

# BASIC HAZARDOUS WASTE GENERATOR WORKSHOP 2014



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# BASIC WORKSHOP OVERVIEW

- Will not be a substitute for training your employees (job specific training is still required).
- Will introduce you to the basics of RCRA.
  - Waste Classification (waste determination)
  - Generator Requirements
  - Managing Containers
  - Compliance and Enforcement Overview
- Opportunity for questions.

# REGULATORY BACKGROUND

- Resource Conservation and Recovery Act (RCRA) enacted in 1976
- EPA implemented hazardous waste regulations in 1980
- Kansas Hazardous Waste Program began in 1982
- Major revisions to Kansas Hazardous Waste Program effective April 29, 2011
- Technical revisions and adoption of RCRA Corrective Action in 2013

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# Why???



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# Why???



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# RCRA OVERVIEW

The Resource Conservation and Recovery Act, or RCRA, is a “cradle to grave” law.

- All waste must be evaluated and properly managed from the point of generation until final disposal.
- Everyone handling, managing, and otherwise being in possession of that waste at the point of generation until final disposal can be held responsible for that waste.
- Ignorance of the law is not an excuse for not following the law.

# GENERATOR'S RESPONSIBILITY

All hazardous waste generators must:

- Identify all solid and hazardous waste streams
- Determine the quantity of each hazardous waste generated over time (no averaging)
- Ensure proper handling and disposal of all wastes

# HAZARDOUS WASTE DETERMINATION

- Step one, determine if it is discarded material. A material is considered discarded if it is:
  - Abandoned (disposed, burned, accumulated, treated, or stored)
  - Recycled (spent solvent in distillation system)
  - Considered inherently waste-like

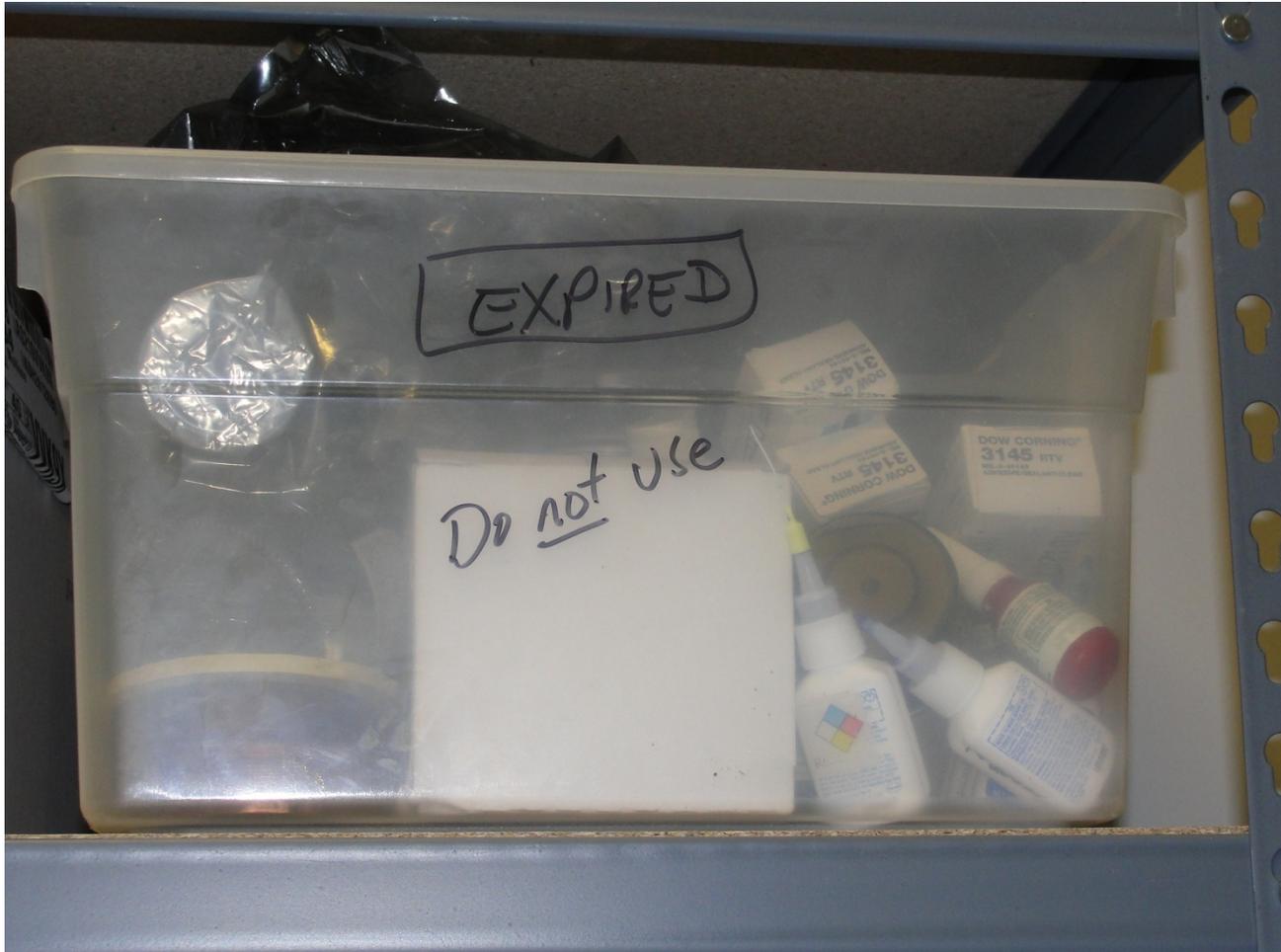
# Abandoned



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# Discarded



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# Inherently Waste Like

(And  
potentially  
very  
dangerous.)



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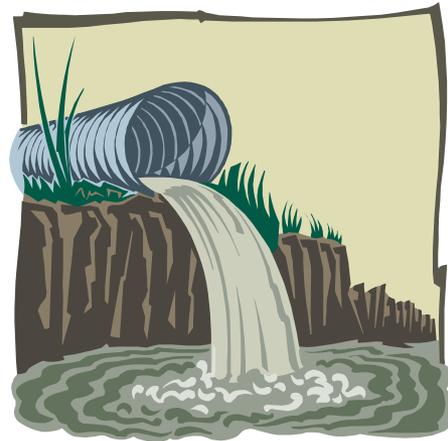
# HAZARDOUS WASTE DETERMINATION

- Step two, determine if it is a solid waste:
  - Solid waste can be:
    - Liquid
    - Semi-Solid
    - Gas
  - Materials are solid waste even if they are recycled or are accumulated, stored, or treated prior to recycling.



# HAZARDOUS WASTE DETERMINATION

- Step three, determine if the waste is specifically excluded (40 CFR 261.4):
  - Discharged to the POTW or a permitted NPDES outfall
  - Mining overburden
  - Household waste
  - Agricultural waste
  - Oil and gas waste



# HAZARDOUS WASTE DETERMINATION

- Step four, determine if the solid waste meets the definition of hazardous waste.
  - Determinations can be made in two ways:
    - Knowledge of process (or generator knowledge)
    - Testing by KDHE-certified laboratory
- <http://www.kdhe.state.ks.us/envlab/>
- All waste determinations must be documented.



# HAZARDOUS WASTE DETERMINATION

- Is it “listed” hazardous waste?
- Is it “characteristic” hazardous waste?

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# LISTED HAZARDOUS WASTE

Does the waste appear on the F, K, P, or U lists?

- F-Listed (non-specific sources)
- K-Listed (specific sources)
- P-Listed (acutely hazardous discarded commercial chemicals - regulated at 2.2 lbs)
- U-Listed (discarded commercial chemicals)



# CHARACTERISTIC HAZARDOUS WASTE

Does the waste meet one of the four characteristics?



Ignitability (D001)

(Flashpoint less than 140 °F)



Corrosivity (D002)

(pH  $\leq 2$  or  $\geq 12.5$ )



Reactivity (D003)



Toxicity (D004 –D043)

# TOXICITY

Analyze using the Toxicity Characteristic Leaching Procedure (TCLP) for one or more of the following:

- Heavy Metals
- Volatile Compounds
- Pesticides/Herbicides
- Base Neutral Acids



# DOCUMENT THE DETERMINATION

- Document how each waste determination was made.
- Required for hazardous and non-hazardous waste.
- Include copies of all supporting documentation that was used (analytical reports, design plans, SDSs, etc.).
- Waste profiles by themselves are not generally sufficient waste determinations or documentation.
- Keep documentation for 3 years from the date the waste was last shipped off site.

# DOCUMENT THE DETERMINATION

- Don't rely entirely on your contractor and/or waste disposal company.
  - It is your (the generator's) responsibility to make the waste determination.
  - You (the generator) sign the manifest confirming that the information is correct.
  - The contractor may not know very much about your processes and may miss listed and characteristic hazardous waste (HW).
  - You receive the violations, not the contractor!





# Things that are not HAZARDOUS WASTES



- Medical Waste – waste generated in connection with human or animal care, which is potentially capable of causing disease or injury. Not necessarily a hazardous waste, but probably a “special waste”.
- Used Oil – Used oil that is recycled for energy or material recovery is not subject to the hazardous waste regulations.

# GENERATOR CLASSIFICATIONS

Kansas has four generator classes:

- Conditionally Exempt Small Quantity Generator (CESQG)
- Kansas Small Quantity Generator (KSQG)
  - Unique to Kansas
- Small Quantity Generator (SQG)
- Large Quantity Generator (LQG)

# GENERATOR CLASSIFICATIONS

## CESQG – Conditionally Exempt Small Quantity Generator

- Generates less than 55 pounds (lbs) of HW per month; and
- Generates less than 2.2 lbs of acutely HW per month; and
- Accumulates less than 2.2 lbs of acutely HW at any time.

# GENERATOR CLASSIFICATIONS

## KSQG – Kansas Small Quantity Generator

- Generates 55 lbs or more, but not more than 220 lbs of HW per month; and
- Generates less than 2.2 lbs of acutely HW per month; and
- Accumulates less than 2.2 lbs of acutely HW at any time.

# GENERATOR CLASSIFICATIONS

## SQG – Small Quantity Generator

- Generates more than 220 lbs but less than 2,200 lbs of HW per month; and
- Generates less than 2.2 lbs of acutely HW per month; and
- Accumulates less than 2.2 lbs of acutely HW at any time.

# GENERATOR CLASSIFICATIONS

## LQG – Large Quantity Generator

- Generates 2,200 lbs or more of HW per month; and/or
- Generates 2.2 lbs or more of acutely HW per month; and/or
- Accumulates more than 2.2 lbs of acutely HW at any time.

# GENERAL REQUIREMENTS

KSQGs, SQGs, and LQGs must meet the following requirements:

- Obtain an EPA ID number
- Update notification form within 60 days of information changing
- Pay an annual monitoring fee to KDHE.

# PREPAREDENESS & PREVENTION

- KSQGs and SQGs must meet all of the following requirements if they accumulate hazardous waste on-site:
  - Have an emergency coordinator available 24/7
    - They should be able to reach the facility within 30 minutes.
    - They should be familiar with emergency procedures and locations of waste.
  - Post the following information next to a telephone
    - Name and telephone number of emergency coordinator;
    - Location of fire extinguishers, spill control material and fire alarm (if present);
    - Telephone number of the fire department, unless direct alarm is available.

# PREPAREDNESS & PREVENTION

- KSQGs and SQGs (Continued)
  - Provide training to employees to ensure that all personnel are thoroughly familiar with proper waste handling and emergency procedures, relevant to their responsibilities during normal facility operations and emergencies
    - Provide training within 6 months of hire or transfer to a new position;
    - Provide annual training;
    - Document the training and maintain records for 3 years.

# PREPAREDENESS & PREVENTION

- All KSQGs, SQGs, and LQGs must:
  - Equip the facility with:
    - Internal communications or alarm system
    - A device such as a telephone or hand-held two-way radio capable of summoning emergency assistance from local emergency responders

# PREPAREDENESS & PREVENTION

- All KSQGs, SQGs, and LQGs must:
  - Equip the facility with:
    - Portable fire extinguishers, fire control equipment, spill control equipment, and decontamination equipment
    - Water at adequate volume and pressure to supply water hose streams, or foam producing equipment, or automatic sprinklers, or water spray systems

# PREPAREDENESS & PREVENTION

- All KSQGs, SQGs, and LQGs:
  - Must attempt to make arrangements with local emergency organizations including:
    - Familiarize police, fire departments, and hospitals with facility, hazardous waste handled, etc.
    - Where more than one department might respond, designate one as the primary emergency authority.
    - Maintain agreements with state emergency response teams, emergency response contractors, and equipment suppliers, as necessary.

# PREPAREDENESS & PREVENTION

- All KSQGs, SQGs, and LQGs must:
  - Maintain and operate the facility to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste.
  - Test and maintain all emergency and communications equipment to assure proper operation in an emergency.
  - Ensure personnel have immediate access to internal alarm or emergency communication device when handling hazardous waste.

# FAILURE TO MAINTAIN AND OPERATE



# FAILURE TO MAINTAIN AND OPERATE



# PREPAREDENESS & PREVENTION

- LQGs must:
  - Prepare and maintain (update) a contingency plan that meets all of the requirements of 40 CFR 265 Subpart D.
  - Ensure that the contingency plan is available in case of an emergency.
  - Train employees and maintain required training records.

# MANAGEMENT ON-SITE

- On-site accumulation of hazardous waste can occur in:
  - Satellite Accumulation Containers (satellite containers)
  - Storage Containers (less than 90-day or less than 180-day accumulation containers)
  - Tanks

# MANAGEMENT ON-SITE

- All containers and tanks must be:
  - Labeled with the words “Hazardous Waste”
  - In good condition and compatible with the contents of the container or tank
  - Kept closed unless actively adding or removing waste.

# SATELLITE CONTAINERS

- Satellite containers must meet the following requirements:
  - Be at or near the point of generation
  - Under the control of the operator
  - Only 1 container for each waste stream at each point of generation (different than EPA)
  - 55 gallons or less in size
  - Marked with the words “Hazardous Waste” (more specific than EPA)
  - Closed and in good condition.

# SATELLITE CONTAINERS



This container is marked with the words “Hazardous Waste” and is thus properly labeled.

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# GOOD SATELLITE CONTAINERS



This container meets satellite container requirements:

- At or near the point of generation
- Under the control of the operator
- Marked “Hazardous Waste”
- Closed
- In good condition
- 55 gallons or less.

# SATELLITE CONTAINERS



Not labeled with the words “Hazardous Waste”.

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# SATELLITE CONTAINERS



Open funnel

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# STORAGE CONTAINERS

- There is no state or federal limit to the number of storage areas at a facility.
- Can be located indoors or outside (we recommend that they be under cover, and/or on pallets, but it is not required).
- Secondary containment is recommended but is not required.
- LQGs must store ignitable hazardous waste at least 50 feet from the property line.

# STORAGE CONTAINERS

- Storage containers must meet the following requirements:
  - Incompatibles must be separated (this includes separating wastes from products to which they are incompatible)
  - Aisle space must be adequate to allow unobstructed movement of people and equipment in case of an emergency

# GOOD STORAGE AREAS

Good aisle space



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# GOOD STORAGE AREAS



Good outdoor storage (but recommend only 2 drums high)

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# STORAGE AREAS



Aisle space is a problem

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# STORAGE CONTAINERS

- Requirements for storage containers (continued):
  - Marked with the words “Hazardous Waste”
  - Marked with the accumulation start date (date that storage began)
  - Closed and in good condition.

# STORAGE AREAS

Condition of container is a problem



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# STORAGE AREAS



Open  
containers

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# STORAGE AREAS

Not clearly marked “Hazardous Waste”



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# STORAGE CONTAINERS

- Must be inspected weekly (LQG and SQG) or monthly (KSQG and accumulating CESQG).
  - Should include review of all storage container requirements
  - Must inspect for deterioration and leaks

# STORAGE CONTAINERS

- Inspections must be documented and records maintained on-site for 3 years. Must document all of the following:
  - Date and time of the inspection
  - Name of the inspector (not initials)
  - Notation of the observations made
  - Date and nature of any repairs or other remedial actions.

# STORAGE CONTAINERS

- Accumulation time limits:
  - LQGs – 90 days or less
  - SQGs – 180 days or less (or 270 days or less if the waste is transported more than 200 miles)
    - If exceed 13,200 lbs (6,000 kg) of hazardous waste on-site or exceed time limit, then must meet **TSDF** requirements (obtain a permit).
  - KSQGs and CESQGs – No accumulation time limit (unless you accumulate more than 2,200 pounds on-site, then you become a SQG and the 180-day limit starts)
  - Exceeding time limits could require a permit and/or paying fees for the higher generator class or TSDF.



# COMPLIANCE EVALUATION INSPECTION

- Inspections are unannounced
- Routine inspections are chosen months in advance, based on the following:
  - Generator classification
  - Amount of time since last inspection
  - Industry sector priorities established by EPA or KDHE
  - Enforcement
- Complaints can result in a full RCRA inspection
- Compliance Assistance Visits (CAV) are available

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# COMPLIANCE EVALUATION INSPECTION

- Inspections can be broken into four basic parts:
  - Introduction and review of information
  - Walk-through inspection of facility
  - Records review
  - Exit briefing



# COMPLIANCE EVALUATION INSPECTION

Questions the inspector will ask about your waste streams:

- How much of each waste stream is generated in a month?
- How is each managed/contained/stored?
- How is each disposed?
- Is it hazardous waste?
- How did you determine whether or not it is hazardous?
- What documentation do you have for your determination?

# COMMON VIOLATIONS and HOW TO PREVENT THEM

- Waste Determinations
- Container Management
- Preparedness and Prevention
- Training
- Unlawful Acts

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# RESOURCES AVAILABLE

- Hazardous Waste Generator Handbook
- Compliance/Training Manual
- Inspector Checklists
- Technical Guidance Documents and Policies
- Website

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# RESOURCES AVAILABLE

- KDHE wants to help all generators achieve compliance. Please call us with any questions.
- Small Business Environmental Assistance Program (SBEAP) operated by the Pollution Prevention Institute (PPI) at KSU 1-800-578-8898 (free anonymous assistance).

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# CONTACT INFORMATION

- BWM web site:  
<http://www.kdheks.gov/waste>
- Rebecca Wenner  
785-296-1604  
[rwenner@kdheks.gov](mailto:rwenner@kdheks.gov)

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# Questions



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[www.kdheks.gov](http://www.kdheks.gov)

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