# Waste Management Overview and Options



## Waste Management Overview and Options

- Regulations
- Definitions and Acronyms
- Waste Management/Disposal Options
- What to Do



#### Waste Management - Overview and Options Regulations

Hazardous materials are regulated by many governmental agencies. Federal agencies regulating hazardous materials include:

- Environmental Protection Agency (EPA)
  - > Title 40, Code of Federal Regulations (40 CFR)
    - Tells us how to protect the environment
- Department of Transportation (DOT)
  - > Title 49, Code of Federal Regulations (49 CFR)
    - Tells us how to transport haz mat safely



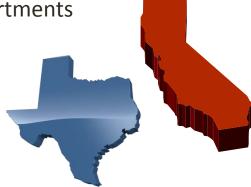
- > Title 29, Code of Federal Regulations (29 CFR)
  - Tells us how to protect people from the effects of haz mat



## Waste Management - Overview and Options Regulations

It is important to remember that some State and local agencies can also regulate hazardous waste management, including:

- > State Environmental or Health Departments
- Local Health Departments
- Local Fire Departments



When handling hazardous waste in a State you are not familiar with you should always verify if there are any additional regulations with which you must comply.

#### Waste Management - Overview and Options Definitions and Acronyms

#### Hazardous Waste 40 CFR 261.3: definition:

- (a) A solid waste, as defined in § 261.2, is a hazardous waste if:
  - (1) It is not excluded from regulation as a hazardous waste under § 261.4(b); and
  - (2) It meets any of the following criteria:
  - (i) It exhibits any of the characteristics of hazardous waste identified in subpart C of this part. However, any mixture of a waste from the extraction, beneficiation, and processing of ores and minerals excluded under§ 261.4(b)(7) and any other solid waste exhibiting a characteristic of hazardous waste under subpart C is a hazardous waste only if it exhibits a characteristic that would not have been exhibited by the excluded waste alone if such mixture had not occurred, or if it continues to exhibit any of the characteristics exhibited by the non-excluded wastes prior to mixture. Further, for the purposes of applying the Toxicity Characteristic to such mixtures, the mixture is also a hazardous waste if it exceeds the maximum concentration for any contaminant listed in table I to § 261.24 that would not have been exceeded by the excluded waste alone if the mixture had not occurred or if it continues to exceed the maximum concentration for any contaminant exceeded by the nonexempt waste prior to mixture.
  - (ii) It is <u>listed</u> in subpart D of this part and has not been excluded from the lists in subpart D of this part under §§ 260.20 and 260.22 of this chapter.

Remember, solid waste includes solids, liquids, gases and semi-solids!

#### Waste Management - Overview and Options Definitions and Acronyms

So.....

You think you have a hazardous waste? Here are a few definitions you need to know:

#### RCRA – Resource Conservation and Recovery Act

A waste that meets/exceeds the Federal criteria

#### Listed Waste

 A waste from certain specific and non-specific sources (F and K wastes) or a discarded commercial chemical (P and U) that is specifically listed by name in 40 CFR 261 Subpart D

#### Characteristic Waste

 Usually a mixture that meets one of more criteria listed in 40 CFR 261 Subpart C (such as flammable, corrosive, toxic)

#### Non-RCRA or State Regulated

 A waste that only meets a State's requirement (not a federally regulated characteristic or listed waste)

#### TSDF – Treatment, Storage & Disposal Facility

A waste management facility permitted to accept hazardous wastes

#### Waste Management - Overview and Options Definitions and Acronyms

- LDR Land Disposal Restriction
  - A form that may have to be included with your waste shipment (dependent on waste type and disposal method)
- PSN Proper Shipping Name
- RQ Reportable Quantity
- PG Packing Group
- ERG Emergency Response Guide
  - Information that must be included on a hazardous waste manifest.
- TCLP Toxicity Characteristic Leaching Procedure
  - A test method used by laboratories to help determine if a waste is hazardous
- VOC's Volatile Organic Compounds
- SVOC's Semi Volatile Organic Compounds
- TPH Total Petroleum Hydrocarbons
  - Common chemicals that many TSDF's require laboratory analysis on prior to waste acceptance

## Waste Management - Overview and Options Disposal Options

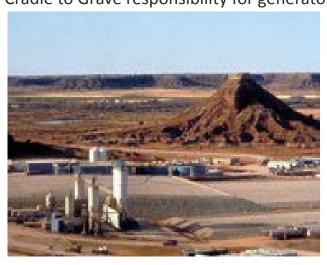
#### Landfilling

Class I – Hazardous Waste

Class II – Industrial Waste

Class III – Municipal Waste/ Household Trash

Most States have multiple Class II and III facilities – Class I facilities limited
Cradle to Grave responsibility for generator

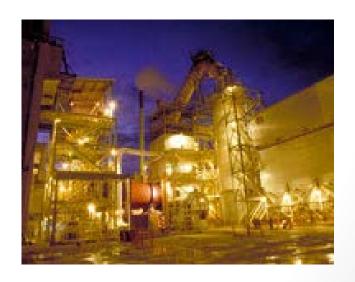


#### **Incineration**

Limited locations (such as UT, TX, NE, AR, IL, MO)

Can be very expensive

Limits Cradle to Grave responsibility



#### Waste Management - Overview and Options Disposal Options

#### **Recycling/Treatment**

Waste stream specific, not always possible Regionalized, not in every state True recycling eliminates Cradle to Grave responsibility



#### Major players with TSDF's

- √ Waste Management
- ✓ Veolia Environmental
- ✓ Rineco
- ✓ Clean Harbors
- ✓ US Ecology/American Ecology
- ✓ Allied Waste
- ✓ Republic Waste
- ✓ Siemens

In addition, there are many local, independent facilities which can effectively manage wastes

#### Waste Management - Overview and Options Disposal Options

#### What to do?

#### 1. Characterize your waste



This can be done several ways including generator knowledge, in-house testing and laboratory analysis

#### 2. Properly package and label your waste



This is especially important if you have a waste that is regulated by the DOT. In addition, most generators have only 90 days to ship wastes once they have started filling a container

## Waste Management - Overview and Options What To Do

#### 3. Profile your waste

This means working with one (or more) TSDF to determine if your waste meets their acceptance criteria and what the costs will be. Depending on the waste stream and TSDF selected this process can take anywhere from 1 day to 3 months

#### 4. Manifest and ship your waste



Most waste shipments must be scheduled with the TSDF in advance. Generators are responsible for completing the manifest and providing the transporter with placards if any are required.

#### Waste Management - Overview and Options

Compliant, economic waste management <u>is</u> possible.

#### Remember.....

O	Waste minimization is best. If you don't generate it, you won't have to manage it
0	When possible consider waste management costs in project planning
0	Proper characterization of waste can save money
0	Check State and local requirements
0	Properly package waste and label all containers
0	Remember waste profiling can take time and plan accordingly
0	Accurately manifest wastes when shipping
0	Consider working with a vendor who has a presence in the region where your waste is generated

#### Waste Management - Overview and Options





The single source solution for all your waste management needs

#### **Terminal Locations:**

Bakersfield, CA
Yolo, CA
Phoenix, AZ
Everett, WA
Grantsville, UT
Billings, MT
Enid, OK