

## **RCRA HAZARDOUS WASTE FINAL RULE: *The E-Manifest System & Other Key Revisions***

This easy-to-use Leader's Guide is provided to assist in conducting a successful presentation. Featured are:

**INTRODUCTION:** A brief description of the program and the subject that it addresses.

**PROGRAM OUTLINE:** Summarizes the program content. If the program outline is discussed before the video is presented, the entire program will be more meaningful and successful.

**PREPARING FOR AND CONDUCTING THE PRESENTATION:** These sections will help you set up the training environment, help you relate the program to site-specific incidents, and provide program objectives for focusing your presentation.

**REVIEW QUESTIONS AND ANSWERS:** Questions may be copied and given to participants to document how well they understood the information that was presented. Answers to the review questions are provided separately.

### **INTRODUCTION**

To address the huge volumes of municipal and industrial solid waste generated annually, the Environmental Protection Agency, or EPA, developed rules and guidelines in the Resource Conservation Recovery Act (RCRA) of 1976. The regulation has recently been updated with new requirements that are designed to make hazardous waste handling protocols easier to understand and to facilitate better compliance. This program reviews the important revisions mandated in the final RCRA rule. The new E-Manifest system is explained in detail to show viewers how to provide more accurate and timely tracking information on hazardous waste shipments electronically instead of using outdated paper forms. The EPA's goal is to phase out written manifests within the next four years, so it is critical that your employees understand how the new system works.

Other topics include the purpose and goals of RCRA, listed and characteristic wastes, hazardous waste generator categories, satellite and central accumulation area requirements, container labeling and other requirements and the E-manifest submission process.

### **PROGRAM OUTLINE**

#### **THE PURPOSE OF RCRA**

- There are various chemicals and materials used in our manufacturing processes that are necessary in the production of our finished products; and, while beneficial to manufacturing, these same materials can become, or contribute to the creation of, hazardous waste.
- Hazardous wastes are substances that are dangerous or capable of having a harmful effect on human health or the environment.
- To address the huge volumes of municipal and industrial solid waste generated annually, the Environmental Protection Agency, or EPA, developed rules and guidelines in the Resource Conservation Recovery Act of 1976, which has recently been updated with new requirements.
- Commonly called RCRA, this regulation gives the EPA the authority to control hazardous waste from "cradle to grave", which includes the generation, transportation, treatment, storage and disposal of hazardous waste.
- In addition to protecting human health and the environment from hazards of waste disposal, the goals of RCRA are to conserve energy and natural resources, to reduce the amount of waste generated, to ensure that waste is managed in an environmentally sound manner, to prevent future problems caused by irresponsible waste management and to clean up releases of hazardous waste in a timely, flexible and protective manner.
- To achieve the goal of reducing the amount of hazardous waste created, RCRA encourages "waste minimization" through source reduction and recycling. Some examples of source reduction include early retirement of equipment containing hazardous materials, redesigning products that exclude hazardous substances, using less toxic feedstocks and improving work practices.

- When source reduction is impractical economically, recycling is often used to reuse or recover in-process materials or materials generated as byproducts so they can be processed to reclaim value.

### **EMPLOYEE TRAINING**

- Since you are an employee who works with hazardous wastes, you are encouraged to offer your input on methods that could reduce the amount of waste generated by your work processes.
- As an employee who is involved in the handling and storage of hazardous waste, you will receive training in the procedures that should be followed when performing specific job tasks related to such materials. Your training will ensure that you know and understand how to comply with RCRA regulations.
- You will also be trained in safe work practices required for handling hazardous wastes, including proper use of personal protective equipment, required material handling procedures, proper bonding and grounding techniques and potential health effects due to exposure.
- Perhaps the most important part of your training will be learning how to respond in the event of an emergency. This involves training on your organization's contingency plan and emergency response plan for dealing with a hazardous waste spill or other type of release.
- Emergency response training will also include how to sound an alarm or otherwise communicate a hazardous waste incident as well as who is in charge should an emergency occur.

### **LISTED WASTES**

- Your organization's first step in achieving RCRA compliance is identifying the materials on site that are classified as regulated hazardous wastes.
- A waste is determined to be hazardous if it is specifically listed on one of four lists found in title 40 of the Code of Federal Regulations (CFR) in section 261.
- The F-list identifies wastes from common manufacturing and industrial processes as hazardous, while the K-list classifies hazardous wastes from specific sectors of industry and manufacturing and are considered source-specific wastes.
- The U- and P-lists identify hazardous wastes from discarded commercial chemical products. P-list wastes are "acutely hazardous", meaning they present a substantial hazard and can be fatal to humans in small doses.
- All listed wastes are assigned an EPA hazardous waste code that identifies the material on container labels, manifests and other documents.
- Be aware that any mixture, or substance derived from, a listed waste is considered a hazardous waste. There is no way to create a non-hazardous waste by diluting a hazardous waste with other materials.

### **CHARACTERISTIC WASTES**

- A substance may also be considered a hazardous waste if it exhibits any of four specific characteristics. Characteristic hazardous wastes are broader categories of waste that are not dependent on the name of the chemical or the process from which it was generated.
- Instead, the focus is on specific characteristics of the waste that make it dangerous. Characteristic hazardous waste includes substances that are ignitable, corrosive, reactive or toxic.
- Ignitable substances include liquids with a flashpoint of less than 140 degrees Fahrenheit, solids that can spontaneously combust and oxidizers and compressed gases.
- Corrosive substances such as hydrochloric and sulfuric acids or any liquid with a pH of less than or equal to 2 or greater than or equal to 12.5 or has the ability to corrode steel.

- Reactive materials such as cyanides and organic peroxides are unstable and have the potential for an explosion or violent reaction when combined with water and other substances.
- Toxic substances contain poisonous materials such as chromium, mercury and benzene and pose a threat to our groundwater, which can have long term effects to human health and the environment. The contaminants can only be identified through a test method called Toxicity Characteristic Leaching Procedure or TCLP.
- Just like listed wastes, characteristic hazardous wastes are also assigned a waste code: D001 are ignitable wastes; D002 are corrosive wastes; D003 are reactive wastes; and, D004 through D043 are toxic wastes.
- Be aware that many wastes require multiple waste codes on container labels and manifests because they are considered both listed and characteristic wastes.

## **HAZARDOUS WASTE GENERATOR CATEGORIES**

- If your organization generates hazardous waste, it must comply with regulations according to RCRA categories.
- The RCRA category for those that generate the least amount of waste was formerly known as Conditionally Exempt Small Quantity Generator and is now known as Very Small Quantity Generator.
- Very Small Quantity Generators are not required to obtain a unique EPA ID number, track shipments using the uniform hazardous waste manifest, maintain reporting and recordkeeping data; and, there is no limit to the length of time waste may accumulate on site.
- The amount of hazardous waste generated per month determines how a waste generator is categorized. Very Small Quantity Generators generate 100 kilograms or less per month of hazardous waste or one kilogram or less per month of acutely hazardous waste.
- Very Small Quantity Generators may not accumulate more than 1,000 kilograms of hazardous waste at any time and must ensure that hazardous waste is delivered to a person or facility who is authorized to manage it.
- Small Quantity Generators generate more than 100 kilograms, but less than 1,000 kilograms of hazardous waste per month. These generators may accumulate hazardous waste on-site for 180 days without a permit or 270 days if shipping a distance greater than 200 miles. The quantity of hazardous on-site waste must never exceed 6,000 kilograms.
- Large Quantity Generators generate 1,000 kilograms per month or more of hazardous waste or more than one kilogram per month of acutely hazardous waste. These facilities may only accumulate waste on-site for 90 days and do not have a limit on the amount of hazardous waste accumulated on-site.
- The EPA requires both small quantity generators and large quantity generators to use a uniform hazardous waste manifest to track waste from the time it leaves the generator's facility until it is disposed of at the treatment, storage or disposal facility, the TSDF.
- Before a small or large quantity generator can prepare a manifest, it must obtain a unique ID number from the EPA for its specific site. Then a unique manifest tracking number will be assigned to each manifest.
- If preprinted forms are used, the manifest tracking number will be printed by the approved manifest printer in box 4. If an electronic manifest is used, the EPA will assign the manifest tracking number as part of the E-manifest system.

## **SATELLITE ACCUMULATION AREA REQUIREMENTS**

- Most organizations that accumulate hazardous waste have locations near the point of generation where it is temporarily stored before it is moved to a central accumulation area. These are commonly known as "satellite accumulation areas."
- As much as 55 gallons of non-acute hazardous waste and/or one quart of liquid acute hazardous waste may be accumulated in this area if it is under the control of the operator of the process generating the waste.

- If a container holding hazardous waste is not in good condition or if it begins to leak, it must immediately be transferred from this container to one that is in good condition and does not leak or immediately transferred and managed in a central accumulation area.
- When a container in a satellite accumulation area is filled to capacity or the accumulation limit is reached, the accumulation start date must be filled in on the container label.
- Filled containers must be taken to the facility's central accumulation area within three calendar days of being full, where it will remain until transported off site for proper treatment and disposal.
- Be aware that recent updates to the RCRA regulation require satellite accumulation areas to incorporate preparedness, prevention and emergency measures. These include alarms or internal communications systems, a device such as a phone to summon emergency response teams, fire extinguishers or other means to suppress fires and adequate aisle space for the unobstructed movement of personnel and equipment.

### **WASTE CONTAINER LABELING & OTHER REQUIREMENTS**

- The RCRA regulation requires generators to mark hazardous waste containers with an indication of the hazards they contain.
- The EPA allows flexibility in hazard labeling. Hazard labels may include the applicable hazardous waste characteristics such as ignitable, corrosive, reactive or toxic; use DOT hazardous materials labeling; apply labels with OSHA's GHS Hazard Communication information; or, use a chemical hazard label consistent with NFPA 704.
- Labels that become damaged or illegible must be replaced as soon as possible.
- Hazardous waste containers should be inspected to verify they are in good condition before use.
- Drums and other receptacles that have sustained damage such as rust, dents and holes must not be used to store hazardous waste.
- Be aware that hazardous waste containers must be compatible with the intended waste. Plastic or plastic-lined drums are effective for containing corrosive wastes, while steel drums are a good choice for non-corrosive wastes or flammable liquids.
- Waste containers must be closed at all times, meaning leak-proof and vapor-tight, unless a transfer is taking place. The EPA frequently issues citations for improperly closed containers.
- To ensure a container is closed correctly, make sure the bolt ring is latched properly and the lid is in place and tightly affixed. Also, ensure any drum bungs are tightened securely.
- When using any device to assist in transferring material into a drum, such as an aerosol can puncture-device or a funnel, it must be removed from the drum when the transfer is completed and the drum must be properly resealed, unless the funnel or device is leak-proof and vapor-tight.
- If the device is designed to be vapor-tight, be sure to check that it is closed and sealed properly when the transfer is completed.
- Any waste that is spilled onto the top or sides of a container must be cleaned up immediately. Containers with hazardous waste residue on the outside are in violation of RCRA and DOT regulations and will be rejected by the waste disposal facility.

### **CENTRAL ACCUMULATION AREA REQUIREMENTS**

- Waste containers must be taken to the facility's central accumulation area within three calendar days of being filled. A central accumulation area is defined in 40 CFR 260.10 as "any on-site hazardous waste accumulation area with hazardous waste accumulating in units subject to RCRA requirements for either small or large quantity generators."

- Be aware that the term “central” doesn’t necessarily mean the area is centrally located. It may be established in any location at the facility of a waste generator. Also, keep in mind that RCRA regulations allow facilities to have more than one central accumulation area onsite if needed.
- If your facility stores types of wastes that are incompatible with each other, they must be separated by a wall, dike, berm or enough distance to prevent them from contacting one another. If reactive or ignitable wastes are stored in the area, it must be located at least 50 feet from any property line and “no smoking” signs must be posted and visible.
- The central storage area should have two and a half feet or more of aisle space to allow for unobstructed movement and emergency equipment.
- These areas must be inspected weekly. Make sure to check closely for signs of damaged or leaking containers during your inspection. The findings of your inspection must be recorded in a written log and retained for at least three years.
- If a leaking container is discovered, its contents must be transferred to another container or the container must be repacked inside a larger one. Any spillage must be contained and cleaned up promptly by qualified personnel.
- Central accumulation areas must have the same preparedness, prevention and emergency measures as satellite accumulation areas, such as alarms or internal communications systems, fire extinguishers and spill control equipment.
- Since RCRA’s cradle to grave provision states that hazardous waste generators are responsible for their waste after it leaves the facility, it is critical to choose a treatment, storage and disposal facility, or TSDF, that is reputable and reliable.

### **THE E-MANIFEST SYSTEM**

- The EPA recently launched its new electronic manifest system that allows generators to submit hazardous waste manifests electronically.
- Commonly known as the e-manifest rule, or regulation, the system is now in effect in all states, even those that are not authorized to run RCRA programs. In order to use the E-manifest system, users must go to the RCRA info website and register.
- The hazardous waste manifest has three sections that must be completed by each entity involved in handling a hazardous waste: the generator, the transporter and the designated facility or TSDF.
- Some of the important information that the generator must include on the manifest are its generator ID number, an emergency response phone number, its name and mailing address, the transporter and TSDF names and their EPA ID numbers, US DOT information about the waste being transported and any special handling instructions.
- The transporter’s section must include the transporter or transporters names, a signature by an authorized official of the company and the date to acknowledge they have received the materials.
- Box 16 of the manifest is used to submit international information if the waste is to be imported to or exported from the US.
- The third and final section is completed by the designated facility, or TSDF, and must include its name, site address, phone number and EPA ID number, any alternate facility information, the Hazardous Waste Report Management Record Codes and the name, signature and date of receipt of the designated facility owner or operator to certify the receipt of the materials.

### **THE E-MANIFEST SUBMISSION PROCESS**

- In order to allow hazardous waste generators to adjust to the new regulations, the EPA allows a hybrid manifest process to be used. A generator who prefers to track its shipment on paper completes and signs a paper manifest and has the initial transporter sign it when the transporter acknowledges its receipt of the hazardous waste.
- The generator will keep this copy in its records, while the initial transporter and succeeding handlers of the waste complete the remaining four copies electronically using the E-manifest system.

- Then the receiving facility signs the final copy electronically and submits it to the E-manifest system where it is retained as the copy of record for the shipment.
- Should a waste generator choose to fill out a paper manifest, rather than using the E-manifest system, the EPA now requires it to use a new five-copy paper form instead of the traditional six copy version. The old forms are no longer accepted by the EPA.
- Page 1 of the new five-copy form is submitted into the E manifest system by the designated facility where it can be accessed by the destination state and generator state.
- In order to recover the costs related to implementing the e-manifest system, the EPA is now charging organizations that submit hazardous waste manifests to track off-site shipments of their wastes. The amount of the fee depends of the type of manifest submitted.
- The lowest fee is for the submission of an E-manifest or a hybrid manifest. Facilities who wish to continue submitting paper manifests have three options, with the fee increasing according to type. They can submit a data file upload of a paper manifest, an image file upload of a paper manifest or mail in a paper manifest.
- It is important to note that the fee for mailing in a paper manifest is five times more than the fee for a manifest that is submitted fully electronically.

#### **SUMMARY**

- In this program, we have outlined the requirements of the Resource Conservation Recovery Act and learned how this important regulation helps preserve our natural resources by reducing the amount of hazardous waste generated while also ensuring that waste is handled, stored and treated in an environmentally responsible manner.
- As such, we have discussed both listed and characteristic hazardous wastes, explained the categories of hazardous waste generators, reviewed the requirements of satellite accumulation areas and central storage areas and explained how the EPA's E-manifest system works and what information must be submitted.
- As an employee of an organization that generates, stores, transports or disposes of hazardous waste, make it one of your top priorities to protect the environment and your community by always complying with the requirements of the EPA's Resource Conservation Recovery Act.

## **PREPARE FOR THE SAFETY MEETING**

Review each section of this Leader's Guide as well as the program. Here are a few suggestions for using the program:

Make everyone aware of the importance the company places on health and safety and how each person must be an active member of the safety team.

Introduce the program. Play it without interruption. Review the program content by presenting the information in the program outline.

Copy the review questions included in this Leader's Guide and ask each participant to complete them.

Make an attendance record and have each participant sign the form. Maintain the attendance record and each participant's test paper as written documentation of the training performed.

Here are some suggestions for preparing your video equipment and the room or area you use:

Check the room or area for quietness, adequate ventilation and temperature, lighting and unobstructed access.

Check the seating arrangement and the audiovisual equipment to ensure that all participants will be able to see and hear the program.

## **CONDUCTING THE PRESENTATION**

Begin the meeting by welcoming the participants. Introduce yourself and give each person the opportunity to become acquainted if there are new people joining the training session.

Explain that the primary purpose of the program is to review the new RCRA E-manifest system and the other key revisions contained in the EPA's recently updated hazardous waste final rule.

Introduce the program. Play it without interruption. Review the program content by presenting the information in the program outline.

Lead discussions about your organization's specific policies and procedures for handling hazardous waste at your facility.

After watching the program, viewers should be able to explain the following:

- What the purpose of RCRA is and what its goals are;
- What the categories of listed and characteristic hazardous wastes are;
- How each of the three categories of hazardous waste generators is determined;
- What the requirements of satellite and central accumulation area are;
- How to properly label and handle hazardous waste containers;
- How the E-manifest system is used to submit more accurate and timely tracking information for hazardous waste shipments.

**RCRA HAZARDOUS WASTE FINAL RULE:  
The E-Manifest System & Other Key Revisions  
REVIEW QUIZ**

*The following questions are provided to determine how well you understand the information presented in this program.*

Name \_\_\_\_\_ Date \_\_\_\_\_

1. Perhaps the most important part of hazardous waste training is learning \_\_\_\_\_.
  - a. How to comply with RCRA regulations
  - b. How to handle hazardous waste safely
  - c. How to respond to an emergency
2. Your organization's first step in achieving RCRA compliance is identifying the materials on site that are classified as regulated hazardous wastes.
  - a. True
  - b. False
3. \_\_\_\_\_ wastes are "acutely hazardous", meaning they present a substantial hazard and can be fatal to humans in small doses.
  - a. F-list
  - b. K-list
  - c. P-list
  - d. U-list
4. A non-hazardous waste can be created by diluting a hazardous waste with other materials.
  - a. True
  - b. False
5. The quantity of hazardous waste on-site for Small Quantity Generators must never exceed \_\_\_\_\_ kilograms.
  - a. 600
  - b. 1,000
  - c. 6,000
6. Only Large Quantity Generators are required to use a uniform hazardous waste manifest to track shipments of hazardous waste.
  - a. True
  - b. False
7. Filled containers in a satellite accumulation area must be taken to the facility's central accumulation area within \_\_\_\_\_ of being full.
  - a. 1 calendar day
  - b. 2 calendar days
  - c. 3 calendar days
8. Hazardous waste containers with waste residue on the outside are in violation of RCRA and DOT regulations and will be rejected by the waste disposal facility.
  - a. True
  - b. False
9. Which section of the hazardous waste manifest includes US DOT information about the waste being transported and any special handling instructions?
  - a. The designated facility's section
  - b. The generator's section
  - c. The transporter's section
10. The traditional 6-copy universal hazardous waste manifest forms are no longer accepted by the EPA.
  - a. True
  - b. False

*ANSWERS TO THE REVIEW QUESTIONS*

1. c
2. a
3. c
4. b
5. c
6. b
7. c
8. a
9. b
10. a