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HAZARDOUS WASTE MANAGEMENT REPORT

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Presented by the Louisiana Department of Environmental Quality
To the House Committee on the Environment & Senate Committee on Environmental Quality

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I. EXECUTIVE SUMMARY

Louisiana should be proud of its proactive approaches, innovative environmental programs, and continued commitment to require and provide for environmentally sound hazardous waste management.

Current management of hazardous waste at commercial Treatment, Storage and Disposal (TSD) facilities in the State is functioning well and is expected to continue for the foreseeable future. In comparison to solid waste, Hurricanes Katrina and Rita made only minor demands on the statewide commercial hazardous waste TSD system.

Generators continue to minimize the toxicity and volume of waste that is being generated. By the continued utilization and improvements of established waste minimization and recycling programs and the implementation of other alternative methodologies, Louisiana can wisely utilize existing capacity for treatment, storage and disposal and reduce the need for future capacity.

II. INTRODUCTION

Act 112 of the 2006 Regular Session amended and reenacted La. R.S. 30:2179 to require the Louisiana Department of Environmental Quality (LDEQ) to evaluate hazardous waste capacity in the State in order to ensure safe and efficient management. As part of the assessment, the LDEQ is required to consider:

- Pending applications for the expansion or modification of existing facilities and approved construction of new facilities; and
- Availability of permitted capacity before issuing any additional permits during an emergency situation.

The statute specifies that a fifteen percent limitation above the total permitted capacity shall be applied on an aggregate basis and shall not be applied individually. The statute makes allowances for response to a natural disaster where such limitation could significantly impede or prevent the protection of human health and the environment. The fifteen percent limitation may be revised should the LDEQ provide proper notice to the Legislature (i.e., House Committee on the Environment and the Senate Committee on Environmental Quality) and hold a public comment period.

The purpose of this report is to communicate the LDEQ's findings to the Legislature, public, government agencies, and the regulated community.

III. BRIEF HISTORY OF RESOURCE CONSERVATION AND RECOVERY ACT (RCRA)

Waste management in the United States and Louisiana fundamentally changed in 1976 when Congress passed the Resource Conservation and Recovery Act (RCRA). In 1984,

Congress significantly expanded and reinforced RCRA with the Hazardous and Solid Waste Amendments (HSWA).

RCRA is intended to be a pollution prevention measure. Its goals are to:

- Ensure that waste is managed in a manner that protects human health and the environment;
- Minimize or eliminate the amount of waste generated; and
- Conserve energy and natural resources through waste recycling and recovery.

One key aspect of RCRA is that it is intended to be a joint federal and state enterprise. The federal program administered by the United States Environmental Protection Agency (EPA) provides basic requirements and some consistency to systems that are implemented by individual authorized states, including Louisiana. All states are encouraged to operate their own authorized programs in order to tailor them to their individual needs, resources, and economies. The RCRA program in authorized states must be at least equal to and consistent with federal standards.

RCRA gave the EPA and authorized states the authority to control hazardous waste from "cradle-to-grave" (i.e., generation, transportation, treatment, storage and disposal). It also set forth a framework, including tracking and permitting, for monitoring and control. The EPA has clear definitions that identify hazardous waste types either by characteristic or by listing based on waste-type or source (see Section VIII for definition of hazardous waste).

IV. HAZARDOUS WASTE MINIMIZATION

A. LDEQ'S POLICY

It is the policy of the LDEQ to protect human health and the environment of Louisiana through a hierarchy approach to waste management: 1) source reduction; 2) recycling, 3) treatment, and then 4) disposal. Accordingly, the LDEQ encourages and in certain circumstances requires facilities to minimize the use and release of toxic substances, and to minimize the generation of hazardous waste. The LDEQ uses an integrated approach to this policy through various programs within the LDEQ's authority.

Such minimization often makes good economic and business sense and has helped many facilities reduce:

- The quantity and toxicity of generated waste;
- Raw material and product losses;
- Raw material purchase costs;
- Recordkeeping and paperwork burden;
- Waste management costs;
- Workplace accidents and worker exposure;

- Compliance violations; and
- Environmental liability.

Although reporting on waste minimization is somewhat subjective and difficult to quantify, these requirements have clearly contributed to the continuing decline in the volume of hazardous waste being shipped offsite for treatment, storage and disposal (see Section V for further discussion).

B. REQUIREMENTS FOR GENERATORS

HSWA and Louisiana's regulations require generators who ship hazardous waste offsite to a TSD facility to consider efforts to minimize the volume and toxicity of waste being generated. Accordingly, as part of the annual report (see Section V for information on annual report) the generators are required to describe the efforts that have been undertaken to meet these requirements. To the extent such information is available, they are also required to discuss the actual changes in volume and/or toxicity that are noticed and can be measured.

C. REQUIREMENTS FOR PERMITTED TSD FACILITIES

In addition to the generator's reporting requirements, each permitted (commercial and non-commercial) TSD facility must annually submit (and maintain in the facility's operating record) a certification that the facility has a program in place to minimize the volume and toxicity of hazardous waste to the degree it is economically practicable. The certification must specify that the facility's proposed method of treatment, storage and disposal minimizes the present and future threat to human health and the environment. The following criteria are considered when a facility prepares this information:

- Details on all hazardous waste the facility produces;
- A demonstration that there is a need to use the processes that produce the waste and a lack of alternatives;
- Waste minimization efforts used for each related process at the facility;
- Any written policy or statement that outlines goals and/or methods for minimization and recycling;
- A list of capital expenditures and operating costs devoted to minimization and recycling;
- Employee training or incentive programs designed to identify and implement minimization and recycling opportunities;
- Factors that have prevented implementation of minimization and recycling;
- Additional waste minimization efforts that could be implemented. This should include reformulation, recycling, and other appropriate means. The analysis includes technical feasibility, cost, and potential waste minimization; and
- Outside information on minimization and recycling used by the facility.

D. COMMERCIAL HAZARDOUS WASTE TSD FACILITIES PERMITTED FOR RECYCLING

Currently, there are 2 commercial hazardous waste TSD facilities in the State permitted in association with their commercial recycling activities. These facilities are Exide and Lamp Recyclers. Further information is provided in Section VI.

E. LOUISIANA ENVIRONMENTAL LEADERSHIP PROGRAM



The Louisiana Environmental Leadership Program (LaELP) is a voluntary program sponsored by various associations. Financial support for the program is provided by the LDEQ and supplemental support is provided by sponsoring organizations. Any facility committed to improving the quality of Louisiana's environment through pollution prevention is eligible to join.

This is strictly a voluntary program. Facilities are required to submit a plan that describes waste minimization goals and annual updates. Plans and goals may be modified by the facilities at any time, and not meeting the goals will not be used by the LDEQ in any judgmental manner.

The program supports the following principles:

- Making decisions for minimizing adverse impacts on human health and the environment;
- Development of systems to encourage improvements in environmental performance;
- Use of the waste management hierarchy as guidance; and
- Communication with stakeholders regarding environmental issues.

Approximately 90 facilities have demonstrated in past award years their commitment to enhancing environmental quality in Louisiana by participating in LaELP. Facilities are recognized by the LDEQ for maintaining and improving the quality of the environment and can participate in periodic seminars to explore various pollution prevention opportunities. Facilities may also participate in the annual Governor's Awards for Outstanding Achievement in Pollution Prevention, Community Environmental Outreach, and Environmental Management Systems; awards are presented by the Governor.

V. HAZARDOUS WASTE GENERATORS

This report summarizes hazardous waste generation and management in the State from 2002 through 2005. The information is from annual reports that are submitted by facilities that generate and/or manage regulated quantities of waste. Annual reports are submitted to the LDEQ in March of the year. LDEQ staff review the data for accuracy,

completeness and compliance with the regulations prior to making it available for public use. As of June 2007, LDEQ personnel are completing their review of 2006 reported data.

This report is not inclusive of all hazardous waste generation and management. Generators are included in this report only if they identified themselves as large quantity generators (see Section VIII for definition of LQG). Nationally and on a state level, information is currently limited on small quantity generators and other businesses that fall outside the scope of the reporting requirements. Additionally, this reporting only includes waste managed in units subject to RCRA permitting standards or transportation regulations. Exempted waste management systems such as water treatment systems permitted by the Louisiana Pollutant Discharge Elimination System (LPDES) are not included in this report.

It is important to note that this report is based on the best available and most current information provided by the large quantity generators and maintained in the LDEQ/EPA's electronic database. Both the EPA and the LDEQ have made significant efforts to ensure the accuracy of the data.

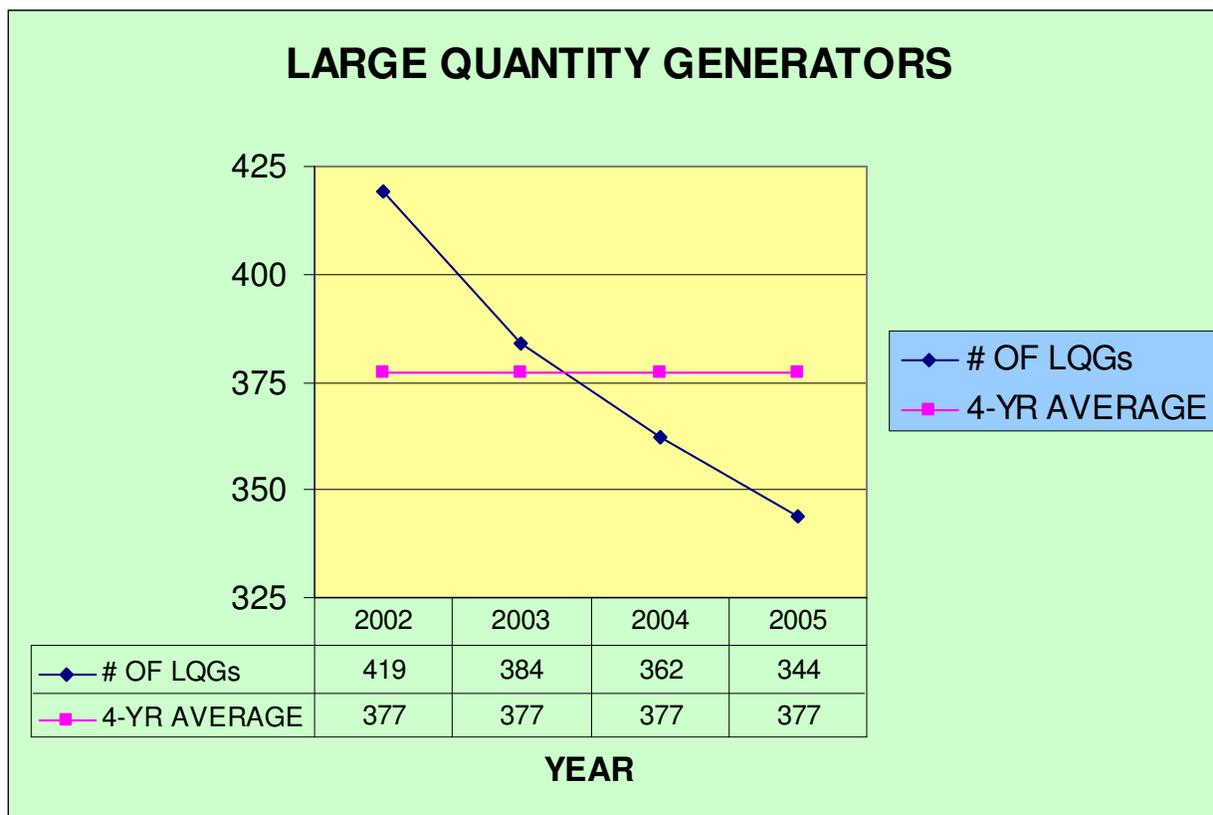
Between 2002 and 2005 there were 557 different facilities (i.e., large quantity generators) that reported on actual waste generation and offsite shipment.

Figure 1. Waste Shipped Offsite by Large Quantity Generators

Reporting Year	# of Large Quantity Generators (Reporting)	Amount Shipped Offsite (Tons)
2002	419	209,650
2003	384	182,115
2004	362	179,088
2005	344	329,386
2006*	N/A	N/A
TOTAL		900,239
4-YEAR AVG.	377	225,060
*2006 data is not yet available - has not been verified and entered into the EPA/LDEQ's database (RCRA Info)		

The data shows a decline in the number of large quantity generators reporting waste generation from 419 in 2002 to 344 in 2005.

Figure 2. Number of Large Quantity Generators from 2002 to 2005



The amount of waste shipped offsite declined from 209,650 tons in 2002 to 179,088 tons in 2004. This decline can be attributed to a number of factors, including but not limited to:

- Successful implementation of various pollution prevention programs that encourages reductions in the use of toxic substances and waste generation (see Section IV for further discussion); and
- Economic slowdowns that affected various economic sectors.

2005 was an exceptionally active year for offsite shipment of waste (329,286 tons) due primarily to impacts from Hurricanes Katrina and Rita.

Figure 3. Waste Shipped Offsite from 2002 to 2005



VI. COMMERCIAL HAZARDOUS WASTE TSD FACILITIES

Currently, there are 7 permitted commercial hazardous waste TSD facilities in the State. These facilities are shown and listed below along with their permitted capacities and a brief discussion of their treatment, storage and disposal capabilities. Of these 7 facilities, 2 are permitted due to their commercial recycling operations (see Section IV for discussion).

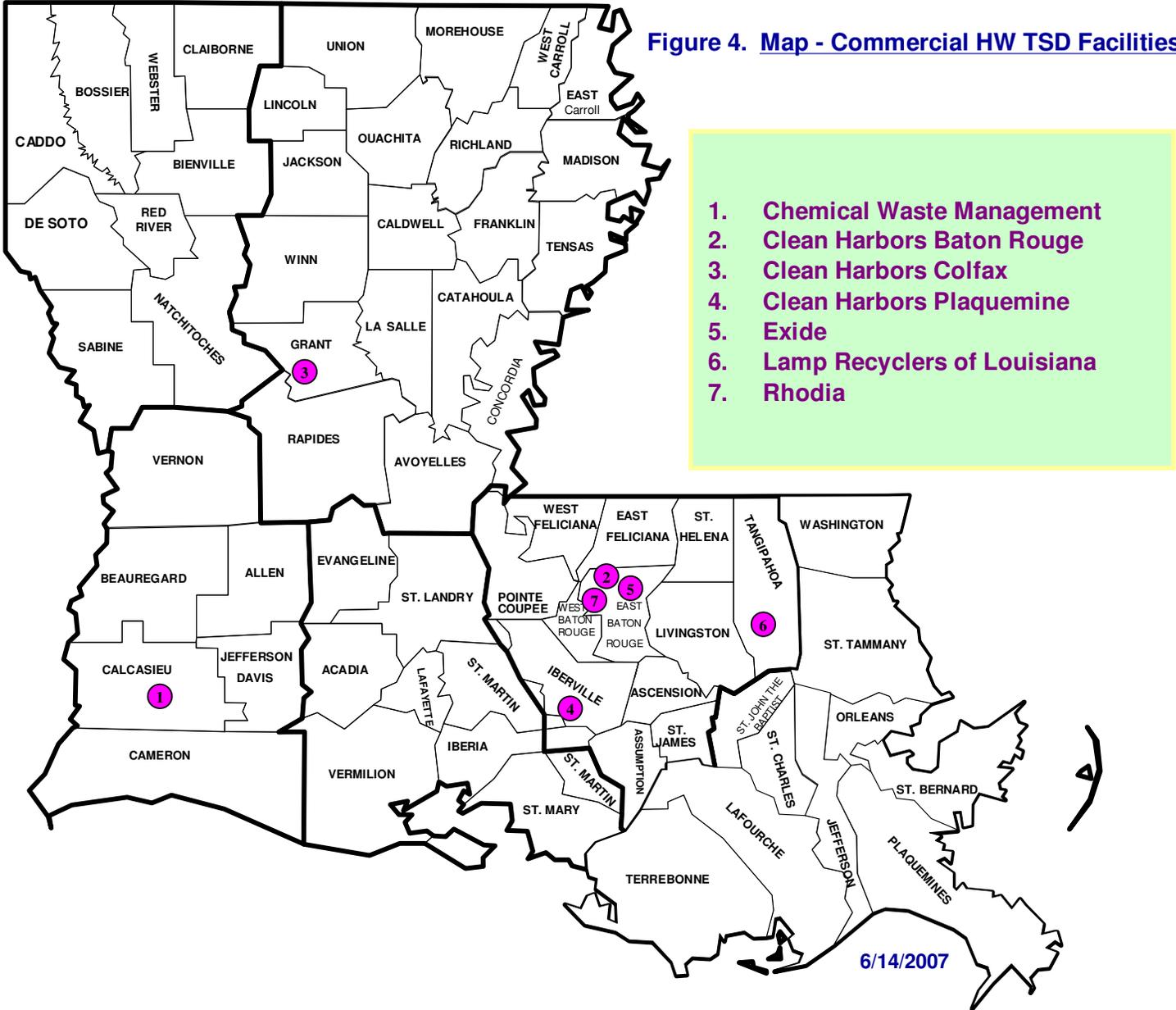
The LDEQ has permitted no new commercial hazardous waste TSD facility in the last 5 years. Additionally, there are currently no viable pending applications for the expansion of existing hazardous waste facilities or approved construction of new facilities.

*Note: One industrial facility with a non-commercial TSD permit, CYTEC Industries located in Westwego, requested an allowance in 2005 to continue to manage hazardous waste generated at its complex from 2 units that were sold. These units are now owned and/or operated by other corporations. Due to these business arrangements, the facility will be designated as “restricted commercial” by the LDEQ if a decision is made to issue a permit in 2007. Since no waste is from an offsite source, CYTEC will not be required to report or pay “commercial fees” to the LDEQ. Therefore, CYTEC will be excluded from further considerations in this report.

The movement of hazardous waste is market driven and dependent upon a number of factors such as changes in transportation, treatment and disposal costs, as well as contractual arrangements between generators and treatment and disposal facilities.

Also, the number of one-time cleanups, the amount of waste being treated onsite, and the implementation of waste minimization practices play a major role in the quantity of waste going to a particular commercial hazardous waste TSD facility.

Figure 4. Map - Commercial HW TSD Facilities



1. **Chemical Waste Management**
2. **Clean Harbors Baton Rouge**
3. **Clean Harbors Colfax**
4. **Clean Harbors Plaquemine**
5. **Exide**
6. **Lamp Recyclers of Louisiana**
7. **Rhodia**

1) Chemical Waste Management (Sulphur) – Storage, Treatment and Disposal via Landfill

Container Storage = 1,810,083 gallons

Tank Storage = 4,634,318 gallons

Tank Treatment = 330,000 gallons per day

Landfill = 8,507 acre-feet (13,724,630 cubic yards)

Other Treatment = 105,600 gallons per day of container decant, filling and processing

Other Treatment = 2,000 short tons per day of Micro and Macro encapsulation, sealing and solidification

Other Treatment = 685 short tons per day of biological treatment

In addition to the landfill, the facility performs fixation, solidification, neutralization, cyanide/sulfide destruction, and storage for shipment to other facilities. Depending upon the characteristics of the incoming waste, the facility will process it through one of the onsite treatment processes (see Section VIII for definitions to micro-encapsulation, macro-encapsulation, bioremediation, solidification), if required. Once treated, the waste is sent to the onsite landfill.

2) Clean Harbors Baton Rouge – Storage and Treatment (No Disposal)

Container Storage = 962,220 gallons

Tank Storage* = 219,000 gallons

Tank Treatment* = 254,000 gallons per day

Other Treatment = 49,280 gallons per day (stabilization and treatment in containers)

*note that some of the tanks are undergoing closure

The facility performs drum processing of solids, liquids and sludges; bulk sludge processing; and specialty processing of difficult waste streams. Additionally, the facility offers tanker truck and railcar processing and cleaning. The following operations are also associated with this facility:

- Wastewater treatment - About 65% of the wastewater comes from onsite sources. The remaining 35% of the wastewater comes from third-party, offsite sources.
- Bulking - The facility conducts some limited bulking of containerized waste by pumping drum contents into tankers. The consolidated waste is shipped primarily to an out-of-state incinerator. The bulking is separated into high BTU and low BTU liquids.

3) Clean Harbors Colfax – Storage and Treatment of Hazardous Waste and Munitions via Open Burning and Open Detonation (No Disposal)

OB/OD = 350,000 pounds per hour
Mechanical Processing = 350,000 pounds per hour
Container Storage = 119,680 gallons (magazine storage)
Container Storage = 60,000 cubic yards

The facility manages explosive and reactive waste using thermal treatment units. The facility can receive, store, and treat over 300 energetic/reactive waste streams in solid, sludge, or liquid form.

Onsite storage is restricted to special storage magazines. Waste is treated in permitted remote-controlled concrete burn cells. Residue is collected from the treatment process and shipped offsite for disposal as either hazardous or non-hazardous waste, dependent upon its characterization.

4) Clean Harbors Plaquemine* - Storage, Treatment and Disposal via Deepwell Injection

Container Storage = 2000 gallons
Tank Storage = 175,980 gallons
Other Treatment = 500,000 gallons per day (filtration of waste prior to deep well injection)
Deepwell = 500,000 gallons per day
Other Treatment = 100,000 gallons per day (neutralization - pH adjustment)

* On October 17, 2006, Clean Harbors issued a public statement stating that the decision was made to close the deepwell injection facility located in Plaquemine. The facility is just one subsidiary of Clean Harbors and the closure of the facility will not have any significant financial impact on the parent company or any of its other affiliates. The facility has been involved in litigation since it was acquired in late 2002, including one case that has been pending since 1996 against the prior owners and operators. This ongoing litigation now comprises a total of five lawsuits against the facility, and recent efforts to achieve an equitable global settlement of this litigation have been unsuccessful. The facility filed for protection under Chapter 11 from the United States Bankruptcy Court. This Chapter 11 filing will not affect any of the operations at any other Clean Harbors facilities in the State and throughout North America. The facility's plan of reorganization will ensure that all of that facility's environmental and site clean up obligations and permitting requirements will be met. The LDEQ will continue to work with Clean Harbors to ensure that the closure and clean-up of the facility will be protective of human health and the environment.

5) Exide (Baton Rouge) – Storage, Treatment and Recycling of Batteries (No Disposal)

Truck/Trailer Storage Area = 85,000 gallons
Storage Area = 29,920 gallons
Whole Battery Storage Area = 81,000 gallons
90-Day Spent Battery Storage = 250 tons (est. annual quantity)
Containment Building Storage* = 3,333 tons of slag and 12,080 tons of lead
Treatment Unit = 293,763 gallons (144.4 tons) per day

*interim status unit being incorporated into the permit to be issued in 2007

This recycling facility accepts spent lead-acid batteries and lesser quantities of other lead-bearing materials for processing to recover their lead content. The facility has a battery breaker unit that separates the lead, plastic and acid.

6) Lamp Recyclers (Hammond) – Storage, Treatment and Recycling (No Disposal)

Container Storage = 18,370.0 gallons

Mechanical Processing = 1.0 short tons per hour

This recycling facility acts as both a processing facility for crushing lamps containing mercury and a storage/transfer facility for select RCRA and universal waste (see Section VIII for definition) streams. The facility manages fluorescent and high intensity discharge (HID) mercury-containing lamps, ballasts, mercury debris, soil, batteries, computers, electronics, and other universal waste.

Fluorescent lamps are crushed and the contents are separated and sent offsite for recycling, including offsite mercury retort. Some processing of mercury-containing devices is performed onsite in the form of disassembly. All other materials are trans-shipped to other treatment facilities.

7) Rhodia (Baton Rouge) – Storage and Treatment (Hazardous Waste Used to Fuel Sulfur Regeneration Boilers) (No Disposal)

Tank Storage = 267,000 gallons

Container Storage = 253,000 gallons

Regeneration/Combustion = 51,000 pounds per hour

The facility operates two sulfuric acid regeneration units. Recycled or “spent” sulfuric acid from various clients is incinerated to produce sulfuric acid. The facility uses natural gas and hazardous waste with BTU value to fuel the sulfuric acid regeneration process. Waste that is accepted includes organic waste fuels; aqueous, sulfur-bearing weak acids; meltable solids and high chloride waste.

Figure 5. Waste Amounts Received by Commercial HW TSD Facilities

2002			
COMMERCIAL TSD FACILITY	IN-STATE	OUT-OF-STATE	TOTAL
CHEMICAL WASTE MANAGEMENT	18,557.78	82,104.91	100,662.69
CLEAN HARBORS BATON ROUGE	5,130.27	3,343.65	8,473.92
CLEAN HARBORS COLFAX	0.86	193.00	193.86
CLEAN HARBORS PLAQUEMINE	31,101.92	11,491.52	42,593.44
EXIDE TECHNOLOGIES	39.00	0.08	39.08
LAMP RECYCLERS OF LOUISIANA	6.44	109.68	116.12
RHODIA	11,672.56	12,821.02	24,493.58
2002 TOTAL	66,508.83	110,063.87	176,572.70
2002 TOTAL PERCENTAGE	38%	62%	

2003			
COMMERCIAL TSD FACILITY	IN-STATE	OUT-OF-STATE	TOTAL
CHEMICAL WASTE MANAGEMENT	19,080.52	84,540.89	103,621.41
CLEAN HARBORS BATON ROUGE	4,776.55	1,422.96	6,199.51
CLEAN HARBORS COLFAX	5.62	209.78	215.40
CLEAN HARBORS PLAQUEMINE	17,645.86	11,072.97	28,718.83
EXIDE TECHNOLOGIES	39.71	4,729.59	4,769.30
LAMP RECYCLERS OF LOUISIANA	5.42	230.30	235.72
RHODIA	13,102.91	6,878.36	19,981.27
2003 TOTAL	54,656.59	109,084.84	163,741.44
2003 TOTAL PERCENTAGE	33%	67%	

2004			
COMMERCIAL TSD FACILITY	IN-STATE	OUT-OF-STATE	TOTAL
CHEMICAL WASTE MANAGEMENT	52,075.08	109,663.96	161,739.04
CLEAN HARBORS BATON ROUGE	3,482.72	657.68	4,140.40
CLEAN HARBORS COLFAX	1.31	146.84	148.15
CLEAN HARBORS PLAQUEMINE	49,527.18	4,196.12	53,723.30
EXIDE TECHNOLOGIES	20.48	8,657.59	8,678.07
LAMP RECYCLERS OF LOUISIANA	21.82	418.60	440.42
RHODIA	16,677.87	6,849.64	23,527.51
2004 TOTAL	121,806.46	130,590.43	252,396.89
2004 TOTAL PERCENTAGE	48%	52%	

2005			
COMMERCIAL TSD FACILITY	IN-STATE	OUT-OF-STATE	TOTAL
CHEMICAL WASTE MANAGEMENT	16,946.60	82,843.85	99,790.45
CLEAN HARBORS BATON ROUGE	2,494.98	366.92	2,861.91
CLEAN HARBORS COLFAX	3.01	147.21	150.22
CLEAN HARBORS PLAQUEMINE	14,440.36	1,150.24	15,590.60
EXIDE TECHNOLOGIES	37.77	6,755.10	6,792.87
LAMP RECYCLERS OF LOUISIANA	42.49	555.02	597.51
RHODIA	14,134.73	4,296.03	18,430.76
2005 TOTAL	48,099.94	96,114.37	144,214.31
2005 TOTAL PERCENTAGE	33%	67%	
4-YEAR AVGERAGE	63,749.22	111,463.38	175,212.60

The total amount of hazardous waste received from in-state generators by the 7 commercial hazardous wastes TSD facilities has remained fairly constant (average of 56,421.79 tons for 2002, 2003 and 2005), except for 2004 (121,086.46 tons).

The total amount of hazardous waste received from out-of-state generators by the 7 commercial hazardous wastes TSD facilities has remained fairly constant (average of 105,087.70 tons for 2002, 2003 and 2005), except for 2004 (130,590.43 tons).

Of the total waste amount received by the 7 commercial hazardous waste TSD facilities in 2002, 38% came from in-state generators and 62% came from out-of-state generators. In 2003, 33% came from in-state and 67% came from out-of-state. In 2004, 48% came from in-state generators and 52% came from out-of-state. In 2005, 33% came from in-state generators and 67% came from out-of-state.

Figure 6. Summary of Waste Received by Commercial HW TSD Facilities



VII. COMMERCIAL HAZARDOUS WASTE DISPOSAL CAPACITY

As shown in Section VI, there is one commercial hazardous waste landfill in Louisiana, Chemical Waste Management (CWM) located in Sulphur (Calcasieu Parish). Currently, CWM is permitted for 13,724,630 cubic yards of capacity in its landfill. CWM has indicated that 320,000 cubic yards of permitted capacity remains in Cell 7 and 6,270,000 cubic yards remain in the newest cell, Cell 8. This is a combined total of 6,590,000 cubic yards of available permitted capacity. Based upon historical and current operations, CWM projects a life expectancy of 25 to 30 years.

Figure 7. Waste Amounts Received by Commercial HW Landfill (Disposal)

REPORTING YEAR	IN-STATE WASTE (TONS)	OUT-OF-STATE WASTE (TONS)	TOTAL WASTE RECEIVED (TONS)
2002	18,558	82,105	100,663
2003	19,081	84,541	103,622
2004	52,075	109,664	161,739
2005	16,947	82,844	99,791
2006*	N/A	N/A	N/A
TOTAL	106,661	359,154	465,815
4-YEAR AVG.	26,665	89,789	116,454
*2006 data is not yet available – must be verified and entered into the EPA/LDEQ's database (RCRA Info)			

Chemical Waste Management receives in-state waste primarily from southwestern parishes: Ascension, Calcasieu, East Baton Rouge, West Baton Rouge, etc. Except for 2004, the amount of hazardous waste CWM received from in-state generators has remained fairly constant (3-year average of 18,195 tons for 2002, 2003 and 2005), except for 2004 (52,075 tons).

Chemical Waste Management receives out-of-state waste primarily from states located in the immediate proximity: Alabama, Arkansas, Mississippi, and Texas. The amount of hazardous waste CWM received from out-of-state generators has remained fairly constant (3-year average of 83,163 tons for 2002, 2003 and 2005), except for 2004 (109,664 tons).

Figure 8. Summary of Waste Received by Commercial HW Landfill (Disposal)



VIII. DEFINITIONS AND ACRONYMS

The following definitions are provided to assist in reviewing this document:

- **Bioremediation** - Treatment of organic chemicals with micro-organisms (bacteria, fungi, and yeast) to break them down into less toxic or non-toxic materials.
- **BTU** - British Thermal Unit (BTU) is the standard for measuring the energy of a fuel and output of any heat-generating device.
- **EPA** - The United States Environmental Protection Agency.
- **Hazardous Waste** - In the context of RCRA, a hazardous waste is any discarded material (i.e., solid waste) containing substances known to threaten human health or the environment. Hazardous waste can be liquids, solids, contained gases, or sludges. They can be the by-products of manufacturing processes or simply discarded commercial products. The waste must exhibit one of four characteristics (i.e., reactivity, corrosivity, ignitability, toxicity) or must be specifically listed as such by the EPA. The three types of listed waste are:
 - **F-list** - This list identifies waste from common manufacturing and industrial processes. Because the processes producing the waste can occur in different sectors of industry, the F-listed wastes are known as wastes from non-specific sources.

- **K-list** - This list includes certain waste from specific industries. Certain sludges and wastewaters from treatment and production processes in these industries are examples of source-specific wastes.
 - **P-list** and **U-list** - These lists include specific commercial chemical products in an unused form. Some pesticides and pharmaceutical products become hazardous waste when discarded.
- **HSWA** - The 1984 Hazardous and Solid Waste Amendments to RCRA.
 - **LDEQ** – The Louisiana Department of Environmental Quality.
 - **LPDES** - The Louisiana Pollutant Discharge Elimination System. Louisiana is an authorized state to issue water quality permits.
 - **LQG** - Large quantity generator of RCRA hazardous waste. The following are federal and state criteria for being a LQG:
 - Generated in any single month 1,000 kg (2,200 lbs. or 1.1 tons) or more of RCRA hazardous waste;
 - Generated in any single month, or accumulated at any time, 1 kg (2.2 lbs) of RCRA acute hazardous waste; or
 - Generated or accumulated at any time more than 100 kg (220 lbs) of spill cleanup material contaminated with RCRA acute hazardous waste.
 - **Macro-encapsulation** - Placing hazardous debris in special sealed, one-piece, high-strength containment unit specially formulated for chemical resistance.
 - **Micro-encapsulation** - Coating hazardous debris with a custom-tailored mixture of sealing agents to prevent chemical interaction with the surrounding environment.
 - **RCRA** – The Resource Conservation and Recovery Act of 1976.
 - **Solidification** - Addition of drying agents to liquids/sludges until they can pass the “paint filter test” for determining whether any free liquids remain.
 - **TSD** - Treatment, Storage and Disposal facilities for RCRA hazardous waste.
 - **Universal Waste** – A general term used to describe hazardous waste that is generated by a large, diverse population including businesses and unregulated households. These waste types are more common and pose a lower risk to people and the environment than others. Federal and State regulations provide simple rules for handling, recycling, and disposal. The following may be a universal waste: antifreeze; batteries; electronics; mercury-containing equipment; lamps; and unused pesticides.

IX. CONCLUSIONS AND RECOMMENDATIONS

Louisiana has adequate capacity at commercial hazardous waste Treatment, Storage or Disposal facilities. The one landfill operating in the State has the necessary capacity for disposal, but there are no backup facilities should the facility cease operations, either temporarily or permanently.

Recommendations:

- The LDEQ is recommending no changes to the capacity limit for hazardous waste.
- The LDEQ should continue to promote waste minimization and zero waste concepts in business, industry, and government.
- The LDEQ is encouraging those facilities that rely on Chemical Waste Management for landfill disposal, to consider having a contingency plan for disposal in the unlikely event that CWM cease operations, either temporarily or permanently.