Waste Permits 101:
UNDERSTANDING THE BASICS

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Louisiana Department of Environmental Quality
Waste Permits Division

• The Waste Permits Division authorizes permits administered under the Solid Waste and Hazardous Waste Regulations
  • Is responsible for all activities pertaining to the permitting of existing and proposed solid and hazardous waste processing and disposal facilities.

• Facilities include, but are not limited to:
  • Sanitary landfills
  • Industrial landfills
  • C&D Landfills
  • Hazardous waste landfills
  • Surface impoundments
  • Landfarms
  • Incinerators
  • Processing Transfer stations
  • Resource recovery facilities
  • Refuse-derived fuel facilities
Waste Terms & Definitions

• Solid Waste
  – Any garbage, refuse, or sludge from a waste treatment plant, water-supply treatment plant, or air pollution-control facility, and other discarded material including solid, liquid, semi-solid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations, and from community activities.

• Hazardous Waste
  – Waste identified as hazardous in the current Louisiana hazardous waste regulations (LAC 33:V.Subpart 1) and/or by the federal government under the Resource Conservation & Recovery Act and (RCRA) subsequent amendments.
Waste Terms & Definitions

- **Generator**: Any person whose act or process produces solid waste as defined in the regulations.

- **Transporter**: Any person who moves industrial solid waste off-site and/or who moves solid waste from a commercial establishment or more than one household to a storage, processing, or disposal facility.

- **Type I Facility**: A facility used for disposing of industrial solid waste. (e.g., landfills, surface impoundments, or landfarms). If the facility is also used for disposing of residential or commercial solid waste, it is also a Type II facility.

- **Type I-A Facility**: A facility used for processing industrial solid waste (e.g. transfer station, incinerator waste-handling facility, shredder, baler, or compactor). If the facility is also used for processing residential or commercial solid waste, it is also a Type II-A facility.
**Type II Facility**: A facility used for disposing residential or commercial solid waste (e.g., landfills, surface impoundments, landfarms). If the facility is also used for processing industrial solid waste, it is also a Type I-A facility.

**Type II-A Facility**: A facility used for processing residential or commercial solid waste (e.g. transfer station, incinerator waste-handling facility, refuse-derived fuel facility, shredder, baler, or compactor). If the facility is also used for processing industrial solid waste, it is also a Type I-A facility.
• **Type III Facility**: A facility used for: disposing of construction/demolition debris or woodwaste, composting organic waste to produce a usable material, or separating recyclable wastes (a separation facility). Residential, commercial, or industrial solid waste must not be disposed of in a type III facility. (e.g., Construction/demolition-debris and woodwaste landfills, separation facilities, composting facilities, or other.)
Types of Landfills

- Industrial Landfill
  - Type I Landfill
    - A facility used for disposing of industrial solid waste

- Sanitary Landfill
  - Type II Landfill
    - A facility used for disposing of residential and/or commercial solid waste

- Construction/Demolition (C&D) and/or Woodwaste Landfill
  - Type III Landfill
    - A facility used for disposing of construction/demolition debris or woodwaste
Facilities Needing a Solid Waste Permit

- LAC 33:VII.509.A.1—Any person who processes and/or disposes solid waste, with the exception of those listed in the regulations.
  - Generators and transporters that are not processors or disposers of solid waste are not required to secure a permit.
  - Collection facilities and non-processing transfer stations at which no solid waste is processed or disposed of are not required to secure a permit.
• Standard Permits
  – Issued for solid waste processing and/or disposal facilities that have successfully completed the standard permit application process.
    • Types: Type I, Type I-A, Type II, Type II-A, and Type III
    • Duration: not to exceed ten years
Pre-Permit Meetings

Applicants will meet with LDEQ to discuss their upcoming project.

1) Timeline
2) Applicable Regulations
3) What kind of permits needed
4) The facility may require more than one application for a permit based on its process such as an Air Permit, Water Permit, and/or a Waste Permit.
Basic Process

Application Received → Administrative Review → Public Notice → Technical Review → Draft Permit, Including Public Notice → Final Permit → Public Notice of Final Decision
Solid Waste Permits

• Solid Waste Permits Section
  ➢ Perform technical review of applications
  ➢ Route documents for review

• Solid Waste Engineers
  ➢ Perform engineering and geotechnical review of solid waste permit applications

• Geology support
  ➢ Review subsurface geology and design of GW monitoring network.
Considerations for Landfills

• Environmental Impacts
  Wetlands, Surface Water, Groundwater, Air, Endangered Species

• Social Issues
  Odors, noise, traffic, airports, aesthetics, industrial and populations growth, historical/archaeological sites

• Economic Issues
  Disposal costs, land development alternatives, permitting costs, construction/operations costs
Type II Sanitary Landfill

- Liner
- Leachate collection and treatment system
- Groundwater monitoring network
- Gas Recovery System
Liner Systems

• Liner
  – Layer or layers or material(s) beneath and on the sides of a solid waste disposal facility that are designed to restrict the escape of wastes or their constituents from the facility.

• There are several different types of liners that may be used in a landfill. The major consideration when deciding on a material for the liner is its permeability, and what type of leachate will be exposed if the liner leaks.

• The standard system requires two liners, one synthetic and one consisting of natural clay.
1' PROTECTIVE COVER (SEE NOTE 6)

1' SAND DRAINAGE LAYER (SEE NOTE 5)

60 mil. HOPE LINER (SEE NOTE 2)

SUBGRADE

COMPACTED CLAY LINER (SEE NOTE 1)
Leachate collection and treatment system

- Leachate
  - A liquid that has passed through or emerged from solid waste and may contain soluble, suspended, or miscible materials removed from such waste.

- The leachate collection system is responsible for the collection and transport of the leachate collected within the landfill. The pipe dimensions, type, and layout must all be designed with the weight and pressure of waste, and transport vehicles in mind. The pipes are located in a trench location on the floor of the cell.

- This network of pipes, collects, and transports leachate through the drainage layer to a collection sump where it is removed for treatment or disposal.
Groundwater Monitoring

- **Groundwater**
  - Water located beneath the ground or below a surface water body in a saturated zone or layer.

- **Monitoring Well**
  - Any permanent cased hole that is constructed to obtain water elevations and water quality data, which is usually installed at or near a known or potential source of GW contamination.
**Groundwater Monitoring**

- To monitor groundwater, facility owners and operators must install a groundwater monitoring network that can collect samples from the saturates zone(s). The groundwater monitoring system consists of a series of wells placed upgradient and downgradient of the landfill. The samples from the upgradient wells show the background concentrations of constituents in the groundwater, while the downgradient wells monitor groundwater for signs of impact that can be potentially caused by the landfill. The required number of wells, spacing, and depth of wells is determined on a site-specific basis based on the aquifer thickness, groundwater flow rate and direction, and the other geologic and hydrogeologic characteristics of the site. All groundwater monitoring systems must be certified by a qualified geologist or engineer and must comply with the sampling and analytical procedures outlined in the Regulations.
Gas Recovery System

- Municipal Landfills produce Landfill gas (LFG) as organic materials decompose under anaerobic (without oxygen) conditions. LFG is composed of approximately equal parts of methane and carbon dioxide with trace concentrations of other gases, including non-methane organic compounds (NMOC). The combustibility of methane can be both an asset and a liability to a landfill owner — an asset when the gas becomes a source of energy recovered from LFG, and a liability when subsurface migration of LFG results in hazardous conditions.
Emergency Debris Sites

LORNA PUTNAM DUHON, PH.D.
Waste Permits Division

LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY
FOR ALL YOUR ENVIRONMENTS
What is Emergency Debris?

Emergency debris is disaster generated debris.
Types of Debris

- C & D debris
- Household hazardous waste
- Electronic wastes
- Metals
- Orphan drums
- Tires
- Vegetative debris
- Vessels/vehicles
- White goods
- Woodwaste
# Emergency Debris Activities

<table>
<thead>
<tr>
<th>Activity</th>
<th>Debris Type</th>
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<tbody>
<tr>
<td><strong>Staging/Segregation</strong></td>
<td>• vegetative debris</td>
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<tr>
<td></td>
<td>• woodwaste</td>
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<tr>
<td></td>
<td>• C &amp; D debris</td>
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<td></td>
<td>• electronic waste</td>
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<td>• white goods</td>
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<td></td>
<td>• household hazardous waste</td>
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<td></td>
<td>• vessels/vehicles</td>
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<td></td>
<td>• orphan drums</td>
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<tr>
<td></td>
<td>• tires</td>
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<tr>
<td></td>
<td>• metals</td>
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<tr>
<td><strong>Chipping &amp; Grinding</strong></td>
<td>• vegetative debris</td>
</tr>
<tr>
<td></td>
<td>• woodwaste</td>
</tr>
<tr>
<td><strong>Composting</strong></td>
<td>• vegetative debris</td>
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<tr>
<td><strong>Burning</strong></td>
<td>• vegetative debris (open)</td>
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<tr>
<td></td>
<td>• vegetative debris (ACD)</td>
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<tr>
<td><strong>Preparation</strong></td>
<td>• white goods</td>
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Goals of Debris Management

• Minimize landfill waste
• Maximize diversion via recycling, reuse, and composting
• Legislative mandate (R.S. 30:2413.1) requires that “the total green and woody debris intended for final disposal in a landfill, shall be reduced 50% by weight and 50% by volume prior to transport to a landfill” (for disposal).
• Sites pre-approved
Total Emergency Debris Sites Approved

Katrina/Rita* 455
Gustav/Ike 403
Pre-approval 2010 179
Pre-approval 2011 203

*Katrina/Rita numbers are approximate.
Pre-Approval Emergency Debris Sites for 2011

Status of Pre-approval Sites
- Issued: 94%
- Pending Approval: 6%
Emergency Debris on the Web

A regulatory permit is in the works to cover the sites to be used in an emergency. As long as the site meets the requirements in the regulatory permit, the site will be considered a permitted pre-approved emergency debris site.
QUESTIONS?

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