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Kirk Maag
Partner

STOEL RIVES LLP

Jay Collins
Senior Hazardous Waste Inspector

DEQ

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## Introduction

Why does government regulate hazardous waste?

- Love Canal and other Superfund sites
- In Oregon, Portland Harbor Superfund Site
- Chemicals leaching from landfills impact Groundwater Resources
- "Brownfields" impact local economies
- Greater volumes waste chemicals with no good option for disposal

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## Introduction

In 1976, Congress enacts the Resource Conservation and Recovery Act (RCRA)

- "Cradle to Grave" responsibility meant to ensure protective waste management
- Intended to reduce chemical waste generation and promote recycling and reuse
- In 1984, Congress enacted Hazardous and Solid Waste Amendments (HSWA), regulating small quantity generators and imposing additional standards on incinerators and landfills

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## Introduction

In 1976, Congress enacts the Resource Conservation and Recovery Act (RCRA)

- "Cradle to Grave" responsibility meant to ensure protective waste management
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## Introduction

RCRA authorized EPA to Promulgate Regulations and Implement Requirements

- EPA selected common problem chemicals and waste streams to regulate
- Hazardous Waste regulates this subset of the world of hazardous chemicals
- Unless exempt or excluded, all wastes must be properly characterized
- Hazardous Wastes may be:
  - ❖ "Characteristic" (Ignitable, Corrosive, Reactive, or Toxic)
  - ❖ Federally Listed (F, K, U, and P)
  - ❖ State Only Hazardous Waste

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## Introduction

RCRA regulates:

- Hazardous Waste Generator Facilities
- Subtitle C Hazardous Waste TSDF Landfills and Incinerators
- Hazardous Waste and Used Oil Transporters
- Treatment and Recycling facilities; e.g., used oil processors
- RCRA Corrective Action sites

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## Introduction

EPA authorizes states to implement RCRA

- Oregon DEQ since the early 1990s, first for generator compliance, then for Permitted Facilities
- Ecology in Washington under their Dangerous Waste rule
- TSDFs are regulated under formal permits
- Generators must register, and are inspected to determine compliance with rule
- Most states have personnel full-time committed to Technical Assistance to assist facilities with compliance and Toxics Use Reduction

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## Trivia Logistics

- Five rounds
- No googling, no phone research, no outside resources
- Panelists will debrief after each round
- Team activity! Form groups of 4-6 people
- Self grading… BE HONEST
- Prizes!

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## Round 1: Determinations

1. What is the easiest way to receive a hazardous waste enforcement (and most often cited violation)?
2. What entity is responsible for determining the appropriate hazardous waste classification?
3. Is wood preservative that escapes from utility poles through normal wear and tear managed under RCRA?

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## Round 1: Determinations

4. What are the two primary types of hazardous waste?
5. What are the four hazardous waste characteristics?
6. What are the eight RCRA “heavy metals?”
7. EPA-approved test methods, state-approved test methods, or _____ must be used to characterize wastes

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## Round 1: Determinations

8. Which of the characteristics does not have a specific, EPA-approved test method?
9. This common vehicle component is considered a D003 hazardous waste.
10. E-cigarette cartridges disposed by an employee at a generator’s location require hazardous waste management if _____.
11. “De-listing” can be pursued if a waste _____.

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## Round 1: Determinations

12. Which of these is regulated as a hazardous waste?
    a. Lead acid batteries, TCLP lead > 5.0, pH < 2.0
    b. Spent solvent, flash point < 140deg, recycled off site
    c. Half-filled aerosol cans of paint, cleaned out of a residential garage

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## Round 1: Determinations - ANSWERS

1. What is the easiest way to receive a hazardous waste enforcement (and most often cited violation)? **FAILURE TO PERFORM A DETERMINATION**
2. What entity is responsible for determining the appropriate hazardous waste classification? **THE GENERATOR**
3. Is wood preservative that escapes from utility poles through normal wear and tear managed under RCRA? **NO**

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## Round 1: Determinations - ANSWERS

4. What are the two primary types of hazardous waste?

   LISTED AND CHARACTERISTIC

5. What are the four hazardous waste characteristics?

   IGNIGHTABILITY, CORROSIVITY, REACTIVITY, AND TOXICITY

6. What are the eight RCRA "heavy metals?"

   ARSENIC, BARIUM, CADMIUM, CHROMIUM, LEAD, MERCURY, SELENIUM, SILVER

7. EPA-approved test methods, state-approved test methods, or _____ must be used to characterize wastes

   GENERATOR KNOWLEDGE

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## Round 1: Determinations - ANSWERS

8. Which of the characteristics does not have a specific, EPA-approved test method?

   REACTIVITY

9. This common vehicle component is considered a D003 hazardous waste.

   UN-DEPLOYED AIRBAG

10. E-cigarette cartridges disposed by an employee at a generator's location require hazardous waste management if NOT LEGITIMATELY RECYCLED.

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## Round 1: Determinations - ANSWERS

11. "De-listing" can be pursued if a waste _____ DOES NOT HAVE SAME PROPERTIES THAT SERVED AS BASIS FOR ORIGINAL LISTING
12. Which of these is regulated as a hazardous waste?
    a. Lead acid batteries, TCLP lead > 5.0, pH < 2.0
    b. Spent solvent, flash point < 140deg, recycled off site
    c. Half-filled aerosol cans of paint, cleaned out of a residential garage

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## Round 2: On-Site Management

1. How long can each store hazardous waste at their location?
    a. CEG (WA SQG)
    b. SQG (WA MQG)
    c. LQG
2. How much P-listed waste may a CEQ(WA SQG) or SQG (WA MQG) generate per month or store on site at any one time?

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## Round 2: On-Site Management

3. What must a generator do to treat hazardous waste without a TSDF permit?
4. How many inches do the rules require between rows of drums according to the aisle space requirement?
5. How many hazardous waste container storage areas may a generating facility operate at one time?

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## Round 2: On-Site Management - ANSWERS

1. How long can each store hazardous waste at their location?
   a. CEG (WA SQG) **AS LONG AS 2,200 LBS IS NOT EXCEEDED**
   b. SQG (WA MQG) **180 DAYS**
   c. LQG **90 DAYS**
2. How much P-listed waste may a CEQ(WA SQG) or SQG (WA MQG) generate per month or store on site at any one time? **2.2 LBS OR 1 QT**

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## Round 2: On-Site Management - ANSWERS

3. What must a generator do to treat hazardous waste without a TSDF permit?
   **TREAT IN A CLOSED TANK OR CONTAINER**
4. How many inches do the rules require between rows of drums according to the aisle space requirement?
   **NO SPECIFIC DISTANCE REQUIREMENT**
5. How many hazardous waste container storage areas may a generating facility operate at one time?
   **AS MANY AS DESIRED**

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## Round 3: Generator Category Requirements

1. How long must a small quantity generator retain manifests on site?
2. Which of the following is not required to obtain a RCRA ID number?
   a. SQG
   b. Hazardous waste transporter
   c. Used oil collection center
   d. CEG

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## Round 3: Generator Category Requirements

3. Name two required elements in an LQG training plan?
4. Name a required element of an LQG site contingency plan list of emergency response equipment
5. What happens if a facility's operations move to a new location?

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## Round 3: Generator Category Requirements - ANSWERS

1. How long must a small quantity generator retain manifests on site?

   THREE YEARS

2. Which of the following is not required to obtain a RCRA ID number?
   a. SQG
   b. Hazardous waste transporter
   c. Used oil collection center
   d. CEG

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## Round 3: Generator Category Requirements - ANSWERS

3. Name two required elements in an LQG training plan?

   **WRITTEN TRAINING PROGRAM, JOB DESCRIPTIONS, LIST OF AFFECTED EMPLOYEES, DOCUMENTATION OF TRAINING**

4. Name a required element of an LQG site contingency plan list of emergency response equipment

   **TYPE, AMOUNT, LOCATION, CAPACITY, MAINTENANCE PROCEDURE**

5. What happens if a facility's operations move to a new location?

   **UPDATE PLANS AND RESUBMIT or OBTAIN NEW RCRA SITE ID**

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## Round 4: Transportation & Manifesting

1. A CEG has not received a return copy of a hazardous waste manifest documenting receipt from the designated facility. At how many days is the facility required to file an exception report?

2. An LQG has not received a return copy. At how many days is the facility required to file an exception report?

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## Round 4: Transportation & Manifesting

3. A facility self-hauls 55-gallons of used oil off site company to be burned for energy recovery. Name one requirement for this activity.
4. Under what regulatory program could Oregon state hazardous waste (pesticide residues) be shipped without a manifest?
5. Compliance issues at a TSDF facility are a concern to a generator due to the concept known as _____ to _____.

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## Round 4: Transportation & Manifesting

6. Land disposal restrictions (LDRs) ensure that wastes are properly _____ prior to disposal.
7. Under what conditions would a WT02 waste code apply to a zinc bearing waste generated in Oregon?

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## Round 4: Transportation & Manifesting - ANSWERS

1. A CEG has not received a return copy of a hazardous waste manifest documenting receipt from the designated facility. At how many days is the facility required to file an exception report? **60 DAYS**
2. An LQG has not received a return copy. At how many days is the facility required to file an exception report? **45 DAYS**

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## Round 4: Transportation & Manifesting - ANSWERS

3. A facility self-hauls 55-gallons of used oil off site company to be burned for energy recovery. Name one requirement for this activity.
   **NOTIFY AS USED OIL TRANSPORTER, MAINTAIN BILLS OF LADING, SAMPLING AND ANALYSIS PLAN**
4. Under what regulatory program could Oregon state hazardous waste (pesticide residues) be shipped without a manifest?
   **OREGON UNIVERSAL WASTE PESTICIDE MANGEMENT RULES**
5. Compliance issues at a TSDF facility are a concern to a generator due to the concept known as _____**CRADLE**_____ to _____**GRAVE**_____.

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## Round 4: Transportation & Manifesting - ANSWERS

6. Land disposal restrictions (LDRs) ensure that wastes are properly ___TREATED___ prior to disposal.
7. Under what conditions would a WT02 waste code apply to a zinc bearing waste generated in Oregon?

   TRANSPORTED TO WASHINGTON STATE FOR DISPOSAL

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## Round 5: Hot Topics

1. Has Oregon adopted the 2015 Definition of Solid Waste rule, the 2018 Definition of Solid Waste rule, or neither?
2. Has Washington adopted the 2015 Definition of Solid Waste rule, the 2018 Definition of Solid Waste rule, or neither?
3. Has Idaho adopted the 2015 Definition of Solid Waste rule, the 2018 Definition of Solid Waste rule, or neither?

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## Round 5: Hot Topics

4. Under the Generator Improvements rule, CEGs (VSQGs) would be allowed to transport their hazardous waste to _____.
5. True/False: There are specific labeling requirements that are unique to universal waste.
6. Oregon regulation of solvent-contaminated wipes is more stringent than the federal requirements in what way?

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## Round 5: Hot Topics - ANSWERS

1. Has Oregon adopted the 2015 Definition of Solid Waste rule, the 2018 Definition of Solid Waste rule, or neither?

NEITHER

2. Has Washington adopted the 2015 Definition of Solid Waste rule, the 2018 Definition of Solid Waste rule, or neither?

2015 (MANDATORY PORTIONS ONLY)

3. Has Idaho adopted the 2015 Definition of Solid Waste rule, the 2018 Definition of Solid Waste rule, or neither?

2018 (FULL)

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## Round 5: Hot Topics

4. Under the Generator Improvements rule, CEGs (VSQGs) would be allowed to transport their hazardous waste to ____
   **LQG MANAGED BY THE SAME OPERATOR**
5. True/False: There are specific labeling requirements that are unique to universal waste.
   **TRUE**
6. Oregon regulation of solvent-contaminated wipes is more stringent than the federal requirements in what way?
   **PROHIBITS DISPOSAL AT MUNICIPAL OR NON-HAZARDOUS WASTE LANDFILLS**

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## *THANK YOU TO OUR PANEL*

Kirk Maag
Partner

STOEL RIVES LLP

Jay Collins
Senior Hazardous Waste Inspector

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