a selection, use, and validation in achieving a regulatory compliance hazardous materials packaging program..

1. Recognize the responsibility the user has during the packaging selection step process.
2. Apply the requirements and limits for the proper and compliant use of a given packaging.
3. List the necessary elements in a QA program necessary to ensure compliance is achieved in practice.

Class 7 Packagings

Module 1: General Packaging and Packaging Requirements – Ground

State the minimum design requirements prescribed for packages intended for ground transport of radioactive materials.

1. Apply the requirements for forbidden materials and packages to Class 7 packages.
2. State the general requirements for all packagings and packages.
3. State the additional requirements for all non-bulk packagings and packages.
4. State the additional requirements for all bulk packagings and packages.
5. State the general design requirements applicable to all Class 7 packagings and packages.

Module 2: Additional Package and Packaging Requirements – Air

State the additional design requirements prescribed for packages intended for air transport of radioactive materials.

1. Identify the additional design requirements applicable to all packagings and packages intended for transport by air.
2. Identify the additional design requirements applicable to Class 7 packagings and packages intended for transport by air.

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Module 3: Type A Package Design Requirements

State the design requirements prescribed for Type A packages intended for transport of radioactive materials.

1. Identify the design requirements for Type A packages intended for solid contents.
2. Identify the design requirements for Type A packages intended for liquid contents.
3. Identify the design requirements for Type A packages intended for gases.
4. State the two additional consideration that may affect design of a Type A package.

Module 4: Type B Package Design Requirements

State the design requirements prescribed for Type B packages intended for transport of radioactive materials.

1. Identify the general requirements for Type B packages designed to meet normal conditions of transport.
2. State the differences between Type A package design standards and the general standards for Type B packages designed to meet normal conditions of transport.

Module 5: Industrial Package Design Requirements

State the design requirements prescribed for Industrial Packages intended for transport of radioactive materials.

1. State the design requirements applicable to IP-1 packages.
2. State the design requirements applicable to IP-2 packages.
3. State the design requirements applicable to IP-3 packages.

Module 6: Package Test Procedures

Summarize the test procedures for packages intended for the transport of Class 7 material.

1. Recognize the difference between the responsibilities for Class 7 package manufacturers and users of such package.
2. List the tests required for a given Class 7 package.
3. State the concerns for selecting a Class 7 package test facility.
4. Recognize the performance tests required for Class 7 packages subject to normal conditions of transport.
5. Identify the pass criteria for packages tested to normal conditions of transport.
6. Recognize the performance tests required for Class 7 packages subject to hypothetical accident conditions.
7. Identify the pass criteria for packages tested to hypothetical accident conditions.
8. List four methodologies for demonstrating compliance to the ability of a Class 7 package to meet performance test requirements.
9. Appreciate the records and documentation required for a given Class 7 package type.

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Module 7: Selection of Optimal Package Types

Select the package type options for a given radioactive material.

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 radioactive material package types.
3. Recognize the advantages in packaging which may result from classifying material as LSA material or objects as SCO.
4. Recognize the additional constraints imposed by the regulations on fissile material.
5. Recognize the constraints for used Type B packaging for <Type B activities.

Module 8: Quality Assurance and Other Considerations

Recognize the importance of a quality assurance program and other considerations in all aspects of radioactive materials packaging and transport.

1. List the minimal elements important to a package user's QA program.
2. State the importance of each QA element in a package user's program.
3. Identify the necessary Competent Authority notifications required for the use of a given package.