

# Hazardous Waste

BRAD JUSTICE, PE - HAZARDOUS WASTE BRANCH, WASTE DIVISION, MDEQ

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**Slide 1**

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**BJ1**

Brad Justice, 9/25/2018

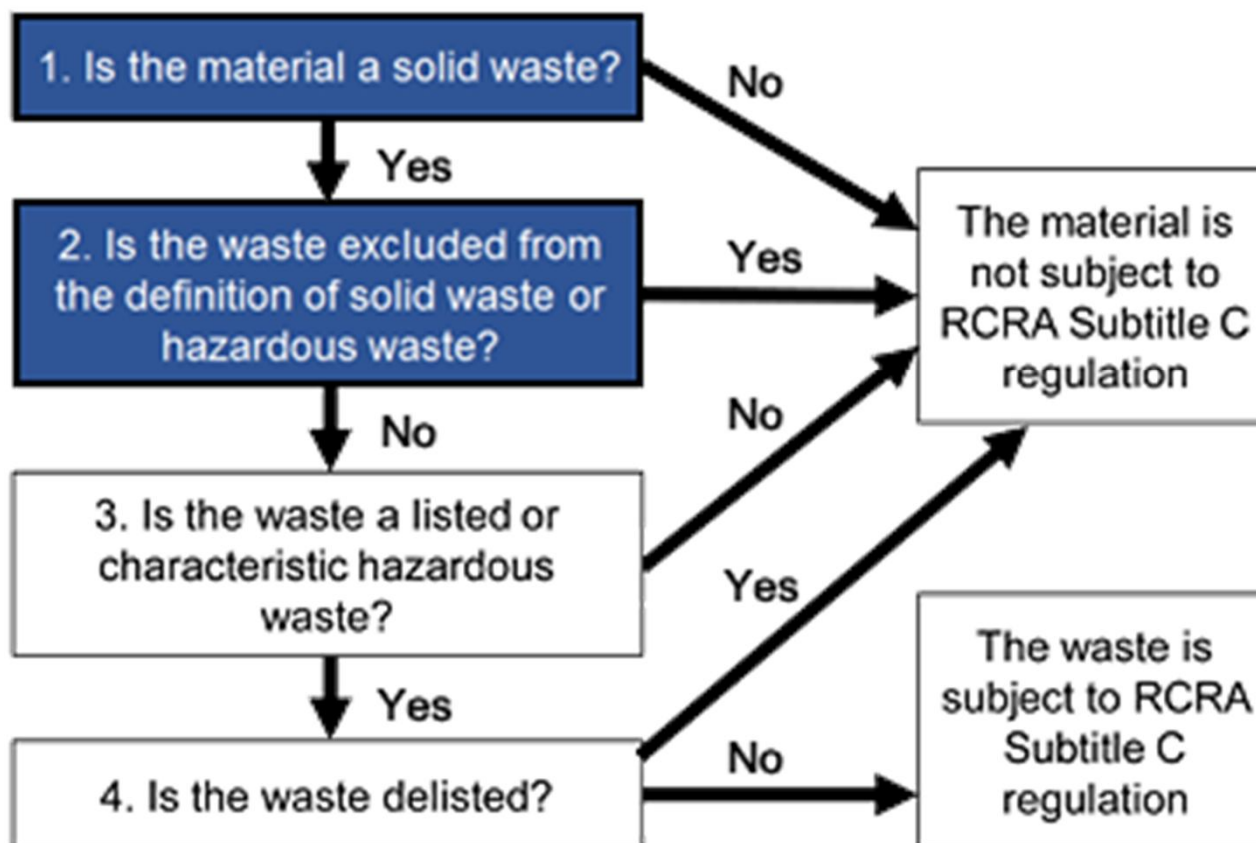
# A Brief History of RCRA

- ▶ Resource Conservation and Recovery Act, 1976
- ▶ Regulations promulgated in 1980
- ▶ Hazardous and Solid Waste Amendments, 1984
  - ▶ Federal Facility Compliance Act of 1992
  - ▶ Universal Waste Rule, 1995
  - ▶ Land Disposal Flexibility Act of 1996
- ▶ Definition of Solid Waste, 2015 (not yet adopted by MS)
- ▶ Hazardous Waste Generator Improvement Rule, 2017
  - ▶ Mississippi adopted July 1, 2018
- ▶ CERCLA, for abandoned or historical sites

# RCRA Policy and Programs

- ▶ Law, Regulations, and EPA Policy and Guidance
  - ▶ Mississippi is delegated authority to manage the RCRA programs
- ▶ RCRA ensures the safe management and cleanup of solid and hazardous waste
  - ▶ Source reduction and beneficial use (Reuse, Reclaim, Recycle)
- ▶ Manages hazardous waste from the cradle to the grave
- ▶ Subtitle D is for Solid Waste
- ▶ Subtitle C is for Hazardous Waste
- ▶ Universal Wastes
- ▶ Used Oil

## The Hazardous Waste Identification Process



# Definition of Solid Waste

- ▶ Abandoned – thrown away
- ▶ Inherently waste-like
- ▶ Discarded military munition
- ▶ Recycled in certain ways
- ▶ Exclusions
  - ▶ Domestic sewage
  - ▶ Irrigation return flow
  - ▶ Used circuit boards and CRTs
  - ▶ Solvent contaminated wipes sent for cleaning and reuse

# Definition of Hazard Waste

- ▶ Characteristic
  - ▶ Ignitability, Corrosivity, Reactivity, Toxicity
- ▶ F-listed – common manufacturing and industrial wastes (e.g. solvents)
- ▶ K-listed – specific manufacturing and industrial waste (wood preservation)
- ▶ P-listed – acute hazard waste, active ingredient, discarded commercial chemical product (Pharmaceuticals)
- ▶ U-listed – active chemical ingredient, discarded commercial chemical products
- ▶ Excluded Wastes
  - ▶ Household hazardous waste
  - ▶ Agricultural waste
  - ▶ Used oil filters

# RCRA Programs

- ▶ Hazardous Waste Generators
- ▶ Universal Waste Handlers, Transporters, and Destination Facilities
- ▶ Used Oil Generators
- ▶ Transporters of Hazardous Waste
- ▶ Permitted Treatment, Storage, and Disposal Facilities
- ▶ Potential upcoming rules
  - ▶ Pharmaceutical Rule
  - ▶ Aerosol Cans managed as Universal Waste



# Hazardous Waste Generators

- ▶ Very Small Quantity Generators (VSQG)
  - ▶ Generate less than 100 kg or 220 lbs per month of HW
  - ▶ 1 kg or less of acute HW
- ▶ Small Quantity Generators (SQG)
  - ▶ Generate between 100 kg or 220 lbs and 1000 kg or 2200 lbs per month
- ▶ Large Quantity Generators (LQG)
  - ▶ Generator over 1000 kg or 2200 lbs per month
  - ▶ 1 kg or more of acute HW

To determine your generator category, count all waste generated in a calendar month:

**Very Small Quantity  
Generator (VSQG)**

½ Drum or  
27 Gal. Or  
220 lbs. Or  
≤ 100 Kg

**Small Quantity  
Generator (SQG)**

½ to 5 Drums or  
27-275 Gal. Or  
220-2200 lbs. Or  
100-1000 Kg.

**Large Quantity  
Generator (LQG)**

>5 Drums or  
>275 Gal. or  
>2200 lbs. or  
≥1000 Kg.

Key: 55 Gallon Drum = 440 lbs. = 200 Kg.

# Very Small Quantity Generators

40 C.F.R. §262.14

- ▶ An EPA ID is not required
- ▶ Must Identify all hazardous waste generated
- ▶ VSQG may not accumulate more than 1000 kg of HW at any time
- ▶ VSQG must ensure that HW is delivered to a facility that can manage the waste
  - ▶ Subtitle C HW Landfill
  - ▶ Subtitle D SW Landfill
  - ▶ LOG under the same control as the operator
  - ▶ Recycle/Reclamation

# Satellite Accumulation Areas

40 C.F.R. §262.15

- ▶ Generators may accumulate up to 55-gallons in containers near any point of generation
  - ▶ 1 quart of acute liquid HW or 1 kg of acute solid HW
- ▶ Conditions for exemption:
  - ▶ Good condition containers
  - ▶ Container is compatible with the waste generated
  - ▶ A container must be closed unless adding, removing or consolidating HW OR when temporary venting is necessary
  - ▶ The words "Hazardous Waste and an indication of the hazards"
- ▶ When full, the container must be dated immediately and moved to a Central Accumulation Area (CAA) within 3 calendar days



**Health Hazard  
Blue Diamond**

- 4-Deadly
- 3-Extreme Danger
- 2-Hazardous
- 1-Slightly Hazardous
- 0-Normal Material

**Fire Hazard  
Red Diamond**

- Flash Points
- 4-Below 73°F
  - 3-Below 100°F
  - 2-Above 100°F not exceeding 200°F
  - 1-Above 200°F
  - 0-Will not burn



**Specific Hazard  
White Diamond**

- ACID - Acid
- ALK - Alkali
- COR - Corrosive
- OXY - Oxidizer
- ☢ - Radioactive
- ☞ - Use No Water

**Reactivity  
Yellow Diamond**

- 4-May Detonate
- 3-Shock & Heat may detonate
- 2-Violent Chemical change
- 1-Unstable if heated
- 0-Stable



# DOT, OSHA, NFPA Labels

# Requirements for SQG and LQG

40 C.F.R. §§262.16 and 262.17

- ▶ EPA ID is Required (262.18) – Notification of RCRA Subtitle C Activity (Site Identification Form) – Form 8700-12
- ▶ Preparedness and prevention
  - ▶ [262.16 (b)(8-9) {SQG} or 262 subpart M from 262.17(a)(6) {LQG}]
- ▶ Land disposal restrictions “Land Ban” (Part 268)
- ▶ Hazard Waste Manifest required for SQG and LQG (262 Subpart B)
- ▶ Pre-transport DOT requirements for packaging, labeling, marking, and placarding (262.30-262.33)
- ▶ **Annual reporting required in Mississippi**
- ▶ Exception and additional reporting (262.43 and 262.44)
- ▶ Record keeping – waste testing, manifests, annual reports, and exception reporting (262.11 and 262.40)

# Small Quantity Generators

40 C.F.R. §262.16

- ▶ SQG – less than 180-day CAAs
  - ▶ 270 days if waste shipped over 200 miles
  - ▶ No more than 6,000 kg onsite, 13,200 pounds
- ▶ Weekly inspections required
- ▶ Can include containers, as well as containment buildings, tanks, and drip pads
- ▶ Closure of containment buildings, tanks, and drip pads
- ▶ Basic training required
- ▶ Good Faith effort to minimize waste

# Large Quantity Generators

40 C.F.R. §262.17

- ▶ LQG – less than 90-day CAAs\*
- ▶ Weekly inspections
- ▶ Can include containers, as well as containment buildings, tanks, and drip pads
- ▶ Closure of CAAs containment buildings, tanks, and drip pads
- ▶ RCRA training required
- ▶ Emergency Procedures, Preparedness and Prevention – full contingency plan required
- ▶ Air emissions – Subpart AA, BB, and CC
- ▶ Waste minimization plan required



# Consolidation of Hazardous Waste at an LQG

- ▶ VSQG can send Hazardous Waste to an LQG under the same control as the operator
- ▶ Mark containers with “Hazardous Waste” and hazard label
- ▶ LQG requirements
  - ▶ Notify MDEQ and EPA at least 30 days prior to first shipment (8700-12)
  - ▶ Maintains records of shipments received from VSQGs
  - ▶ Date containers with the date that they received the waste from VSQG

# Episodic Generation

- ▶ Planned or Unplanned
  - ▶ Allowed 1 episodic event, may petition for 2<sup>nd</sup>
  - ▶ Notify MDEQ via 8700-12: 30 days prior for planned; within 72 hours for unplanned
  - ▶ VSQG must obtain an EPA ID Number
- ▶ VSQG or SQG
  - ▶ Containers or tanks marked with “Episodic Hazardous Waste” and an indication of the hazards
  - ▶ Use and Maintain inventory logs or records
  - ▶ Manage waste to minimize releases
  - ▶ Use Manifest system
  - ▶ Complete event within 60 days
  - ▶ Maintain records of events for at least 3 years

# Aerosol Can Hazardous Waste

- ▶ Aerosol cans are characteristic D001 hazardous waste
- ▶ Material can be collected as HW
- ▶ Can is then considered RCRA Empty and no longer D001
- ▶ Can may be disposed of as scrap waste
- ▶ Currently being considered as a Universal Waste
  - ▶ Several States have already amended their regulations for this

# Lead-Acid Batteries

## 40 C.F.R. Part 266 Subpart G

- ▶ May be managed as Universal Waste Part 273
- ▶ If you generate, collect, transport, store, or regenerate lead-acid batteries for reclamation purposes, you may be exempt from certain hazardous waste management requirements.
  - ▶ Table in 262.80 for management requirements

# Universal Waste

## 40 CFR Part 273

- ▶ An alternative set of management regulations in lieu of 40 CFR Parts 260 through 272
- ▶ Prevents releases of any universal waste or component of a universal waste to the environment
- ▶ Small or Large Quantity Handlers
- ▶ Universal Waste transporters and destination facilities

# Universal Waste Pt. 2

40 C.F.R. Part 273

- ▶ Universal Wastes:
  - ▶ Batteries
  - ▶ Pesticides
  - ▶ Mercury Containing equipment
  - ▶ Lamps
- ▶ Household Wastes are exempt
- ▶ Very Small Quantity Generators are exempt\*
- ▶ Small Quantity Handlers
  - ▶ Accumulate less than 5,000 kg of UW

# Universal Waste Management

- ▶ Prevents releases of any universal waste or component of a universal waste to the environment
- ▶ Different methods of containment for batteries, pesticides, mercury containing equipment, and lamps
  - ▶ All but batteries must be contained in closed containers
- ▶ Labeled as Universal Waste – Batteries; Waste – Batteries; or Used Batteries (e.g.)
- ▶ May accumulate UW for 1 year
- ▶ Date containers with the date that waste is first placed inside

# Further Management Requirements for Universal Waste

- ▶ Training – Employees who handle or have responsibility of UW must have proper handling and emergency procedures for the UW
- ▶ Accidental Releases must be contained
  - ▶ Any residuals must have HW determination made
- ▶ Transport
  - ▶ Has to be sent to an appropriate destination
  - ▶ May be subject to DOT placarding requirements
  - ▶ No recordkeeping requirements



# Used Oil

## 40 C.F.R. part 279

- ▶ Used Oil
  - ▶ Any oil refined from crude oil or any synthetic oil that has been used
- ▶ Used Oil Handlers
  - ▶ Generators
    - ▶ Does not include
  - ▶ Collection centers and aggregation points
  - ▶ Transporters
  - ▶ Transfer facilities
  - ▶ Processors and refiners
  - ▶ Marketers

# Used Oil as a Hazardous Waste

- ▶ Rebuttable Presumption
  - ▶ Any used oil with greater than 1,000 ppm of total halogens has been mixed with a listed hazardous waste and is therefore subject to applicable hazardous waste regulations, unless the presumption can be successfully rebutted
  - ▶ Provide analysis or documentation
- ▶ Used oil mixed with PCBs
  - ▶ Greater than 50 ppm regulated under Toxic Substances Control Act (TSCA)
  - ▶ Less than 50 ppm regulated under RCRA and TSCA if used for energy recovery

# Used Oil Requirements

- ▶ Prevents releases to the environment
- ▶ Stored in tanks and containers
- ▶ Clearly marked with “Used Oil”
- ▶ Containers must be kept in good condition
- ▶ Respond to used oil releases
- ▶ Recordkeeping and Reporting
  - ▶ No EPA ID required specifically for used oil generation
  - ▶ SPCC Plan required if greater than aggregate 1,320 US gallons AST or 42,000 gallons in UST

# Any Questions?

- ▶ Brad Justice
- ▶ Mississippi Department of Environmental Quality
  - ▶ Office of Pollution Control
    - ▶ Waste Division
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