REVISED RESPONSE TO NOTICE OF DEFICIENCY FOR CLASS 3 PERMIT MODIFICATION REQUEST (LAD 086 478 047) EXIDE TECHNOLOGIES BATON ROUGE SMELTER

Prepared for:

EXIDE TECHNOLOGIES
Baton Rouge, Louisiana

Prepared by:

ADVANCED GEOSERVICES CORP.
West Chester, Pennsylvania

Advanced GeoServices Corp.
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Project No. 2003-1058-01
July 23, 2003

MAIN FILE

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July 23, 2003

2003-1058-01

original to IOHW
copy to LLAS/G2/Peterson
Karla Vidrine

Mr. Michael D. Vince, MPA
Louisiana Department of Environmental Quality
Permits Division
602 North Fifth Street
P.O. Box 4313
Baton Rouge, LA 70802
Attention: Ms. Karla Vidrine

AI - 1396

RE: Exide Technologies, Baton Rouge Facility
~~LAD 086 478 047~~ LAD 008184137 rom
Responses to NOD for Class 3 Permit Modification Request

Dear Mr. Vince:

Advanced GeoServices Corp. (AGC), on behalf of Exide Technologies (Exide), submits one (1) original and three (3) copies of the revised response to the Notice of Deficiency (NOD) for the Hazardous Waste Interim Status Containment Building Class 3 Permit Modification Request dated October 17, 2001. These revised responses are in response to a NOD received by Exide on March 18, 2003. This document is a revision of AGC's previous response to NOD dated May 19, 2003 and is independent of the May 2, 2003 Hazardous Waste Permit Renewal Application (LAD 008 184 137) for the Baton Rouge Smelter.

For ease of review, LDEQ's comments and the associated response are provided in the attached document. Figures and appendices which have been revised are also included.

We trust this addresses LDEQ's comments regarding the Class 3 permit modification. Upgrades to the Containment Building are scheduled to begin in the near future pursuant to LDEQ's February 18, 2003 approval. If you have any questions, please contact Jen Polaski at (610) 840-9189 or Paul Stratman at (610) 840-9122. Please address all approval correspondence to Steve Krul at the Baton Rouge Smelter at 2400 Brooklawn Drive, Baton Rouge, Louisiana, 70874.

Sincerely,

ADVANCED GEOSERVICES CORP.

Jen Polaski

Jennifer W. Polaski
Project Professional

Paul G. Stratman, P.E.
Senior Project Consultant

JWP:PGS:vm

Enclosures

cc: F. Ganster, Exide
S. Krul, Exide Baton Rouge

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REVISED RESPONSE TO NOTICE OF DEFICIENCY

EXIDE TECHNOLOGIES
BATON ROUGE FACILITY

Prepared for:

EXIDE TECHNOLOGIES
Baton Rouge, Louisiana

Prepared by:

ADVANCED GEOSERVICES CORP.
West Chester, Pennsylvania

Project No. 2003-1058-01
July 23, 2003

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REVISED RESPONSE TO NOTICE OF DEFICIENCY

1. *LAC 33:V.516.A-B, The Permittee must provide a response to these regulatory requirements.*

A response to these regulatory requirements has been provided as follows:

§516. Information Requirements for Solid Waste Management Units

A. The following information is required for each solid waste management unit at a facility seeking a permit:

1. the location of the unit on the topographic map required under LAC 33:V.517.B;

Response
The location of the three container storage areas, the treatment unit and the Containment Building are shown on the revised Figure 1.

2. designation of type of unit;

Response
There are three container storage areas at the Baton Rouge smelter. The Truck/Trailer Storage Area is used to hold spent lead-acid and nickel-cadmium batteries in tractor trailers. The Whole Battery Storage Area is used to hold spent lead-acid batteries on pallets prior to recycling. The K069/D008 Storage Area is used to hold drums of lead-bearing waste material prior to recycling. The Containment Building houses the primary recycling operation. The Containment Building is configured with three areas all under one roof as shown on Figure 4. The Raw Material Storage Area (Area 1) is used to store dry materials prior to recycling. The Paste Storage Area (Area 2) is used for the initial staging of neutralized lead paste from the battery breaking/desulfurization process prior to moving the paste to Area 1. Lead oxide paste is a red-brown, high density solid material with a moisture content less than 5%. The Production Area (Area 3) houses the blast furnace, reverberatory furnace and the refining kettles. This area is not regulated since it is a recycling/production facility. The Slag Stabilization Unit is a hazardous waste treatment unit that treats blast furnace slag by mixing it with Portland cement and sodium silicate.

3. general dimensions and structural description (supply any available drawings);

Response
Figure 1 (Topographic Map) shows the locations of each unit. Figure 4 (Containment Building Map), Figure 5 (K069/D008 Storage Area), Figure 6 (Truck/Trailer Storage Area), and Figure 7 (Whole Battery Storage Area) present the available detailed design information about each unit. Appendix 20 provides the proposed upgrades to the Containment Building Floor Design. Appendix 12 provides additional design information for the Containment Building. Photographs of the units are included in Appendix 19.

4. **when the unit was operated; and**

Response
Exide has operated the Containment Building since 1991. The Slag Stabilization Unit was completed and commenced operations in 1993. The K069/D008 Area became operational when the facility started, in 1969. The Truck/Trailer Area was built in 1986. The Whole Battery Storage Area was completed in 1999.

5. **specification of all waste codes for all hazardous wastes that have been managed at the unit.**

Response
Exide stores lead-bearing materials with waste codes D008, D007, D006, D004, D010, D011 and K069 in the K069/D008 Storage Area. The Truck/Trailer Storage Area holds spent lead-acid batteries with waste codes of D002, D006 and D008. The Whole Battery Storage Area hold spent lead-acid batteries with waste codes of D002 and D008. The Slag Stabilization Unit contains materials that have a waste code of D008. The Containment Building has materials with waste codes of D008, D007, D006, D004, D010, D011 and K069.

6. **details of all ancillary equipment including tanks storing hazardous waste in less than 90-day service and pipes carrying hazardous waste to the injection well(s) must meet the requirements of LAC 33:V.Chapter 19. A certification by an independent Louisiana Registered Professional Engineer must be provided attesting to the adequacy of pipes, valves, and pumps to handle hazardous waste under pressure and to the adequacy of secondary containment provided to meet the requirements of LAC 33:V.Subpart 1.**

Response
Exide does not use tanks to store hazardous waste, or have pipelines carrying hazardous waste. Therefore this section is not applicable.

B. **The owner or operator of any facility containing one or more solid waste management units must submit all available information pertaining to any known release of hazardous wastes or hazardous constituents from such unit or units.**

Response
Exide was issued a Post-Closure Permit for two closed hazardous waste piles in April 2001. The permit describes four solid waste management units (SWMUs), that were originally identified during a RCRA Facility Assessment conducted in 1987. These SWMUs are identified in Appendix 3 and discussed and shown on Figure 1 and include SWMU #34 (Slag Storage Area), SWMU #40 (Truck Washdown Area), SWMU #49 (Wastewater Drainage System), and SWMU #60 (Railcar Area). As required by the Post-Closure Permit, Exide submitted a Preliminary Report on November 13, 2001 to describe current facility conditions. A Phase I RCRA Facility Investigation Work Plan was also submitted on November 16, 2001. The Phase I RCRA Facility Investigation Work Plan was developed using existing information to

propose collection of additional information necessary to determine the presence, magnitude, extent and mobility of hazardous waste constituents on and beneath the site that may have originated from the pre-RCRA and RCRA-permitted SWMUs. As comments or approval have not yet been received from LDEQ, RFI activities have not yet begun.

However, the permitted container storage areas, the permitted treatment unit and interim status Containment Building are not included in the proposed investigations as SWMUs and, accordingly, this section does not apply to this current application.

2. *LAC 33:V.517.A, The Permittee must indicate the changes at the facility since the original permit application was submitted.*

The response has been revised as follows to include the changes to the operations:

A. a general description of the facility including hours of operation/day and day/week;

Response

The Exide Baton Rouge smelter is a secondary lead smelter and refinery that recycles lead-bearing materials including spent lead-acid batteries to make metallic lead used in production of new batteries. The facility is located in East Baton Rouge Parish, at latitude 30 degrees, 35 minutes, 8 seconds, longitude 91 degrees, 14 minutes, 40 seconds. Figure 1 shows the site layout. The plant is in operation 24 hours per day, seven days per week. Normal office hours are Monday through Friday 8:00 a.m. through 4:30 p.m. The facility has 24-four hour security.

Exide processes lead bearing raw materials, including spent lead acid batteries, emissions control dust, sludges and by products into metallic lead for resale and reuse. Some of the raw materials used in the process and stored on site are classified as hazardous wastes by regulation. Exide was issued a Hazardous Waste Permit (LAD008184137) to operate three container storage areas (the Truck/trailer Storage area, the K069/D008 Storage area and the Whole Battery Storage area). Exide operates a Containment Building, which is currently under interim status. A hazardous waste treatment unit, the Slag Stabilization unit, is also permitted under LAD008184137.

Most of the raw materials used by the Baton Rouge smelter to produce lead are purchased off-site. The lead-bearing raw materials are delivered to the facility in trucks or trailers and are unloaded at the loading dock. If the material is classified a hazardous, it will be received under manifest, as specified in the Louisiana Department of Environmental Quality, Hazardous Waste Division Environmental Regulatory Code. Other nonhazardous and exempt materials are received under bill of lading. Some of these lead-bearing materials are received in drums. These drums will either be emptied directly into a feedstock pile in the containment building or held temporarily in the K069/D008 storage area.

Lead acid batteries are either fed directly into the battery breaker or are stored temporarily onsite in one of two permitted storage area, the Truck/Trailer storage area or the Whole Battery storage area. Lead acid batteries are processed in the

battery breaker unit, by cutting the batteries, and hydraulically separating the individual components. The plastic is thoroughly washed to remove residual acid and lead. It is then loaded into trailers and shipped offsite for recycling. The battery acid, a weak sulfuric acid solution, is neutralized with sodium hydroxide and crystallized to form sodium sulfate salt. The salt is sold as a product. The lead material from the batteries is processed to convert lead sulfate to lead oxide. The lead oxide paste is then stored in the Paste Storage Area of the Containment Building, prior to recycling. Lead oxide paste is a red-brown, high density solid material with a moisture content less than 5%.

The facility operates one blast furnace and one reverberatory furnace that are used to smelt the lead-bearing raw materials. The molten lead is cast either into ingots using two casting machines or blocks using molds. The finished lead is tested to determine if it meets client specifications and is then loaded into trucks and transported off-site for reuse.

As a part of the lead recycling, a blast furnace slag is generated. This slag contains mostly iron, silica and calcium oxides, with typically less than 1% lead. However, the slag is classified as a hazardous waste due to the lead content, since it typically cannot pass the TCLP analysis for lead. The slag is allowed to cool, crushed to small diameter, and treated using a mixture of cement and sodium silicate, as specified in the facility's Hazardous Waste Permit. The stabilized slag is rock-like in appearance and engineering properties. After treatment, the slag is placed in a permitted onsite Solid Waste landfill.

Operations are summarized on the Process Flow Diagram, Figure 2.

Since the original permit application was submitted in 1993, the facility has had several changes to the operations including:

- Installation of the current Battery Breaker Unit in 1995, which replaced the former MA breaker system.
- Upgrades to the groundwater monitoring system. New wells were installed in 1995 and initially sampled in 1998.
- Completed construction of the New Landfill, an onsite Type I solid waste landfill which began receiving stabilized blast furnace slag on July 3, 1998.
- Installation of the No. 7 Baghouse in November 1998.
- Completion of the Whole Battery Storage Area in 1999.
- Closure of the Old Landfill, an onsite Type I solid waste landfill closed in 1999.
- Discontinued use of the No. 2 Blast Furnace in December 1999.
- Taken refining kettles No. 2 and No. 11 out of service in January 2000.
- Taken the billet casting machine out of service in January 2000.

3. *LAC 33:V.517.J-1-9 The Permittee must provide a response to regulatory requirements detailing the equipment used at the facility, run-off prevention, water supply contamination prevention, water and air monitoring, prevention of undue personnel exposure, prevention of accidental ignition or reaction and prevention of non-permitted releases to the atmosphere.* Responses to these requirements have been revised as follows:

J. a description of procedures, structures, or equipment used at the facility to:

1. prevent hazards in unloading operations (for example, ramps, special forklifts);

Response

The lead-bearing materials are received in containers (i.e., drums or batteries on pallets) and off loaded directly into the process units or stored in one of three container storage areas. Forklifts are used to handle the pallets of lead-bearing materials. The dock is equipped with guard rails to prevent a forklift from sliding off of the dock. The operator and other facility personnel are trained in the use of forklifts and associated safety procedures. Front-end loaders are used to transport the lead bearing raw material, prior to recycling.

2. prevent runoff from hazardous waste handling areas to other areas of the facility or environment, or to prevent flooding (for example, berms, dikes, trenches);

Response

The permitted container storage areas are bermed to prevent runoff and runon and slope to collection points for transfer to the wastewater drainage and collection system. Exide does not accept any waste that has free liquids, so that all of the materials handled by the Baton Rouge smelter are dry. Two of the container storage areas (the Whole Battery Storage Area and the K069/D008 Storage Area) are located under roofs to prevent rainwater from accumulating with the waste. The wastes are stored on pallets to elevate them above any spills. The third storage area (the Truck/Trailer Storage Area) has spent batteries that are stored in closed trailers. The trailers prevent rainfall from mixing with the batteries and elevate the waste away from stormwater. Berms and grading are shown on Figure 5 (K069/D008 Storage Area), Figure 6 (Truck/Trailer Storage Area), and Figure 7 (Whole Battery Storage Area).

The Slag Stabilization unit is located under a roof, and is sloped to floor sumps that transmit wash-down water and any accumulated liquids to the plant's wastewater treatment unit. Figure 4 shows the grading of the Slag Stabilization unit.

The Containment Building is totally enclosed with walls and a roof. Any water generated from wash-down activities drains to floor sumps and is pumped to the wastewater treatment unit. Dust suppression is used on feed piles of material as needed in Area 1 of the Containment Building (see Figure 4, Containment Building Map). The suppression is designed to keep the feed

piles moist to control dust but not wet so that free liquids will be generated. Application of water for dust control is also presented in Appendix 13, Dust Suppression Operational Procedure. Area 2 of the Containment Building (Figure 4) is used for the initial staging of desulfurized lead paste from the Battery Breaker unit prior to recycling. The paste stored in this area is visibly moist and may contain free liquids. Lead oxide paste is a red-brown, high density solid material with a moisture content less than 5%. The liquids generated in this area are drained to a sump and pumped to the Battery Breaker unit where the water is treated and reused in the process.

3. **monitoring leachate control;**

Response
The K069/D008 container storage area does not have waste that contains free liquids; therefore, leachate control does not apply. The Slag Stabilization unit also does not process waste that contains free liquids and leachate control does not apply.

The two container storage areas that contain spent lead-acid batteries have impervious floors (concrete overlain by asphalt) as shown in Figures 6 (Truck/Trailer Storage Area) and Figure 7 (Whole Battery Storage Area) and are inspected daily to insure that none of the batteries are broken or leaking. Any liquid within the areas drains to a collection point for transfer to the wastewater treatment system.

The Containment Building stores dry material in Area 1. Any ponded liquid generated during application of water for dust control is pumped to the wastewater treatment system. Area 2 of the building is used for storage of desulfurized battery paste, which is moist and may contain free liquids. Lead oxide paste is a red-brown, high density solid material with a moisture content less than 5%. Any leachate from Area 2 is drained to a sump and pumped to the Battery Breaker Unit where it is processed.

4. **prevent contamination of water supplies;**

Response
Exide maintains all waste storage and treatment facilities to prevent the generation of runoff from these areas into the environment. Waste materials are stored only in permitted container storage areas and Interim Status Containment Building. Any water generated from washdown of the operational parts of the facility is transmitted to the facility's Waste Water Treatment Unit via concrete drainage trenches and pipes, where it is treated prior to discharge. Water treatment includes an initial filtration, chemical treatment and flocculation and a final filtration to remove any excess particles.

5. **monitor water and air pollution affecting area outside site;**

Response
Exide discharges all water from Outfall 001 under the provisions of Water Discharge permit LA0004464. Exide maintains a Stormwater Pollution

Prevention Plan (Appendix 21) that details efforts at the Baton Rouge smelter to reduce and control water pollution. Weekly samples of treated process water from Outfall 001 are analyzed for lead, arsenic, antimony, zinc, total suspended solids, oil and grease and TOC. Stormwater runoff samples are also collected from Outfalls 002 and 003. The locations of the three outfalls are shown on Figure 1. All air emissions are regulated by Exide's Air Permit 0840-00004-00. All emission points are vented to control devices to filter particulate and lead emissions. The control devices, fabric filter baghouse, are tested regularly to insure compliance. A schematic of the air handling system is provided as Figure 8.

6. **mitigate effects of equipment failure, power outages, inclement weather, or other abnormal conditions;**

Response

The facility is manned 24-hours per day 7 day per week. If there is a power outage or equipment failure, personnel will be available to respond and control the situation. The Battery Breaker Unit is equipped with a backup power generator so that if the power is lost the unit will have enough power to process the batteries that are already in the system. If the power is lost to the furnace area, the operations will be stopped immediately since the air system will be shut down. The furnace feed systems will be shutdown in the event of a power outage and the material in the furnaces currently will be either be allowed to flow out via gravity or left in the furnace to be pumped out once the power is restored.

7. **prevent undue exposure of personnel to hazardous waste (for example, protective clothing);**

Response

As a part of Exide's corporate employee exposure prevention program, all personnel that enter the facility must wear respiratory protection to reduce exposure to lead. The facility issues all employees personal work clothing, hard hats, safety glasses and steel-toed work boots. Work clothing and respirators are washed at Exide's onsite laundry facility at the end of each shift. Special protective equipment is provided to employees depending on the job or task, such as powered air supply respirators, tyvek suits, heat resistant and chemical resistant gloves and splash guard face shields. All protective equipment is removed during decontamination prior to exiting hazardous waste areas.

8. **prevent accidental ignition or reaction of ignitable, reactive, or incompatible wastes as required to demonstrate compliance with LAC 33:V.1517; and**

Response

Exide only receives wastes that are non-reactive and compatible with the lead recycling process. The facility has a strict screening process that begins before the waste is received at the facility. Generators must complete a detailed waste profile that is reviewed by the Baton Rouge environmental group and production manager prior to acceptance. The waste profile is

provided in the Waste Analysis Plan in Appendix 4. After the waste arrives, it is weighed in at the front gate scale and unloaded. During the unloading, waste is visually inspected to insure that it matches the profile. Waste may also be tested in Exide's onsite laboratory for total lead to confirm the profile and determine the proper recycling method.

9. prevent nonpermitted releases to the atmosphere.

Response
The materials handled by the facility do not produce organic vapors. The main source of possible releases to the atmosphere is in the form of dust and smoke produced during the recycling process. All emission points are vented to control devices that control releases to the atmosphere. The Containment Building operates under negative pressure to control dust emissions and utilizes water spray to suppress dust in Area 1. A road sweeper is used to clean the facility's pavement.

Exide operates the facility in accordance with all appropriate air permitting requirements.

4. *LAC 33:V.517.M-N, The Permittee must provide a brief summary of the information contained in the Training Manual and the Closure and Post-Closure Plan.*

A summary of the Training Manual (LAC 33:V.517.L) has been provided as follows:

L. an outline of both the introductory and continuing training programs by owners or operators to prepare persons to operate or maintain the TSD facility in a safe manner as required to demonstrate compliance with LAC 33:V.1515. A list of general qualifications of key operating positions and a brief description of how training will be designed to meet actual job tasks in accordance with these requirements;

Response
Exide has a comprehensive training program at the Baton Rouge smelter. The Training Manual is included as Appendix 8. The program addresses OSHA regulations, LDEQ regulations and Corporate Health, Safety and Environmental policies. The manual lists the training topics and provides an outline of the training given for each topic. Training topics include medical surveillance, lockout/tagout, confined space entry, hearing conservation, respiratory protection, powered industrial truck safety, hazard communication, HAZWOPER, the facility contingency plan, environmental regulations, spill response, work practice training, and DOT hazardous material training. All new employees will undergo initial employee orientation training. All new employees will go through at least 6-months of on-the-job training with experienced personnel after to beginning work. All training is documented with records maintained in the facility operating record. Annual refresher training is also conducted and documented. The manual also presents job descriptions with employee qualifications.

A summary of the Closure and Post-Closure Plan (LAC 33:V.517.M-N) has been provided as follows:

M. a copy of the closure plan and, where applicable, the post-closure plan required by LAC 33:V.3511, 3523, and 1915. Include, where applicable, as part of the plans, specific requirements in LAC 33:V.1915, 2117, 2315, 2521, 2719, 2911, 3121, 3203 and 3207;

Response
Exide has developed a Closure and Post-Closure Plan that details the procedures that will be followed for closing all of the permitted hazardous waste units at the Baton Rouge smelter. Appendix 9 is Exide's Closure and Post-Closure Plan. The plan describes the closure procedures that will be used for the Slag Stabilization area, Containment Building, K069/D008 Storage Area, Truck/Trailer Storage Area and Whole Battery Storage Area including removing any existing waste, decontamination, sampling and analysis and documentation. The plan also includes cost estimates for the closure procedures. The cost estimates take into account the additional cost for closure of the Containment Building resulting from the upgrades in the floor construction at Area 2. Post-closure care activities are not required for the hazardous waste units as they will be clean closed. The plan also includes post-closure care procedures and cost estimates for the two closed hazardous waste piles. The post-closure care procedures include cap integrity inspections, maintenance of the cap, and groundwater monitoring.

N. for hazardous waste disposal units that have been closed, documentation that notices required in LAC 33:V.3517 have been filed;

Response
The required notice for two closed hazardous waste cells located at the Baton Rouge smelter was filed on July 8, 1988. Any additional closures will be accompanied by the notices required in LAC 33:V.3517.

5. *LAC 33:V.517.Q, The Permittee must revise the insurance policy to indicate the changes to the cost estimates.*

A revised certificate of insurance has been provided as Appendix 22 of this NOD Response document.

6. *LAC 33:V.517.T.4.c, The Permittee must indicate the revisions to the RFI, RFA, Appendix 3 and in the responses to LAC 33:V.516.C.*

This citation addresses plumes of groundwater contamination at the facility. No plume of contamination is known to have entered the groundwater from the Exide facility, therefore this citation does not apply.

7. *General Comment, Throughout the application, the Permittee responds that Exide proposes no change to the response submitted in the original application when significant changes have been made since the original application was submitted. The Permittee must revise*

these responses to indicate the changes at the facility over the past 10+ years (i.e., Operational, Contingency, Closure and Post-Closure and Emergency Plans).

Revised responses to applicable citations have been provided. A summary of changes at the facility since the original application was presented in the response to comment 2.

8. *General Comment, Throughout the application the Permittee responds that certain regulations do not apply. The Permittee must provide a brief explanation why the regulations do not apply.*

A brief explanation as to why the regulations do not apply has been provided at the applicable locations.

9. *General Comment, Throughout the application the Permittee references plans, figures and sections of the application. The Permittee must provide a brief summary of the information referenced.*

A brief summary of the referenced information has been provided at the applicable locations.

10. *LAC 33:V.517.T.7.b.i-ii, For regulatory requirements that may not be applicable, the Permittee must provide a brief explanation. The Permittee must provide a brief summary of Figure 2.*

A brief explanation has been provided for the citations that are not applicable. A brief summary of Figure 2 has also been provided as follows:

b. methods and processes utilized:

i. facility capacity for each disposal method;

Response
Exide is not a hazardous waste disposal facility; therefore, this section is not applicable.

ii. detailed description of each process or method:

Response
The Baton Rouge smelter recycles spent lead-acid batteries and other lead bearing materials. The flow of material for recycling is illustrated on Figure 2, the Process Flow Diagram, that show the steps taken in the recycling process.

The recycling process begins with the receipt of materials. Batteries and other lead-bearing materials are received in tractor-trailers. The trailers are weighed in at the guard house scale, inspected and logged in before they enter the gate. The materials are then directed to the Battery Breaker Unit to

be unloaded. Batteries are received on pallets secured with shrink wrap. The pallets are unloaded using forklifts. The batteries are loaded into a stainless-steel vibrating screen and then dumped into an inclined belt. Batteries are processed in the Battery Breaker Unit by crushing them in a hammer mill and hydraulically separating the component parts. The sulfuric acid is neutralized and crystallized to form a sodium sulfate salt that is sold as a product. The plastic from the battery casings is washed and shipped off-site to make new batteries. The lead paste is recycled on-site to produce metallic lead for making new batteries. Lead oxide paste is a red-brown, high density solid material with a moisture content less than 5%.

If the batteries are not immediately recycled, they are stored in two permitted storage areas. The Whole Battery Storage Area is located directly north of the Battery Breaker Area. When the breaker unit is down for repairs or maintenance, the batteries are unloaded onto this storage unit. Batteries are stored on pallets at the Whole Battery Storage Area.

The Truck/Trailer Storage Area is a parking area located between the guard house and the Battery Breaker Area. The Truck/Trailer Storage Area is designed to hold batteries and other lead-bearing materials in tractor trailers. This unit allows Exide the flexibility of leaving a trailer in to the permitted storage area and processing the batteries at a later date.

The majority of other recyclable materials such as battery plates, lead oxide, metallic lead, drosses, baghouse dust, metallic lead waste and scrap are received in either in steel drums or Gaylord boxes. The material is weighed in at the Exide scale and sent to the loading dock to be unloaded. Drums are taken to the feed pile area where they are dumped and the contents inspected. The empty drums are washed, crushed and sent off-site to be recycled. The lead-bearing material is processed in the blast furnace or the reverberatory furnace. Slag generated by the reverb furnace is then refined to further recover lead.

11. *LAC 33:V.517.T.7.b.iii, The Permittee must explain the processing of the material and the plan for receipt of the material.*

The response to this citation has been revised as follows:

iii. storage and disposal procedures:

(a) plans for receipt, checking, processing, segregation of incompatible wastes, and odor control; and

<u>Response</u>
The Baton Rouge smelter recycles spent lead-acid batteries and other lead bearing materials. The recycling process begins with the receipt of materials. Batteries and other lead-bearing materials are received in tractor-trailers. The trailers are weighted in at the guard house scale, inspected and logged in before they enter the gate. The materials are then directed to the Battery Breaker Unit to be unloaded. Batteries are received on pallets secured with

shrink wrap. The pallets are unloaded using forklifts. The batteries are loaded into a stainless-steel vibrating screen and then dumped into an inclined belt. Batteries are processed in the Battery Breaker Unit by crushing them in a hammer mill and hydraulically separating the component parts. The sulfuric acid is neutralized and crystallized to form a sodium sulfate salt that is sold as a product. The plastic from the battery casings is washed and shipped off-site to make new batteries. The lead paste is recycled on-site to produce metallic lead for making new batteries. Lead oxide paste is a red-brown, high density solid material with a moisture content less than 5%.

If the batteries are not immediately recycled, they are stored in two permitted storage areas. The Whole Battery Storage Area is located directly north of the Battery Breaker Area. When the breaker unit is down for repairs or maintenance, the batteries are unloaded onto this storage unit. Batteries are stored on pallets at the Whole Battery Storage Area.

The Truck/Trailer Storage Area is a parking area located between the guard house and the Battery Breaker Area. The Truck/Trailer Storage Area is designed to hold batteries and other lead-bearing materials in tractor trailers. This unit allows Exide the flexibility of storing a trailer in the permitted storage area and process the batteries at a later date.

The majority of other recyclable materials such as battery plates, lead oxide, metallic lead, drosses, baghouse dust, metallic lead waste and scrap are received in either in steel drums or Gaylord boxes. The material is weighed in at the Exide scale and sent to the loading dock to be unloaded. Drums are taken to the feed pile area where they are dumped and the contents inspected. The empty drums are washed, crushed and sent off-site to be recycled. The lead-bearing material is processed in the blast furnace or the reverberatory furnace. Slag generated by the reverb furnace is then refined to further recover lead.

The Containment Building (Figure 4) is comprised of three main areas. Area 1 is the Raw Material Storage Area. This area is utilized for the storage and mixing of dry hazardous wastes, scrap metals, drosses, slag, pastes, and battery components. Area 2 is the Paste Storage Area which is used for the initial staging of desulfurized lead pastes from the battery breaking/desulfurization process prior to moving the paste to the Raw Material Storage Areas for mixing and staging. The paste stored in this area is visibly moist and may contain free liquids. Lead oxide paste is a red-brown, high density solid material with a moisture content less than 5%. Areas 1 and 2 store hazardous waste prior to processing through the furnaces in the Production Area of the plant (Area 3).

Most of the spent lead acid storage batteries received are fed directly into battery breaker units. During peak operational periods, the batteries may be stored in either the Truck/Trailer storage areas or the Whole Battery Storage Area.

The Truck/Trailer container area has an impervious base which is sloped to a collection sump and is bermed to contain the liquid from 10 percent of the

stored batteries plus a 25 year-24 hour rain event. Collected water from the sump is pumped to the wastewater treatment plant for treatment.

The Whole Battery Container Storage Area has an impervious base that is sloped to a collection sump. The area is bermed to collect 10 percent of the liquid in the batteries and is under roof to preclude run on or run off. Any liquid collected in the sump is pumped to the battery breaker unit for neutralization prior to pumping to the wastewater treatment plant. Spent batteries are neither ignitable, reactive, or incompatible.

During normal operations, battery plates/oxides/lugs are drained at the battery breaking operation and transported to the Paste Storage Area (Area 2) of the Containment Building. Area 2 is used for the initial staging of neutralized lead paste (paste) from the battery breaking/desulfurization process prior to moving the paste to the Raw Material Storage Areas (Area 1) for mixing and staging prior to processing through the furnaces in the Production Area (Area 3) of the plant. The paste stored in this area may contain free liquids. Lead oxide paste is a red-brown, high density solid material with a moisture content less than 5%. The materials stored in the Containment Building are not ignitable, reactive, or incompatible.

Proposed upgrades for Area 2 presented in the October 17, 2001 permit modification include a sloped primary barrier consisting of 6 inches of concrete, an HDPE liner and acid brick to prevent migration of hazardous constituents. Drainage from this primary barrier system is directed to sumps to minimize the accumulation of free liquids on the primary barrier. Beneath the primary barrier is a secondary barrier and leak detection system which consists of a granular drainage layer with perforated PVC collection lines that is constructed to interrupt any liquids that may penetrate the primary liner systems. Beneath the granular drainage layer is a 1.5-inch layer of asphalt and a 6-inch layer of concrete that acts as a secondary barrier layer to prevent migration of hazardous constituents. Drawings of this design are included as Appendix 20.

Area 1 is utilized for the storage of lead materials containing no free liquids such as battery components, indigenous wastes, and slag. These materials are not ignitable, reactive, or incompatible. This area is constructed of an impermeable concrete primary barrier. The floors and walls of Area 1 are the primary barrier system. The primary barrier system is constructed of man-made materials designed to withstand the movement of and contact with personnel, waste, and handling equipment during the operating life of the unit and are appropriate for the physical and chemical characteristics of the lead bearing materials to be managed. Sketches of the floor constructions in the storage area (Area 1) are included with the professional engineer's certification documents in Appendix 12. These sketches depict the area's barrier system.

Battery plates/oxide/lugs received from off-site are also stored in the dry Containment Building storage area. These materials are not ignitable, reactive, or incompatible. These lead bearing materials do not contain free liquids but do contain some moisture which inherently prevents/controls

fugitive emissions. However Exide does use wetting to control dust on the roadway/traffic areas in compliance with OSHA lead standard and the secondary lead smelter NESHAP standard.

Exide will conduct weekly inspections of the Containment Building and the storage units as detailed in the Inspection Plan and Schedule in Appendix 5 to insure that the units are being operated properly and that no leaks/releases have occurred to the air, ground, or water. The Inspection Plan includes daily, weekly, monthly and quarterly inspections and the associated documentation procedures.

K069 and D008 wastes are received and stored in the K069/D008 container storage area. These materials are packaged in sealed containers and placed on pallets. The materials are neither ignitable, reactive, or incompatible and do not contain free liquids.

Finally, Exide has a Dust Suppression procedure, the details of which are included in Appendix 13. Fresh water sprays are used as needed to control dust in Area 1 of the Containment Building. Incompatible wastes are not received at the Containment Building and odor control is not necessary as lead bearing wastes typically do not generate odors.

(b) life of each facility based on projected use;

Response

Exide is an ongoing entity. Storage of recyclable material will continue as long as the facility is operational. Operation of the facility and associated waste management units is expected to continue for a minimum of thirty years. For permitting purposes, the approximate timeframe that the facility is expected to continue operation is until the year 2021; however this date may be extended.

(c) describe recordkeeping procedures, types of records to be kept, and use of the records by management to control the operation; and

Response

Exide maintains all required environmental records in the facilities' Environmental Office. Records include manifests of both incoming and outgoing hazardous waste, Annual Hazardous Waste Reports, Waste Acceptance information, training records, copies of all permits, permit modifications and correspondence from the regulatory agencies, inspection records, NOD and Compliance Orders, groundwater monitoring data and reports, closure cost estimates, financial assurance documents, certificates of insurance, operating records, current WH-1 form and change of ownership records.

(d) monitoring and recording of incoming wastes;

Response

Exide has a strict screening process that lead bearing material generators must comply with prior to the material being accepted by the Baton Rouge

smelter. This screening process includes the analysis and review of new waste streams prior to receipt, to verify chemical and physical characteristics, and the completion of waste profiles. The waste screening process is discussed in detail in the Waste Analysis Plan in Appendix 4. Exide documents the weight of each shipment of spent lead-acid batteries and other lead-bearing materials received. Loads are visually inspected and analyzed for total lead at arrival to confirm the material matches the manifest.

12. *LAC 33:V.1117, The Permittee must provide a brief summary of the sections referenced in the Contingency Plan.*

This section has been revised to provide a brief summary of the Contingency Plan:

§1117. Contingency Plan

Each generator shall prepare a contingency plan. The contingency plan must include the information as specified in LAC 33:V.1513.A, B, C, D.2, and F. The contingency plan shall include a section describing emergency response procedure as specified in LAC 33:V.1513.F.

Response

The RCRA Contingency Plan and Emergency Response Plan was developed to help the facility minimize hazards to human health and the environment from fires, explosions, or unplanned sudden and non-sudden releases of hazardous materials to the environment. The Plan includes assignment of duties to personnel, emergency response procedures, types of emergency situations, procedures for plan or unit shutdowns, the alarm system and types and locations of emergency equipment.

The plan is currently on file with local fire, police departments, hospitals and emergency response teams. The plan lists the name, addresses, and phone numbers (office and home) of the emergency coordinator and outlines the responsibilities for alternate emergency coordinators in the event that the primary emergency coordinator is not present.

The Contingency Plan includes emergency response procedures including procedures that will be followed in the event of a natural disaster, chemical spill, release or fire. The contingency plan is included as Appendix 6.

Exide will maintain a copy of the contingency plan and all revisions of the plan at the facility. Additional copies have been submitted to the local police departments, fire departments, hospitals, and state and local emergency response teams so that they may be called upon to provide emergency services.

13. *LAC 33:V.1503.B.2, The Permittee must explain the capabilities of diverting run-on from adjoining land after a storm. The explanation should include surface and subsurface information.*

This section has been revised as follows:

2. Drainage. The site must have the capability to control and/or contain run-off from the maximum rainfall in 24 hours from a 25-year storm (when maximum

rain fall records are not available, the design standard shall be 12 inches below 31 degrees North latitude and nine inches above 31 degrees North latitude) and must have the capability to divert run-on from adjoining land (outside limits of hazardous waste site or if part of an industrial complex, outside limits of company property) from such a storm from the site (surface and subsurface).

Response
In order to prevent runoff, the facility is graded to drain inward. The stormwater collection consists of surface drainage in the form of an asphalt swale at the perimeter. Grading and the swale directs stormwater to the Wastewater Drainage and Collection System which was designed to manage a twenty-four hour, twenty-five year storm event. As the site is elevated in comparison to adjoining lands, run-on does not occur due to the topography. The only subsurface drainage is in the vicinity of the Containment Building, where subsurface drainage trenches are used to direct stormwater through the building. The potential for minor run-on from adjacent roads at the east and south perimeters is controlled with the swales. Any run-on that may occur is directed to the Wastewater Drainage and Collection System. Exide's stormwater management system, and run-on and run-off controls have successfully managed Tropical Storm Isidore and Hurricane Lili. Except as noted above, subsurface run-on and run-off control features are not present at the facility.

14. *LAC 33:V.1505.C.3, The Permittee must explain how the spilled material and the material trapped in the sumps will be disposed.*

This section has been revised as follows:

3. Any spilled material or material trapped in sumps that is a hazardous waste or that will be disposed of as a hazardous waste must be cleaned up in a timely manner.

Response
Exide acknowledges and understands this citation. Any spilled material or material trapped in sumps that is a hazardous waste will be disposed of as a hazardous waste in a timely manner. If the material can be reclaimed, the spilled material or material trapped in sumps will be containerized for storage and recycled in the furnaces. If the material cannot be reclaimed, the spilled material or material trapped in sumps will be containerized and disposed off-site at a facility permitted to dispose of the hazardous waste.

15. *LAC 33:V.1509.A, The Permittee must explain how problems are identified and corrected before they harm human health and the environment.*

Exide has revised this section as follows:

§1509. General Inspection Requirements

A. The owner or operator must inspect his facility for malfunctions and deterioration, operator errors, and discharges which may be causing or may lead to:

1. **a release of hazardous waste; or**
2. **a threat to human health.**

The owner or operator must conduct these inspections often enough to identify problems in time to correct them before they harm human health or the environment.

Response
Exide will inspect the facility on a regular basis. The Inspection Plan is included as Appendix 5 and includes the schedule for facility inspections that are designed to detect any malfunction, deterioration, operator errors or discharges that may lead to a release of hazardous waste or a threat to human health or the environment. Problems are identified visually by the inspector and are documented on the inspection forms provided in Appendix 5. If any problems or malfunctions are noted during the inspection, Exide will immediately correct the problem and remedy the situation. Exide will note the repairs and corrective action on the inspection forms. The type of repair or correction depends on the problem or malfunction. Spills and discharges will be managed in accordance with the Spill Prevention, Control and Countermeasures Plan provided in Appendix 16. Container deterioration would be corrected by transferring materials to the furnace for recycling or transferring the materials to an intact container for additional storage. Operator errors will be corrected immediately by discussing the situation with the operator and identifying the appropriate methods to conduct the work.

16. *LAC 33:V.1511.B-G, The Permittee must explain how the design and operation of the facility minimizes the possibility of a fire, explosion, and release (sudden and non-sudden), etc. The responses must indicate the changes to the facility since the original application was submitted (i.e., changes to the Health and Safety and the Prevention and Preparedness Plan).*

These sections have been revised as follows:

B. **Design and Operation of a Facility. Facilities must be designed, constructed, maintained, and operated to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment.**

Response
Exide understands and acknowledges this provision. The three container storage areas, the treatment unit and the Containment Building at Exide have all been designed, maintained and operated to maximize safety of personnel, minimize threats to public health and the environment and to preserve the value of the facilities and promote efficiency and effectiveness of their operation. Exide utilizes the best engineering designs and practices available, conforms to regulatory requirements and pays strict attention to employees' health and safety.

Fires and explosions are initially minimized by not accepting flammable or explosive materials and by not storing incompatible wastes in the same storage area. Materials not acceptable to the facility are returned to the generator. Fires and explosions are also minimized by maintaining a clean facility including daily floor

sweeping and decontamination of equipment at the building exits. Releases of materials are minimized by the walls and floors of the Truck/Trailer Storage Area, the Whole Battery Storage Area and the Containment Building. Release of emissions are controlled in the Containment Building through an air handling system such that the building operates under negative pressure. In the event that a fire, explosion or release occurs, the measures indicated in the RCRA Contingency and Emergency Response Plan (Appendix 6) and the Spill Prevention, Control and Countermeasures Plan (Appendix 16) will be followed. Response procedures include contacting the On-Site Coordinator; assessing the situation; notifying the appropriate local and state agencies; taking measures to prevent recurrence including stopping operations, collecting and containing released substances and isolating tanks; and submitting required reports. The Contingency Plan includes assignment of duties to personnel, emergency response procedures, types of emergency situations, procedures for plan or unit shutdowns, the alarm system and types and locations of emergency equipment.

Changes have not occurred to the facility's overall recycling procedures; however, the plans associated with operation of the facility have been modified since the original permit submission to maintain regulatory compliance and safe operations. These plans include the Waste Analysis Plan (Appendix 4), the Inspection Plan and Schedule (Appendix 5), the RCRA Contingency and Emergency Response Plan (Appendix 6), the Dust Suppression Operational Procedure (Appendix 13), the Training Manual (Appendix 8), and the Spill Prevention, Control and Countermeasures Plan (Appendix 16). Historic modifications to these plans are not summarized here as only the most current versions of each of these plans is used at the facility. These plans are included as Appendices to this permit renewal.

C. **Required Equipment. All facilities must be equipped with the following, unless it can be demonstrated to the administrative authority that none of the hazards posed by waste handled at the facility could require a particular kind of equipment specified below:**

1. **an internal communications or alarm system capable of providing immediate emergency instruction (voice or signal) to facility personnel;**

   Response
   Exide understands and acknowledges this provision. Exide has an established internal communications system that includes a facility alarm system, two-way radio communications and a telephone pager system that will all be utilized to provide emergency instructions to facility personnel.

2. **a device, such as a telephone (immediately available at the scene of operations) or a hand-held two-way radio, capable of summoning emergency assistance from local police departments, fire departments, or state or local emergency response teams;**

   Response
   Exide understands and acknowledges this provision. All supervisors and many of the operators at the facility carry two-way radios to maintain immediate communications. In the event of an emergency, Exide will utilize the two-way radios to call for assistance.

3. **portable fire extinguishers, fire control equipment (including special extinguishing equipment, such as that using foam, inert gas, or dry chemicals), spill control equipment, and decontamination equipment; and**

Response
Exide understands and acknowledges this provision. Portable fire extinguishers are located near all possible combustion sources. Exide has Class-D fire extinguishers located in areas where molten metal is handled and also in the Chemical Warehouse where refining chemicals are stored. All of the control room and electrical panels have CO_2 extinguishers. The Contingency Plan (Appendix 6), outlines the fire extinguisher program and has a map showing the location of all fire extinguishers.

4. **water at adequate volume and pressure to supply water hose streams, or foam producing equipment, or automatic sprinklers, or water spray systems.**

Response
Exide understands and acknowledges this provision. Adequate volume and pressure to supply water hoses is provided. Exide maintains two on site water wells, a primary and backup. The water is pumped to a water tower with a capacity of 10,000 gallons.

D. **Testing and Maintenance of Equipment. All facility communications or alarm systems, fire protection equipment, spill control equipment, and decontamination equipment, where required, must be tested and maintained as necessary to assure its proper operation in time of emergency.**

Response
Exide's emergency response system is tested on a regular basis. All of the fire extinguishers at the facility are inspected at least quarterly, by a certified inspector. Spill control equipment, emergency communications equipment and alarm systems are inspected monthly, as specified in the Inspection Plan (Appendix 5). A checklist of the inspections is kept on file in the Environmental Office. All equipment is maintained in good working condition following the manufacture's specifications. If repairs are needed they are performed immediately.

E. **Access to Communications or Alarm System**

1. **Whenever hazardous waste is being poured, mixed, spread, or otherwise handled, all personnel involved in the operation must have immediate access to an internal alarm or emergency communication device, either directly or through visual or voice contact with another employee, unless it can be demonstrated to the administrative authority that such a device is not required.**

Response
Exide understands and acknowledges this provision. Any Exide personnel involved in handling hazardous waste will have access to emergency communications, typically in the form of two-way radios.

2. **Anytime there is at least one employee on the premises while the facility is operating, he must have immediate access to a device such as a telephone, immediately available at the scene of operation, or a hand-held two-way radio, capable of summoning external emergency assistance, unless it can be demonstrated to the administrative authority that such a device is not required.**

   Response
   Exide understands and acknowledges this provision. Any Exide personnel on the premises will have access to emergency communications, either in the form of two-way radios or telephone access.

F. **Required Aisle Space. The owner or operator must maintain aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of facility operation in an emergency, unless it can be demonstrated to the administrative authority that aisle space is not needed for any of these purposes.**

   Response
   Exide understands and acknowledges this provision. Exide will maintain sufficient aisle space in every area of the plant to allow for unobstructed movement of personnel and equipment in case of emergency.

G. **Arrangements with Local Authorities**

1. **The owner or operator must attempt to make the following arrangements, as appropriate for the type of waste handled at his facility and the potential need for the services of these organizations:**

   a. **arrangements to familiarize police, fire departments, and emergency response teams with the layout of the facility, properties of hazardous waste handled at the facility and associated hazards, places where facility personnel would normally be working, entrances to and roads inside the facility, and possible evacuation routes;**

      Response
      Exide understands and acknowledges this provision. Exide has delivered copies of the RCRA Contingency Plan and Emergency Response Plan to the State Police, the Baker Fire Department and the Alsen Fire Department. The plan documents the layout of the facility, the facility hazards, evacuation routes and location of emergency equipment. The telephone contact numbers for each of these agencies is listed in the plan and posted in control rooms at the Exide facility.

   b. **where more than one police and fire department might respond to an emergency, agreements designating primary emergency authority to a specific police and a specific fire department, and**

agreements with any others to provide support to the primary emergency authority;

Response
Exide understands and acknowledges this provision. Exide has arranged that the Alsen Fire Department be designated as the primary emergency authority and that the Baker Fire Department shall provide support. The telephone contact numbers for each of these agencies is listed in the plan and posted in control rooms at the Exide facility.

c. **agreements with state emergency response teams, emergency response contractors, and equipment suppliers; and**

Response
Exide understands and acknowledges this provision. Exide has provided a copy of the RCRA Contingency Plan and Emergency Response Plan to the Louisiana State Police – Right-to-Know Unit. Additionally, Exide has an arrangement with the Louisiana State Police – Hazmat Response Unit. Exide also has contracted CHEMTREC, as a first responder for any over the road spills or emergencies that may occur. The telephone contact numbers for each of these agencies is listed in the plan and posted in control rooms at the Exide facility.

d. **arrangements to familiarize local hospitals with the properties of hazardous waste handled at the facility and the types of injuries or illnesses, which could result from fires, explosions, or releases at the facility.**

Exide understands and acknowledges this provision. Exide has provided a copy of the RCRA Contingency Plan and Emergency Response Plan to Lane Memorial Hospital in Zachery, LA. Additionally, Exide has contracted Hill Medical Associates to provide medical assistance in non-critical situations.

2. **Where state or local authorities decline to enter into such arrangements, the owner or operator must document the refusal in the operating record.**

Response
Exide understands and acknowledges this provision. If a state or local authority should decline to enter into an arrangement or decline to continue an agreement, Exide will document the refusal in the operating records.

17. *LAC 33:V.1513.A-B, The Permittee must provide a brief summary of the information in the Contingency Plan and the Emergency Response Plan.*

These citations have been revised as follows:

§1513. Contingency Plan and Emergency Procedures

A. Purpose and Implementation of Contingency Plan

1. **Each owner or operator must have a contingency plan for his facility. The contingency plan must be designed to minimize hazards to human health or the environment from fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water.**

   Response
   Please refer to the RCRA Contingency Plan and Emergency Response Plan, Appendix 6. The plan was developed to help the facility minimize hazards to human health and the environment from fires, explosions, or unplanned sudden and non-sudden releases of hazardous materials to the environment. The Plan includes assignment of duties to personnel, emergency response procedures, types of emergency situations, procedures for plan or unit shutdowns, the alarm system and types and locations of emergency equipment.

2. **A contingency plan to be implemented in the event of an emergency shall be filed with the administrative authority and, after approval, with the local fire and police departments (if any operate in the area), hospitals and emergency response teams operating in the area which are subject to call by the operator or the department.**

   Response
   The RCRA Contingency Plan and Emergency Response Plan, is included as Appendix 6. The Plan includes assignment of duties to personnel, emergency response procedures, types of emergency situations, procedures for plan or unit shutdowns, the alarm system and types and locations of emergency equipment. The plan is currently on file with local fire, police departments, hospitals and emergency response teams.

3. **The provisions of the plan must be carried out immediately whenever there is a fire, explosion, or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment.**

   Response
   The provisions of the contingency plan will be carried out immediately whenever there is a fire, explosion, or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment.

4. **The plan shall be revised each time the facility operations are changed due to expansion, change in type or quantity of waste handled, or other changes which affect the degree or type of possible emergency situation.**

Response
Exide understands and acknowledges this provision. The plan shall be revised each time the facility operations are changed due to expansion, change in type or quantity of waste handled, or other changes that may affect the degree or type of possible emergency situation.

B. Content of Contingency Plan

1. **The contingency plan must describe the actions facility personnel must take to comply with LAC 33:V.1513.B and F in response to fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water at the facility.**

Response
Exide's RCRA Contingency Plan and Emergency Response Plan describe the actions facility personnel must take in response to fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to the environment. The plan is included in Appendix 6. The Plan includes assignment of duties to personnel, emergency response procedures, types of emergency situations, procedures for plan or unit shutdowns, the alarm system and types and locations of emergency equipment.

2. **If the owner or operator has already prepared a Spill Prevention, Control, and Countermeasures (SPCC) Plan, or some other emergency or contingency plan, he need only amend that plan to incorporate hazardous waste management provisions that are sufficient to comply with these requirements.**

Response
Exide maintains a SPCC Plan (Appendix 16). The plan includes facility background, a certification and the facility's preventative measures, and capability and procedures for taking corrective actions and/or countermeasures when a spill event occurs. Exide has also prepared a separate Contingency Plan (Appendix 6) which meets the requirements specified in these regulations.

3. **The plan must describe arrangements agreed to by local police departments, fire departments, hospitals, contractors, and state and local emergency response teams to coordinate emergency services.**

Response
The Contingency Plan describes arrangements agreed to by local police departments, fire departments, hospitals, contractors, and state and local emergency response teams to coordinate emergency services. The plan includes assignment of duties to personnel, emergency response procedures, types of emergency situations, procedures for plan or unit shutdowns, the alarm system and types and locations of emergency equipment.

4. **The plan must list names, addresses, and phone numbers (office and home) of all persons qualified to act as emergency coordinator, and this list must be kept up to date. When more than one person is listed, one must be named as primary emergency coordinator and others must be listed in the order in which they will a ssume r esponsibility a s alternates. For new facilities, this information must be supplied to the administrative authority at the time of certification, rather than at the time of permit application.**

   Response
   The plan lists the name, addresses, and phone numbers (office and home) of the emergency coordinator and outlines the responsibilities for alternate emergency coordinators in the event that the primary emergency coordinator is not present.

5. **The plan must include a list of all emergency equipment (where required) at the facility, such as fire extinguishing systems, spill control equipment, communications and alarm systems (internal and external), and decontamination equipment. This list must be kept up to date. In addition, the plan must include the location and a physical description of each item on the list and a brief outline of its capabilities.**

   Response
   The RCRA Contingency Plan and Emergency Response Plan contains a list of all emergency equipment maintained at the facility, including fire extinguishers, sprinkler systems, spill control equipment, communications and alarm systems, and decontamination equipment. This list is kept up to date by Exide's EHS staff. The plan includes the location and a physical description of each item on the list and a brief outline of its capabilities.

6. **The plan must include an evacuation plan for facility personnel where there is a possibility that evacuation could be necessary. The plan must describe signals to be used to begin evacuation, evacuation routes, and alternate evacuation routes.**

   Response
   Please refer to the RCRA Contingency Plan and Emergency Response Plan (Appendix 6) for the evacuation plan. The evacuation plan includes the routes for evacuation, assembly points and alarm signals to be used for beginning an evacuation.

18. *LAC 33:V.1515.A. The Permittee must provide a brief summary of the information in the Training Manual.*

This section has been revised as follows:

§1515. Personnel Training

A. Instruction Program

1. **Facility personnel must successfully complete a program of classroom instruction or on-the-job training that teaches them to perform their duties in a way that ensures the facility's compliance with the requirements of this Section. The owner or operator must ensure that this program includes all the elements described in the document required in LAC 33:V.1515.D.3.**

Response
Exide understands and will abide by the above provisions. All facility personnel have completed training, both on-the-job and classroom instruction, to teach them to perform their duties so that the facility is in compliance with the applicable regulations. Training topics include medical surveillance, lockout/tagout, confined space entry, hearing conservation, respiratory protection, powered industrial truck safety, hazard communication, HAZWOPER, emergency and contingency, environmental regulations, spill response, work practice, DOT hazardous materials, sexual harassment, blood borne pathogens, heat stress, fire extinguisher use, incipient fire control, fall protection, slip trip and fall hazard avoidance, proper lifting techniques and back protection. A copy of the current employee Training Manual is enclosed as Appendix 8. Training records are maintained on-site.

19. *LAC 33:V.1517.A, The Permittee must provide a response indicating compliance with this regulatory requirement.*

This citation has been revised as follows:

§1517. General Requirements for Ignitable, Reactive, or Incompatible Wastes

A. **The owner or operator must take precautions to prevent accidental ignition or reaction of ignitable or reactive waste. This waste must be separated and protected from sources of ignition or reaction including but not limited to: open flames, smoking, cutting and welding, hot surfaces, frictional heat, sparks (static, electrical, or mechanical), spontaneous ignition (e.g., from heat-producing chemical reactions), and radiant heat. While ignitable or reactive waste is being handled, the owner or operator must restrict smoking and open flame to specially designated locations. "No Smoking" signs must be conspicuously placed wherever there is a hazard from ignitable or reactive waste.**

Response
Exide understands and acknowledges this provision. The waste that Exide handles is typically not reactive or flammable, however, Exide will take precautions to prevent accidental ignition or reaction of ignitable, or reactive wastes. The waste will be separated and protected from sources of ignition or reaction including but not limited to: open flames, smoking, cutting or welding, hot surfaces, frictional heat, sparks (static, electrical, or mechanical), spontaneous ignition (e.g., from heat-producing chemical reactions), and radiant heat. Exide has "No Smoking" signs at the entry ways to the facility and maintains an No Smoking policy within the plant. If ignitable

or reactive waste is handled, Exide will restrict open flames to a specially designated location.

20. *LAC 33:V1517.D-F & LAC 33:V.1519.A-B, The Permittee stated that "Exide proposes no change to the response submitted in this section..." It is unclear to what response the Permittee is referring.*

Exide has revised the responses to these citations as follows:

§1517. General Requirements for Ignitable, Reactive or Incompatible Wastes

D. Treatment and storage facilities containing ignitable, reactive, or incompatible wastes shall be sufficiently separated or protected to prevent mixing, ignition, or reaction as a result of a spill, tank failure, or other cause. Protection shall include use of container materials compatible with the wastes contained therein.

Response
Exide understands and acknowledges this provision. The waste materials handled by Exide are not ignitable, reactive or incompatible. However, the facility is setup to separate different types wastes, and uses container materials that are compatible with wastes contained therein. Exide also does not accept any material that contains organic constituents, PCBs, organic lead, metallic aluminum, or free liquids.

The Waste Analysis Plan includes sampling of each shipment for analysis at the on-site laboratory. The Recyclable Material Analysis Record ER-185 is completed for each incoming material and, if applicable, an Acceptance Approval Certificate is submitted to the generator. If unacceptable wastes are received at the facility, the generator is contacted to resolve the discrepancy or the material is returned to the generator.

E. Any container, including tank trucks, used to transport waste shall be cleaned before leaving the disposal site. Such cleaning should be by a method or methods necessary to remove the hazardous constituents to a level which will not cause an incompatibility with any subsequent shipment and/or of itself render any future load hazardous. All material resulting from such cleaning shall be considered a hazardous waste unless otherwise approved by the administrative authority.

Response
Exide understands and acknowledges this provision. All containers used to transport waste will be cleaned out before leave the facility. Wash water generated from the washing of containers (tractor trailers or flat-bed trucks) is directed to the facility's waste water treatment unit.

F. When required to comply with LAC 33:V.1517.A and B, the owner or operator must document that compliance. This documentation may be based on references to published scientific or engineering literature, data from trial tests (e.g., bench scale or pilot scale tests), waste analyses, or the results of the

treatment of similar wastes by similar treatment processes and under similar operating conditions.

Response
Exide understands and acknowledges this provision. Results of waste analyses are documented on Form ER-185 and waste acceptance is documented on the Acceptance Approval Certificate.

§1519. General Waste Analysis

A. Hazardous Waste Chemical and Physical Analysis

1. Before an owner or operator treats, stores, or disposes of any hazardous waste, or non-hazardous wastes if applicable under LAC 33:V.3513.D, he or she must obtain a detailed chemical and physical analysis of a representative sample of the waste. At a minimum, this analysis must contain all the information which must be known to treat, store, or dispose of the waste in accordance with all requirements of LAC 33:V.Chapters 15 and 22.

Response
Exide understands and acknowledges this provision. Prior to receiving a new waste stream for recycling Exide will obtain a detailed chemical and physical analysis of a representative sample of the waste as detailed in the Waste Acceptance Program which is submitted in Appendix C of the Waste Analysis Plan (Appendix 4). The Recyclable Material Analysis Record ER-185 is completed for each incoming material and, if applicable, an Acceptance Approval Certificate is submitted to the generator. If unacceptable wastes are received at the facility, the generator is contacted to resolve the discrepancy or the material is returned to the generator.

2. The analysis may include data developed under LAC 33:V.Chapter 49 and existing published or documented data on the hazardous waste or on hazardous waste generated from similar processes.

[Comment: For example, the facility's records of analyses performed on the waste before the effective date of these regulations, or studies conducted on hazardous waste generated from processes similar to that which generated the waste to be managed at the facility, may be included in the data base required to comply with Subsection A.1 of this Section. The owner or operator of an off-site facility may arrange for the generator of the hazardous waste to supply part of the information required by Subsection A.1 of this Section, except as otherwise specified in LAC 33:V.2247.A and A.1. If the generator does not supply the information and the owner or operator chooses to accept a hazardous waste, the owner or operator is responsible for obtaining the information required to comply with this Section.]

Response
Exide understands and acknowledges this provision. The Waste Analysis Plan (Appendix 4) details the analysis required by Exide for acceptance.

3. **The analysis must be repeated as necessary to ensure that it is accurate and up to date. At a minimum, the analysis must be repeated:**

   a. **when the owner or operator is notified, or has reason to believe, that the process or operation generating the hazardous waste or nonhazardous waste if applicable under LAC 33:V.3513.D, has changed; and**
   b. **for off-site facilities, when the results of the inspection required in LAC 33:V.1519.A.4 indicate that the hazardous waste received at the facility does not match the waste designated in the accompanying manifest or shipping paper.**

   Response
   Exide understands and acknowledges this provision and will comply. Analysis will be repeated if the process or operation generating the waste has changed or if the materials delivered to the facility do not match the waste designated on the accompanying manifest or shipping paper. In addition, Exide's Acceptance Approval Certificates must be renewed annually.

4. **The owner or operator of an off-site facility must inspect and, if necessary, analyze each hazardous waste movement received at the facility to determine whether it matches the identity of the waste specified on the accompanying manifest or shipping paper.**

   Response
   Exide understands and acknowledges this provision. Each shipment of waste received by the Baton Rouge smelter is inspected and weighted to verify the accompanying manifest or shipping papers. Exide conducts periodic analysis of waste received for recycling to determine if they match the waste profile submitted by the generator.

B. **The owner or operator must develop and follow a written waste analysis plan that describes the procedures that he or she will carry out to comply with LAC 33:V.1519.A. He or she must keep this plan at the facility. At a minimum, the plan must specify:**

1. **the parameters for which each hazardous waste, or non-hazardous waste if applicable under LAC 33:V.3513.D, will be analyzed and the rationale for the selection of these parameters (i.e., how analysis for these parameters will provide sufficient information on the waste's properties to comply with LAC 33:V.1519.A);**

   Response
   Exide understands and acknowledges this provision. The testing parameters for each waste are listed in the Waste Analysis Plan in Appendix 4. Hazardous waste and coproducts are analyzed for total antimony, arsenic, barium, cadmium, chromium, copper, lead, mercury, selenium, silver, tin, zinc, fluoride, chloride, sulfide, aluminum and magnesium. Hazardous wastes will also be analyzed for TCLP arsenic, barium, cadmium, chromium,

lead, mercury, selenium and silver. Additional testing may also be conducted at the discretion of the Environmental Manager.

2. **the test methods as specified in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846 as incorporated by reference at LAC 33:V.110, or an equivalent method approved by the administrative authority, which will be used to test for these parameters; and**

   Response
   Exide understands and acknowledges this provision. All testing methods are listed in the Waste Analysis Plan (Appendix 4). The test methods follow SW-846 protocol and are performed by a certified laboratory.

3. **the sampling method which will be used to obtain a representative sample of the waste to be analyzed. A representative sample may be obtained using a method approved by the administrative authority;**

   [Comment: See LAC 33:V.105.I for related discussion.]

   Response
   Exide understands and acknowledges this provision. The sampling method is included in the Waste Analysis Plan in Appendix 4 of this document. A composite sample will be taken by observing the various objects present in the shipment and sampling representative quantities of the shipment.

4. **the plan must further specify the frequency with which the initial analysis of the waste will be reviewed or repeated to ensure that the analysis is accurate and up to date;**

   Response
   Exide understands and acknowledges this provision. Exide reviews analysis at least annually as described in the Waste Analysis Plan in Appendix 4 of this document.

5. **the Quality Assurance and Quality Control (QA/QC) procedures used to ensure the waste sampling and analysis are satisfactory.**

   Response
   Exide understands and acknowledges this provision. The plan outlines QA/QC procedures for sampling and analysis. On-site laboratory QA procedures are described in Exide's Comprehensive Quality Assurance Manual and the Standard Operating Procedures provided in the Waste Analysis Plan in Appendix 4.

6. **the plan must further specify for off-site facilities the waste analyses that hazardous waste generators have agreed to supply; and**

   Response
   Exide understands and acknowledges this provision. Generators are required to provide a completed Exide Recyclable Material Analysis Record

ER-185; a complete description of the process which generates the material including the product(s) produced and other by-products and waste streams generated by the process and a process flow diagram; information on the quantity of the material produced and available methods of packaging and transportation; a completed Letter of Certification for exemption for burning of lead-containing materials in industrial furnaces; and a complete letter of exemption for organic air emission standards.

7. **where applicable, the methods which will be used to meet the additional waste analysis requirements for specific waste management methods as specified in LAC 33:V.1517, 1711.D, 1741.D, 1753, 2515, 3107, and 2245;**

   Response
   Exide understands and acknowledges this provision.

8. **for surface impoundments exempted from land disposal prohibitions under LAC 33:V.2237, the procedures and schedules for:**

   a. **the sampling of impoundment contents,**
   b. **the analysis of test data, and**
   c. **the annual removal of residues which are not delisted under LAC 33:V.105.M or which exhibit a characteristic of hazardous waste and either:**

      i. **do not meet applicable treatment standards of LAC 33:V.Chapter 22.Subchapters A and B, or**
      ii. **where no treatment standards have been established**

         (a) **such residues are prohibited from land disposal under LAC 33:V.2213, or**
         (b) **such residues are prohibited from land disposal under LAC 33:V.2215; and**

         Response
         Exide does not operate a surface impoundment. Therefore, this requirement is not applicable.

9. **for owners and operators seeking an exemption to the air emission standards of LAC 33:V.Chapter 17. Subchapter C in accordance with LAC 33:V.1751:**

   a. **if direct measurement is used for the waste determination, the procedures and schedules for waste sampling and analysis, and the results of the analysis of test data to verify the exemption; or**
   b. **if knowledge of the waste is used for the waste determination, any information prepared by the facility owner or operator or by the generator of the hazardous waste, if the waste is received from off-site, that is used as the basis for knowledge of the waste.**

Response
Exide is not seeking an exemption under LAC 33:V.Chapter 17. Subchapter C; therefore, this provision does not apply.

The Permittee must explain and summarize the information in the Waste Analysis Plan.

A summary of the Waste Analysis Plan has been provided in the citations referenced above.

21. *LAC 33:V.1523.A, LAC 33:V.1525.A-B & LAC 33:V.1527.A-C, The Permittee stated that "Exide proposes no change to the response submitted in the original application" but a "revised" Inspection Plan was submitted. The Permittee must indicate the changes made at the facility since the original application was submitted. The Permittee must summarize the information in the Inspection Plan.*

Revised responses to these citations have been provided as follows:

§1523. Surveillance and Monitoring

A. Primary responsibility for the proper handling of hazardous wastes is assumed by the industry operating under these rules and regulations and cooperating with the department in meeting the purposes of the Act. As part of this responsibility, the owner or operator of any treatment, storage, or disposal facility shall develop a schedule of routine facility inspections and shall keep a log or record of all inspections carried out thereunder. The owner or operator shall likewise develop and adhere to a waste analysis plan to be approved by the department.

Response
Exide will comply with this citation. The Baton Rouge smelter has an Inspection Plan (Appendix 5) in place that contains a schedule of routine facility inspections. The Inspection Plan includes the types of inspections, the inspection schedule, the types of problems and inspection log documentation. The inspections are documented on a log kept in the Environmental Office. Exide also maintains and follows a Waste Analysis Plan (Appendix 4). The Waste Analysis Plan includes in-house waste sampling and analysis procedures, contract laboratory analysis, certification, standard operating procedures for slag analysis and analysis of incoming materials, waste acceptance approval certifications and contract laboratory QA/QC packages.

§1525. Emergency Response

A. Purpose. To provide for control and clean-up of accidental spills and other emergency situations involving hazardous wastes resulting from a violation of a requirement of these regulations or the Act.

Response
Exide acknowledges the purpose of this chapter and will comply.

B. Program. The department, working with the Department of Public Safety, will establish the following program:

1. **emergency response equipment and teams located in strategic locations;**
2. **emergency response plan involving a communication system, cooperation with local police and fire departments, training program based, as a minimum, on the "emergency information card," and an operations plan for each class of emergency situation; and**
3. **the Emergency Response Program will respond to all in-transit accidents and spills, and respond to on-site emergencies when called by the operator or in accordance with provisions of LAC 33:V.1513.F.**

Response
Exide acknowledges and understands the purpose for emergency response provisions in LAC 33:V.1525.B.

§1527. Receiving and Monitoring Incoming Waste

A. **Each site which treats, stores, or disposes of hazardous wastes generated off site shall be equipped to accomplish the following:**

1. **provide control of all incoming waste to prevent entry of unrecorded and unanalyzed hazardous waste; and**

Response
Exide acknowledges and understands this provision. Exide has controls in place including the Waste Acceptance Program, continuous facility security and monitoring of incoming material, and a waste inspection program of materials upon arrival at the facility to prevent the entry of unrecorded and unanalyzed hazardous waste.

2. **measure quantity and type by taking and analyzing a representative sample of waste received to verify the information on the manifest, and to determine proper method for handling and disposal.**

Response
Exide acknowledges and understands this provision. Each delivery is weighed and a representative sample is collected to verify the information in the manifest and to determine the proper method for recycling. Additional detail is provided in the Waste Analysis Plan (Appendix 4).

B. **Each facility within the site which receives hazardous wastes shall be equipped with necessary devices to record quantities, by classification or other identification, of hazardous wastes deposited into the facility system.**

Response
Exide acknowledges and understands this provision.

C. **Each site shall be equipped with a central control and recordkeeping system which tabulates information from LAC 33:V.1527.A.2 and B.**

Response
Exide acknowledges and understands this provision. Central controls and a recordkeeping system are maintained by the Baton Rouge smelter. The system tracks receipt of waste and tabulates quantities and type.

22. *LAC 33:V.1529.B.9 & 11, The Permittee must indicate the changes made at the facility since the original application was submitted (i.e., cost estimates, monitoring, analytical data, etc.).*

Revised responses to these citations have been provided as follows:

9. **Monitoring, testing, or analytical data, and corrective action where required by LAC 33:V.1504, 1711.C–F, 1713, 1741.D-I, 1743,1751-1767, 1903, 1907, 1911, 2304, 2306, 2309, 2504, 2507, 2508, 2509, 2709, 2711, 2719, 2904, 2906, 2907, 3119, 3203, 3205, and Chapter 33, as well as corrective action cites.**

Response
Exide maintains in the environmental files all monitoring, testing, or analytical data, and corrective action data required by LAC 33:V.1504, 1711.C–F, 1713, 1741.D-I, 1743,1751-1767, 1903, 1907, 1911, 2304, 2306, 2309, 2504, 2507, 2508, 2509, 2709, 2711, 2719, 2904, 2906, 2907, 3119, 3203, 3205, and Chapter 33, as well as corrective action cites. Changes to the environmental files have occurred since the original permit application as data has been added to the facility records.

11. **All closure cost estimates and, for disposal facilities, all post-closure cost estimates.**

Response
Exide maintains all required closure cost and post-closure cost estimates. The closure cost and post-closure cost estimates were last revised in 2000 and have been adjusted for inflation to reflect 2003 costs. Appendix 9 contains a copy of the Closure Plan for the Baton Rouge smelter. The Closure Plan includes general closure procedures; specific closure procedures for the slag stabilization area, the containment building, the K069/D008 storage area, the Truck/Trailer storage area and the whole battery storage area; post-closure care procedures; and a closure and post-closure cost estimate.

23. *LAC 33:V.1531.D-E, The Permittee must provide a response indicating the change in ownership since the original application was submitted.*

The response has been revised as follows to indicate that Exide Technologies is the facility owner:

D. **Before transferring ownership or operation of a facility during its operating life, or of a disposal facility during the post-closure care period, the owner or operator must notify the new owner or operator in writing of the requirements of LAC 33:V.Subpart 1.**

Response
The facility was formerly operated by Schuylkill Metals Corporation and is now owned and operated by Exide Technologies. Exide was made aware of the requirements of LAC 33:V.Subpart 1 at the change of ownership. Exide acknowledges these requirements and will adhere to this provision if future transfer of ownership or operation occurs during the facility's operating life or post-closure care period.

E. **An owner's or operator's failure to notify the new owner or operator of the requirements in no way relieves the new owner or operator of his obligation to comply with all applicable requirements.**

Response
Exide has complied with all applicable requirements since the change of ownership. Exide acknowledges this citation and will continue to adhere to all applicable requirements.

24. *LAC 33:V.1533.A, The Permittee must provide a response detailing compliance with the interim status regulations. The purpose of this modification application is to permit the interim status unit.*

The response has been revised:

§1533. Relationship to Interim Status Standards

A facility owner or operator who has fully complied with the requirements for interim status, as defined in section 3005(e) of RCRA and regulations under LAC 33:V.4301, must comply with the regulations specified in LAC 33:V.Chapter 43 in lieu of the regulations in this Chapter, until final administrative disposition of his permit application is made, except as provided under LAC 33:V.Chapter 26.

[Comment: As stated in section 3005(a) of RCRA, after the effective date of regulations under that section, i.e., LAC 33:V.Chapters 3, 5, and 7, the treatment, storage, or disposal of hazardous waste is prohibited except in accordance with a permit. Section 3005(e) of RCRA provides for the continued operation of an existing facility which meets certain conditions until final administrative disposition of the owner's or operator's permit application is made.]

Response
Exide acknowledges and will adhere to this provision. The operation of the Containment Building complies with interim status in accordance with LAC 33:V.Chapter 43. A permit modification application was submitted to LDEQ on October 17, 2001 to renovate portions of the Containment Building floor and include the Containment Building in the Hazardous Waste Permit. Comments on the application were received from LDEQ on March 18, 2003. The Containment Building will continue to operate under interim status until approval of the October 2001 modification application has been received.

25. *LAC 33:V.Chapter 17, The Permittee must respond to the regulatory requirements of this chapter. If parts of this chapter do not apply, the Permittee must provide a brief explanation.*

The Permittee must address the requirements concerning containers and the storage of containers (i.e., drums).

Responses to each regulatory requirement of Chapter 17 have been provided as follows:

§1701. Applicability

The regulations in this Chapter apply to owners and operators of facilities that treat, store, or dispose of hazardous wastes (except as provided in LAC 33:V.1501 and 1705).

Response

Exide treats and stores hazardous wastes; therefore, the requirements of this chapter are applicable.

Subchapter A. Process Vents

§1705. Applicability

The regulations in this Subchapter apply to owners and operators of facilities that treat, store, or dispose of hazardous wastes (except as provided in LAC 33:V.1501).

A. Except for LAC 33:V.1711.D and E, this Subchapter applies to process vents associated with distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations that manage hazardous wastes with organic concentrations of at least 10 parts per million by weight (ppmw), if these operations are conducted in one of the following:

1. a unit that is subject to the permitting requirements of LAC 33:V.Chapters 3, 5, 7, 31, and 43;

2. a unit (including a hazardous waste recycling unit) that is not exempt from the permitting requirements under LAC 33:V.1109.E (i.e., a hazardous waste recycling unit that is not a 90-day tank or container) and that is located on a hazardous waste management facility otherwise subject to the permitting requirements of LAC 33:V.Chapters 3, 5, 7, 31, and 43; or a unit that is exempt from permitting under the provisions of LAC 33:V.1109.E (i.e., a 90-day tank or container) and is not a recycling unit under the provisions of LAC 33:V.4105.

Response

Exide does not utilize process vents associated with distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations that manage hazardous wastes. Furthermore, Exide does not store, process, or dispose of any material with organic concentrations above 10 ppm. Therefore, this Subchapter does not apply.

B. For the owner or operator of a facility subject to the requirements of this Subchapter and who received a final permit under RCRA Section 3005 and LAC 33:V.Subpart 1 prior to December 6, 1996, the requirements of this Subchapter must be incorporated when the permit is reissued under LAC 33:V.705 or reviewed under LAC 33:V.315. Until such date when the owner and operator receive a final permit incorporating the requirements of this Subchapter, the owner or operator are subject to the requirements of LAC 33:V.Chapter 43.

C. **The requirements of this Subchapter do not apply to the pharmaceutical manufacturing facility, commonly referred to as the Stonewall Plant, located at Route 340 South, Elkton, Virginia, provided that facility is operated in compliance with the requirements contained in a Clean Air Act permit issued in accordance with 40 CFR 52.2454. The requirements of this Subchapter shall apply to the facility upon termination of the Clean Air Act permit issued pursuant to 40 CFR 52.2454.**

D. **The requirements of this Subchapter do not apply to the process vents at a facility where the facility owner or operator certifies that all of the process vents that would otherwise be subject to this Subchapter are equipped with and operating air emission controls in accordance with the process vent requirements of an applicable Clean Air Act regulation codified under 40 CFR part 60, part 61, or part 63. The documentation of compliance under regulations at 40 CFR part 60, part 61, or part 63 shall be kept with, or made readily available with, the facility operating record.**

Response
Exide acknowledges these provisions; however, this subchapter is not applicable. Exide does not utilize process vents associated with distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations that manage hazardous wastes. Furthermore, Exide does not store, process, or dispose of any material with organic concentrations above 10 ppm.

§1707. Standards: Process Vents

A. **The owner or operator of a facility with process vents associated with distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations managing hazardous wastes with organic concentrations of at least 10 ppmw shall either:**

1. **reduce total organic emissions from all affected process vents at the facility below 1.4 kg/h (3 lb/h) and 2.8 Mg/yr (3.1 tons/yr); or**
2. **reduce, by use of a control device, total organic emissions from all affected process vents at the facility by 95 weight percent.**

B. **If the owner or operator installs a closed-vent system and control device to comply with the provisions of LAC 33:V.1707.A, the closed-vent system and control device must meet the requirements of LAC 33:V.1709.**

C. **Determinations of vent emissions and emission reductions or total organic compound concentrations achieved by add-on control devices may be based on engineering calculations or performance tests. If performance tests are used to determine vent emissions, emission reductions, or total organic compound concentrations achieved by add-on control devices, the performance tests must conform with the requirements of LAC 33:V.1711.C.**

D. **When an owner or operator and the administrative authority do not agree on determinations of vent emissions and/or emission reductions or total organic compound concentrations achieved by add-on control devices based on**

engineering calculations, the procedures in LAC 33:V.1711.C shall be used to resolve the disagreement.

§1709. Standards: Closed-Vent Systems and Control Devices

A. Compliance

1. Owners or operators of closed-vent systems and control devices used to comply with provisions of LAC 33:V.Chapter 17 shall comply with the provisions of this Section.

a. The owner or operator of an existing facility who cannot install a closed-vent system and control device to comply with the provisions of this Subchapter on the effective date that the facility becomes subject to the provisions of this Subchapter must prepare an implementation schedule that includes dates by which the closed-vent system and control device will be installed and in operation. The controls must be installed as soon as possible, but the implementation schedule may allow up to 30 months after the effective date that the facility becomes subject to this Subchapter for installation and start-up.

b. Any unit that begins operation after December 21, 1990, and is subject to the provisions of this Subchapter when operation begins, must comply with the rules immediately (i.e., must have control devices installed and operating on start-up of the affected unit); the 30-month implementation schedule does not apply.

c. The owner or operator of any facility in existence on the effective date of an EPA regulatory amendment that renders the facility subject to this Subchapter shall comply with all requirements of this Subchapter as soon as practicable, but no later than 30 months after the regulation's effective date. When control equipment required by this Subchapter cannot be installed and begin operation by the effective date of the regulation, the facility owner or operator shall prepare an implementation schedule that includes the following information: specific calendar dates for award of contracts or issuance of purchase orders for the control equipment; initiation of on-site installation of the control equipment; completion of the control equipment installation; and performance of any testing to demonstrate that the installed equipment meets the applicable standards of this Subchapter. The owner or operator shall enter the implementation schedule in the operating record or in a permanent, readily available file located at the facility.

d. Owners and operators of facilities and units that become newly subject to the requirements of this Subchapter after December 8, 1997, due to an action other than those described in Subsection A.2.c of this Section must comply with all applicable

requirements immediately (i.e., must have control devices installed and operating on the date the facility or unit becomes subject to this Subchapter; the 30-month implementation schedule does not apply).

B. Control Devices. A control device involving vapor recovery (e.g., a condenser or adsorber) shall be designed and operated to recover the organic vapors vented to it with an efficiency of 95 weight percent or greater unless the total organic emission limits of LAC 33:V.1707.A.1 for all affected process vents can be attained at an efficiency less than 95 weight percent.

C. Combustion Device. An enclosed combustion device (e.g., a vapor incinerator, boiler, or process heater) shall be designed and operated to reduce the organic emissions vented to it by 95 weight percent or greater; to achieve a total organic compound concentration of 20 ppmv, expressed as the sum of the actual compounds, not carbon equivalents, on a dry basis corrected to 3 percent oxygen; or to provide a minimum residence time of 0.50 seconds at a minimum temperature of 760°C. If a boiler or process heater is used as the control device, then the vent stream shall be introduced into the flame zone of the boiler or process heater.

D. Flare

1. Visible Emissions. A flare shall be designed for and operated with no visible emissions as determined by the methods specified in LAC 33:V.1709.E.1, except for periods not to exceed a total of five minutes during any two consecutive hours.

2. Flame. A flare shall be operated with a flame present at all times, as determined by the methods specified in LAC 33:V.1709.F.2.c.

3. Combustible Heating Value. A flare shall be used only if the net heating value of the gas being combusted is 11.2 MJ/scm (300 Btu/scf) or greater if the flare is steam-assisted or air-assisted, or if the net heating value of the gas being combusted is 7.45 MJ/scm (200 Btu/scf) or greater if the flare is nonassisted. The net heating value of the gas being combusted shall be determined by the methods specified in LAC 33:V.1709.E.2.

4. Steam-Assisted or Nonassisted

   a. A steam-assisted or nonassisted flare shall be designed for and operated with an exit velocity, as determined by the methods specified in LAC 33:V.1709.E.3, of less than 18.3 m/s (60 ft/s), except as provided in LAC 33:V.1709.D.4.b and c.

   b. A steam-assisted or nonassisted flare designed for and operated with an exit velocity, as determined by the methods specified in LAC 33:V.1709.E.3, equal to or greater than 18.3 m/s (60 ft/s) but less than 122 m/s (400 ft/s) is allowed if the net heating value of the gas being combusted is greater than 37.3 MJ/scm (1,000 Btu/scf).

c. A steam-assisted or nonassisted flare designed for and operated with an exit velocity, as determined by the methods specified in LAC 33:V.1709.E.3, of less than the velocity, V_{max}, as determined by the method specified in LAC 33:V.1709.E.4, and less than 122 m/s (400 ft/s), is allowed.

5. Air-Assisted. An air-assisted flare shall be designed and operated with an exit velocity less than the velocity, V_{max}, as determined by the method specified in LAC 33:V.1709.E.5.

6. Compliance. A flare used to comply with this Section shall be steam-assisted, air-assisted, or nonassisted.

E. Visible Emissions

1. Reference Method 22 in LAC 33:III.6079 shall be used to determine the compliance of a flare with the visible emission provisions of this Subchapter. The observation period is two hours and shall be used according to Method 22.

2. The net heating value of the gas being combusted in a flare shall be calculated using the following equation:

where:

$$H_T = K\left[\sum_{i=1}^{n} C_i H_i\right]$$

H_T = net heating value of the sample, MJ/scm; where the net enthalpy per mole of offgas is based on combustion at 25°C and 760 mm Hg, but the standard temperature for determining the volume corresponding to 1 mol is 20°C;

K = constant, 1.74×10^{-1} (1/ppm) (g mol/scm) (MJ/kcal), where standard temperature for (g mol/scm) is 20°C;

C_i = concentration of sample component i in ppm on a wet basis, as measured for organics by Reference Method 18 in LAC 33:III.6071 and measured for hydrogen and carbon monoxide by ASTM D 1946-82; and

H_i = net heat of combustion of sample component i, kcal/9 mol at 25°C and 760 mm Hg. The heats of combustion may be determined using ASTM D 2382-83 if published values are not available or cannot be calculated.

3. The actual exit velocity of a flare shall be determined by dividing the volumetric flow rate (in units of standard temperature and pressure), as determined by the methods in LAC 33:III.Chapter 60 as appropriate, by the unobstructed (free) cross-sectional area of the flare tip.

4. The maximum allowed velocity in m/s, V_{max}, for a flare complying with LAC 33:V.1709.D.4.c shall be determined by the following equation:

where:

$$LOG_{10}(V_{max}) = \frac{(H_T + 28.8)}{31.7}$$

28.8 = constant;

31.7 = constant;

H_T = the net heating value as determined in LAC 33:V.1709.E.2.\

5. The maximum allowed velocity in m/s, V_{max}, for an air-assisted flare shall be determined by the following equation:

where:

$$V_{max} = 8.706 + 0.7084(H_T)$$

8.706 = constant;

0.7084 = constant;

H_T = the net heating value as determined in LAC 33:V.1709.E.2.

F. Inspection and Monitoring. The owner or operator shall monitor and inspect each control device required to comply with this Section to ensure proper operation and maintenance of the control device by implementing the following requirements.

1. Install, calibrate, maintain, and operate according to the manufacturer's specifications a flow indicator that provides a record of vent stream flow from each affected process vent to the control device at least once every hour. The flow indicator sensor shall be installed in the vent stream at the nearest feasible point to the control device inlet but before the point at which the vent streams are combined.

2. Install, calibrate, maintain, and operate according to the manufacturer's specifications a device to continuously monitor control device operation as specified below:

   a. For a thermal vapor incinerator, a temperature monitoring device equipped with a continuous recorder. The device shall have an accuracy of ±1 percent of the temperature being monitored in °C or ±0.5°C, whichever is greater. The temperature sensor shall be installed at a location in the combustion chamber downstream of the combustion zone.

   b. For a catalytic vapor incinerator, a temperature-monitoring device equipped with a continuous recorder. The device shall be capable of monitoring temperature at two locations and have

an accuracy of ±1 percent of the temperature being monitored in °C or ±0.5°C, whichever is greater. One temperature sensor shall be installed in the vent stream at the nearest feasible point to the catalyst bed inlet, and a second temperature sensor shall be installed in the vent stream at the nearest feasible point to the catalyst bed outlet.

c. For a flare, a heat-sensing monitoring device equipped with a continuous recorder that indicates the continuous ignition of the pilot flame.

d. For a boiler or process heater having a design heat input capacity less than 44 MW, a temperature-monitoring device equipped with a continuous recorder. The device shall have an accuracy of ±1 percent of the temperature being monitored in °C or ± 0.5°C, whichever is greater. The temperature sensor shall be installed at a location in the furnace downstream of the combustion zone.

e. For a boiler or process heater having a design heat input capacity greater than or equal to 44 MW, a monitoring device equipped with a continuous recorder to measure a parameter or parameters that indicate that good combustion operating practices are being used.

f. For a condenser, either:

   i. a monitoring device equipped with a continuous recorder to measure the concentration level of the total organic compounds in the exhaust vent stream from the condenser, or

   ii. a temperature-monitoring device equipped with a continuous recorder. The device shall be capable of monitoring temperature with an accuracy of ±1 percent of the temperature being monitored in °C or ±0.5°C, whichever is greater. The temperature sensor shall be installed at a location in the exhaust vent stream from condenser exit (i.e., product side).

g. For a carbon adsorption system that regenerates the carbon bed directly in the control device such as a fixed-bed carbon adsorber, either:

   i. a monitoring device equipped with a continuous recorder to measure the concentration level of the total organic compounds in the exhaust vent stream from the carbon bed, or

   ii. a monitoring device equipped with a continuous recorder to measure a parameter that indicates the carbon bed is regenerated on a regular, predetermined time cycle.

3. Inspect the readings from each monitoring device required by LAC 33:V.1709.F.1 and 2 at least once each operating day to check control

device operation and, if necessary, immediately implement the corrective measures necessary to ensure that the control device operates in compliance with the requirements of this Section.

G. Carbon Adsorption System, Regenerative. An owner or operator using a carbon adsorption system such as a fixed-bed carbon adsorber that regenerates the carbon bed directly on-site in the control device shall replace the existing carbon in the control device with fresh carbon at a regular, predetermined interval that is no longer than the carbon service life established as a requirement of LAC 33:V.1713.B.4.c.vi.

H. Carbon Adsorption System, Nonregenerative. An owner or operator using a carbon adsorption system such as a carbon canister that does not regenerate the carbon bed directly on-site in the control device shall replace the existing carbon in the control device with fresh carbon regularly by using one of the following procedures:

1. Monitor the concentration level of the organic compounds in the exhaust vent stream from the carbon adsorption system on a regular schedule, and replace the existing carbon with fresh carbon immediately when carbon breakthrough is indicated. The monitoring frequency shall be daily or at an interval no greater than 20 percent of the time required to consume the total carbon working capacity established as a requirement of LAC 33:V.1713.B.4.c.vii, whichever is longer.

2. Replace the existing carbon with fresh carbon at a regular, predetermined interval that is less than the design carbon replacement interval established as a requirement of LAC 33:V.1713.B.4.c.vii.

I. Alternative Process or Operational Parameters. An alternative operational or process parameter may be monitored if it can be demonstrated that another parameter will ensure that the control device is operated in conformance with these standards and the control device's design specifications.

J. Alternative Control Device: Documentation. An owner or operator of an affected facility seeking to comply with the provisions of LAC 33:V.Chapters 9, 15, 17, 19, 21, 23, 25, 27, 28, 29, 31, 32, 33, 35, 37 by using a control device other than a thermal vapor incinerator, catalytic vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system is required to develop documentation including sufficient information to describe the control device operation and identify the process parameter or parameters that indicate proper operation and maintenance of the control device.

K. A closed-vent system shall meet either of the following design requirements:

1. a closed-vent system shall be designed to operate with no detectable emissions, as indicated by an instrument reading of less than 500 ppmv above background as determined by the procedure in LAC 33:V.1711.B and by visual inspections; or

2. a closed-vent system shall be designed to operate at a pressure below atmospheric pressure. The system shall be equipped with at least one pressure gauge or other pressure measurement device that can be read from a readily accessible location to verify that negative pressure is being maintained in the closed-vent system when the control device is operating.

L. The owner or operator shall monitor and inspect each closed-vent system required to comply with this Section to ensure proper operation and maintenance of the closed-vent system by implementing the following requirements:

1. each closed-vent system that is used to comply with Subsection K.1 of this Section shall be inspected and monitored in accordance with the following requirements:

a. an initial leak detection monitoring of the closed-vent system shall be conducted by the owner or operator on or before the date that the system becomes subject to this Section. The owner or operator shall monitor the closed-vent system components and connections using the procedures specified in LAC 33:V.1711.B to demonstrate that the closed-vent system operates with no detectable emissions, as indicated by an instrument reading of less than 500 ppmv above background;

b. after initial leak detection monitoring required in Subsection L.1.a of this Section, the owner or operator shall inspect and monitor the closed-vent system as follows:

i. closed-vent system joints, seams, or other connections that are permanently or semi-permanently sealed (e.g., a welded joint between two sections of hard piping or a bolted and gasketed ducting flange) shall be visually inspected at least once per year to check for defects that could result in air pollutant emissions. The owner or operator shall monitor a component or connection using the procedures specified in LAC 33:V.1711.B to demonstrate that it operates with no detectable emissions following any time the component is repaired or replaced (e.g., a section of damaged hard piping is replaced with new hard piping) or the connection is unsealed (e.g., a flange is unbolted);

ii. closed-vent system components or connections other than those specified in Subsection L.1.b.i of this Section shall be monitored annually and at other times as requested by the administrative authority, except as provided for in Subsection O of this Section, using the procedures specified in LAC 33:V.1711.B to demonstrate that the components or connections operate with no detectable emissions;

c. in the event that a defect or leak is detected, the owner or operator shall repair the defect or leak in accordance with the requirements of Subsection L.3 of this Section;

d. the owner or operator shall maintain a record of the inspection and monitoring in accordance with the requirements specified in LAC 33:V.1713;

2. each closed-vent system that is used to comply with Subsection K.2 of this Section shall be inspected and monitored in accordance with the following requirements:

a. the closed-vent system shall be visually inspected by the owner or operator to check for defects that could result in air pollutant emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in ductwork or piping or loose connections;

b. the owner or operator shall perform an initial inspection of the closed-vent system on or before the date that the system becomes subject to this Section. Thereafter, the owner or operator shall perform the inspections at least once every year;

c. in the event that a defect or leak is detected, the owner or operator shall repair the defect in accordance with the requirements of Subsection L.3 of this Section; and

d. the owner or operator shall maintain a record of the inspection and monitoring in accordance with the requirements specified in LAC 33:V.1713;

3. the owner or operator shall repair all detected defects as follows:

a. detectable emissions, as indicated by visual inspection or by an instrument reading greater than 500 ppmv above background, shall be controlled as soon as practicable, but not later than 15 calendar days after the emission is detected, except as provided for in Subsection L.3.c of this Section;

b. a first attempt at repair shall be made no later than five calendar days after the emission is detected;

c. delay of repair of a closed-vent system for which leaks have been detected is allowed if the repair is technically infeasible without a process unit shutdown or if the owner or operator determines that emissions resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair. Repair of such equipment shall be completed by the end of the next process unit shutdown; and

d. the owner or operator shall maintain a record of the defect repair in accordance with the requirements specified in LAC 33:V.1713.

M. Closed-vent systems and control devices used to comply with provisions of this Chapter shall be operated at all times when emissions may be vented to them.

N. The owner or operator using a carbon adsorption system to control air pollutant emissions shall document that all carbon that is a hazardous waste and that is removed from the control device is managed in one of the following manners, regardless of the average volatile organic concentration of the carbon:

1. regenerated or reactivated in a thermal treatment unit that meets one of the following:

   a. the owner or operator of the unit has been issued a final permit under LAC 33:V.Chapter 5 which implements the requirements of LAC 33:V.Chapter 32;

   b. the unit is equipped with and operating air emission controls in accordance with the applicable requirements of Subchapters A and C of this Chapter or of LAC 33:V.Chapter 43; or

   c. the unit is equipped with and operating air emission controls in accordance with a national emission standard for hazardous air pollutants under 40 CFR part 61 or part 63;

2. incinerated in a hazardous waste incinerator for which the owner or operator either:

   a. has been issued a final permit under LAC 33:V.Chapter 5 that implements the requirements of LAC 33:V.Chapter 31; or

   b. has designed and operates the incinerator in accordance with the interim status requirements of LAC 33:V.Chapter 43.Subchapter N;

3. burned in a boiler or industrial furnace for which the owner or operator either:

   a. has been issued a final permit under LAC 33:V.Chapter 5 that implements the requirements of LAC 33:V.Chapter 30; or

   b. has designed and operates the boiler or industrial furnace in accordance with the interim status requirements of LAC 33:V.Chapter 30.

O. Any components of a closed-vent system that are designated, as described in LAC 33:V.1713.C.9, as unsafe to monitor are exempt from the requirements of Subsection L.1.b.ii of this Section if:

1. the owner or operator of the closed-vent system determines that the components of the closed-vent system are unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with Subsection L.1.b.ii of this Section; and

2. the owner or operator of the closed-vent system adheres to a written plan that requires monitoring the closed-vent system components using the procedure specified in Subsection L.1.b.ii of this Section as frequently as practicable during safe-to-monitor times.

§1711. Test Methods and Procedures

A. Each owner or operator subject to the provisions of this Subchapter shall comply with the test methods and procedures requirements provided in this Section.

B. When a closed-vent system is tested for compliance with no detectable emissions, as required in LAC 33:V.1709.L, the test shall comply with the following requirements.

1. Monitoring shall comply with Reference Method 21 in LAC 33:III.6077.

2. The detection instrument shall meet the performance criteria of Reference Method 21.

3. The instrument shall be calibrated before use on each day of its use by the procedures specified in Reference Method 21.

4. Calibration gases shall be:

a. zero air (less than 10 ppm of hydrocarbon in air);

b. a mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 ppm methane or n-hexane.

5. The background level shall be determined as set forth in Reference Method 21.

6. The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible, as described in Reference Method 21.

7. The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 ppm for determining compliance.

C. Performance tests to determine compliance with LAC 33:V.1707.A and with the total organic compound concentration limit of LAC 33:V.1709.C shall comply with the following:

1. Performance tests to determine total organic compound concentrations and mass flow rates entering and exiting control devices shall be conducted and data reduced in accordance with the following reference methods and calculation procedures:

a. Method 2 in LAC 33:III.6003 for velocity and volumetric flow rate.

b. Method 18 in LAC 33:III.6071 for organic content.

c. Each performance test shall consist of three separate runs; each run shall be conducted for at least one hour under the conditions that exist when the hazardous waste management unit is operating at the highest load or capacity level reasonably expected to occur. For the purpose of determining total organic compound concentrations and mass flow rates, the average of

results of all runs shall apply. The average shall be computed on a time-weighted basis.

d. Total organic mass flow rates shall be determined by the following equation:

where:

E_h = total organic mass flow rate, kg/h;

Q_{2sd} = volumetric flow rate of gases entering or exiting control

$$E_h = Q_{2sd}\left[\sum_{i=1}^{n} C_i MW_i\right][0.0416][10^{-6}]$$

device, as determined by Method 2, dscm/h;

n = number of organic compounds in the vent gas;

C_i = organic concentration in ppm, dry basis, of compound i in the vent gas, as determined by Method 18;

MW_i = molecular weight of organic compound i in the vent gas, kg/kg-mol;

0.0416 = conversion factor for molar volume, kg-mol/m^3 (@ 293 K and 760 mm Hg); and

10^{-6} = conversion from ppm, ppm^{-1}.

e. The annual total organic emission rate shall be determined by the following equation:

where:

E_A = total organic mass emission rate, kg/y;

E_h = total organic mass flow rate for the process vent, kg/h; and

$$E_A = (E_h)(H)$$

H = total annual hours of operations for the affected unit, h.

f. Total organic emissions from all affected process vents at the facility shall be determined by summing the hourly total organic mass emission rates (E_h as determined in LAC 33:V.1711.C.1.d) and by summing the annual total organic mass emission rates (E_A, as determined in LAC 33:V.1711.C.1.e) for all affected process vents at the facility.

2. The owner or operator shall record such process information as may be necessary to determine the conditions of the performance tests. Operations during periods of start-up, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test.

3. The owner or operator of an affected facility shall provide, or cause to be provided, performance testing facilities as follows:

   a. sampling ports adequate for the test methods specified in LAC 33:V.1711.C.1;

   b. safe sampling platform(s);

   c. safe access to sampling platform(s); and

   d. utilities for sampling and testing equipment.

4. For the purpose of making compliance determinations, the time-weighted average of the results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances beyond the owner or operator's control, compliance may, upon the administrative authority's approval, be determined using the average of results of the two other runs.

D. To show that a process vent associated with a hazardous waste distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operation is not subject to the requirements of this Subchapter, the owner or operator must make an initial determination that the time-weighted, annual average total organic concentration of the waste managed by the waste management unit is less than 10 ppmw using one of the following two methods.

1. Direct measurement of the organic concentration of the waste using the following procedures:

   a. The owner or operator must take a minimum of four grab samples of waste for each waste stream managed in the affected unit under process conditions expected to cause the maximum waste organic concentration.

   b. For waste generated on-site, the grab samples must be collected at a point before the waste is exposed to the atmosphere such as in an enclosed pipe or other closed system that is used to transfer the waste after generation to the first affected distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operation. For waste generated off-site, the grab samples must be collected at the inlet to the first waste management unit that receives the waste provided the waste has been transferred to the facility in a closed system such as a tank truck and the waste is not diluted or mixed with other waste.

   c. Each sample shall be analyzed, and the total organic concentration of the sample shall be computed using Method 9060 or 8260 of Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, EPA Publication SW-846, as incorporated by reference at LAC 33:V.110.

d. The arithmetic mean of the results of the analyses of the four samples shall apply for each waste stream managed in the unit in determining the time-weighted, annual average total organic concentration of the waste. The time-weighted average is to be calculated using the annual quantity of each waste stream processed and the mean organic concentration of each waste stream managed in the unit.

2. Using knowledge of the waste to determine that its total organic concentration is less than 10 ppmw. Documentation of the waste determination is required. Examples of documentation that shall be used to support a determination under this provision include production process information documenting that no organic compounds are used, information that the waste is generated by a process that is identical to a process at the same or another facility that has previously been demonstrated by direct measurement to generate a waste stream having a total organic content less than 10 ppmw, or prior speciation analysis results on the same waste stream where it can also be documented that no process changes have occurred since that analysis that could affect the waste total organic concentration.

E. The determination that distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations manage hazardous wastes with time-weighted, annual average total organic concentrations less than 10 ppmw shall be made as follows:

1. by the effective date that the facility becomes subject to the provisions of this Subchapter or by the date when the waste is first managed in a waste management unit, whichever is later; and

2. for continuously generated waste, annually; or

3. whenever there is a change in the waste being managed or a change in the process that generates or treats the waste.

F. When an owner or operator and the administrative authority do not agree on whether a distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operation manages a hazardous waste with organic concentrations of at least 10 ppmw based on knowledge of the waste, the procedures in Method 8260 Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, EPA Publication SW-846, as incorporated by reference at LAC 33:V.110 may be used to resolve the dispute.

§1713. Recordkeeping Requirements

A. Compliance

1. Each owner or operator subject to the provisions of this Subchapter shall comply with the recordkeeping requirements of this Section.

2. An owner or operator of more than one hazardous waste management unit subject to the provisions of this Subchapter may comply with the recordkeeping requirements for these hazardous waste management

units in one recordkeeping system if the system identifies each record by each hazardous waste management unit.

B. Implementation Schedule and Documentation. Owners and operators must record the following information in the facility operating record:

1. For facilities that comply with the provisions of LAC 33:V.1709.A.2, an implementation schedule that includes dates by which the closed-vent system and control device will be installed and in operation. The schedule must also include a rationale of why the installation cannot be completed at an earlier date. The implementation schedule must be in the facility operating record by the effective date that the facility becomes subject to the provisions of this Subchapter.

2. Up-to-date documentation of compliance with the process vent standards in LAC 33:V.1707, including:

   a. Information and data identifying all affected process vents, annual throughput and operating hours of each affected unit, estimated emission rates for each affected vent and for the overall facility (i.e., the total emissions for all affected vents at the facility), and the approximate location within the facility of each affected unit (e.g., identify the hazardous waste management units on a facility plot plan).

   b. Information and data supporting determinations of vent emissions and emission reductions achieved by add-on control devices based on engineering calculations or source tests. For the purpose of determining compliance, determinations of vent emissions and emission reductions must be made using operating parameter values (i.e., temperatures, flow rates, or vent stream organic compounds and concentrations) that represent the conditions that result in maximum organic emissions, such as when the waste management unit is operating at the highest load or capacity level reasonably expected to occur. If the owner or operator takes any action (e.g., managing a waste of different composition or increasing operating hours of affected waste management units) that would result in an increase in total organic emissions from affected process vents at the facility, then a new determination is required.

3. Where an owner or operator chooses to use test data to determine the organic removal efficiency or total organic compound concentration achieved by the control device, a performance test plan. The test plan must include:

   a. a description of how it is determined that the planned test is going to be conducted when the hazardous waste management unit is operating at the highest load or capacity level reasonably expected to occur. This shall include the estimated or design flow rate and organic content of each vent stream and define the

acceptable operating ranges of key process and control device parameters during the test program;

b. a detailed engineering description of the closed-vent system and control device including:

i. manufacturer's name and model number of control device;

ii. type of control device;

iii. dimensions of the control device;

iv. capacity; and

v. construction materials;

c. a detailed description of sampling and monitoring procedures, including sampling and monitoring locations in the system, the equipment to be used, sampling and monitoring frequency, and planned analytical procedures for sample analysis.

4. Documentation of compliance with LAC 33:V.1709 shall include the following information:

a. a list of all information references and sources used in preparing the documentation;

b. records, including the dates, of each compliance test required by LAC 33:V.1709.K;

c. if engineering calculations are used, a design analysis, specifications, drawings, schematics, and piping and instrumentation diagrams based on the appropriate sections of "APTI Course 415: Control of Gaseous Emissions," as incorporated by reference at LAC 33:V.110, or other engineering texts acceptable to the administrative authority that present basic control device design information. Documentation provided by the control device manufacturer or vendor that describes the control device design in accordance with LAC 33:V.1713.B.4.c.i-vii may be used to comply with this requirement. The design analysis shall address the vent stream characteristics and control device operation parameters as specified below;

i. for a thermal vapor incinerator, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate. The design analysis shall also establish the design minimum and average temperature in the combustion zone and the combustion zone residence time;

ii. for a catalytic vapor incinerator, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate. The design analysis shall also establish the design minimum and average temperatures across the catalyst bed inlet and outlet;

iii. for a boiler or process heater, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate. The design analysis shall also establish the design minimum and average flame zone temperatures, combustion zone residence time, and description of method and location where the vent stream is introduced into the combustion zone;

iv. for a flare, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate. The design analysis shall also consider the requirements specified in LAC 33:V.1709.D;

v. for a condenser, the design analysis shall consider the vent s tream c omposition, constituent concentrations, flow rate, relative humidity, and temperature. The design analysis shall also establish the design outlet organic compound concentration level, design average temperature of the condenser exhaust vent stream, and design average temperatures of the coolant fluid at the condenser inlet and outlet;

vi. for a carbon adsorption system such as a fixed-bed absorber that regenerates the carbon bed directly on-site in the control device, the design analysis shall consider the vent stream composition, constituent concentrations, flow rate, relative humidity, and temperature. The design analysis shall also establish the design exhaust vent stream organic compound concentration level, number and capacity of carbon beds, type and working capacity of activated carbon used for carbon beds, design total steam flow over the period of each complete carbon bed regeneration cycle, duration of the carbon bed steaming and cooling/drying cycles, design carbon bed temperature after regeneration, design carbon bed regeneration time, and design service life of carbon;

vii. for a carbon adsorption system such as a carbon canister that does not regenerate the carbon bed directly on-site in the control device, the design analysis shall consider the vent stream composition, constituent concentrations, flow rate, relative humidity, and temperature. The design analysis shall also establish the design outlet organic concentration level, capacity of carbon bed, type and working capacity of activated carbon used for the carbon bed, and design carbon replacement interval based on the total carbon working capacity of the control device and source operating schedule;

d. a statement signed and dated by the owner or operator certifying that the operating parameters u sed i n t he d esign analysis reasonably represent the conditions that exist when the

hazardous waste management unit is or would be operating at the highest load or capacity level reasonably expected to occur.

e. a statement signed and dated by the owner or operator certifying that the control device is designed to operate at an efficiency of 95 percent or greater unless the total organic concentration limit of LAC 33:V.1707.A is achieved at an efficiency less than 95 weight percent, or the total organic emission limits of LAC 33:V.1707.A for all affected process vents at the facility can be attained by a control device involving vapor recovery at an efficiency less than 95 weight percent. A statement provided by the control device manufacturer or vendor certifying that the control equipment meets the design specifications may be used to comply with this requirement;

f. if performance tests are used to demonstrate compliance, all test results.

C. Design: Documentation, Monitoring, Operating, and Inspection. Design documentation and monitoring, operating, and inspection information for each closed-vent system and control device required to comply with the provisions of LAC 33:V.Chapters 9, 15, 17, 19, 21, 23, 25, 27, 28, 29, 31, 32, 33, 35, and 37 shall be recorded and kept up-to-date in the facility operating record. The information shall include:

1. a description and the date of each modification made to the closed-vent system or control device design;

2. identification of operating parameter, description of monitoring device, and diagram of monitoring sensor location or locations used to comply with LAC 33:V.1709.F.1 and 2;

3. monitoring, operating, and inspection information required by LAC 33:V.1709.F-K;

4. date, time, and duration of each period that occurs while the control device is operating when any monitored parameter exceeds the value established in the control device design analysis as specified below:

   a. for a thermal vapor incinerator designed to operate with a minimum residence time of 0.50 second at a minimum temperature of 760°C, each period when the combustion temperature is below 760°C;

   b. for a thermal vapor incinerator designed to operate with an organic emission reduction efficiency of 95 weight percent or greater, each period when the combustion zone temperature is more than 28°C below the design average combustion zone temperature established as a requirement of LAC 33:V.1713.B.4.c.i;

   c. for a catalytic vapor incinerator, each period when:

i. temperature of the vent stream at the catalyst bed inlet is more than 28°C below the average temperature of the inlet vent stream established as a requirement of LAC 33:V.1713.B.4.c.ii, or

ii. temperature difference across the catalyst bed is less than 80 percent of the design average temperature difference established as a requirement of LAC 33:V.1713.B.4.c.ii;

d. for a boiler or process heater, each period when:

i. flame zone temperature is more than 28°C below the design average flame zone temperature established as a requirement of LAC 33:V.1713.B.4.c.iii, or

ii. position changes where the vent stream is introduced to the combustion zone from the location established as a requirement of LAC 33:V.1713.B.4.c.iii;

e. for a flare, each period when the pilot flame is not ignited;

f. for a condenser that complies with LAC 33:V.1709.F.2.f.i, each period when the organic compound concentration level or readings of organic compounds in the exhaust vent stream from the condenser are more than 20 percent greater than the design outlet organic compound concentration level established as a requirement of LAC 33:V.1713.B.4.c.v;

g. for a condenser that complies with LAC 33:V.1709.F.2.f.ii, each period when:

i. temperature of the exhaust vent stream from the condenser is more than 6°C above the design average exhaust vent stream temperature established as a requirement of LAC 33:V.1713.B.4.c.v; or

ii. temperature of the coolant fluid exiting the condenser is more than 6°C above the design average coolant fluid temperature at the condenser outlet established as a requirement of LAC 33:V.1713.B.4.c.v;

h. for a carbon adsorption system such as a fixed-bed carbon adsorber that regenerates the carbon bed directly on-site in the control device and complies with LAC 33:V.1709.F.2.g.i, each period when the organic compound concentration level or readings of organic compounds in the exhaust vent stream from the carbon bed are more than 20 percent greater than the design exhaust v ent s tream o rganic c ompound c oncentration l evel established as a requirement of LAC 33:V.1713.B.4.c.v;

i. for a carbon adsorption system such as a fixed-bed carbon adsorber that regenerates the carbon bed directly on-site in the control device and complies with LAC 33:V.1709.F.2.g.ii, each period when the vent stream continues to flow through the control device beyond the predetermined carbon bed

regeneration time established as a requirement of LAC 33:V.1713.B.4.c.vi;

5. explanation for each period recorded under LAC 33:V.1713.C.4 of the cause for the control device operating parameter exceeding the design value and the measures implemented to correct the control device operation;

6. for a carbon adsorption system operated subject to requirements specified in LAC 33:V.1709.G or H.2, the date when existing carbon in the control device is replaced with fresh carbon;

7. for a carbon adsorption system operated subject to requirements specified in LAC 33:V.1709.H.1, a log that records:

   a. date and time when the control device is monitored for carbon breakthrough and the monitoring device reading; and

   b. date when existing carbon in the control device is replaced with fresh carbon;

8. date of each control device start-up and shutdown;

9. an owner or operator designating any components of a closed-vent system as unsafe to monitor pursuant to LAC 33:V.1709.O shall record in a log that is kept in the facility operating record, the identification of closed-vent system components that are designated as unsafe to monitor in accordance with the requirements of LAC 33:V.1709.O, an explanation for each closed-vent system component stating why the closed-vent system component is unsafe to monitor, and the plan for monitoring each closed-vent system component;

10. when each leak is detected as specified in LAC 33:V.1709.L, the following information shall be recorded:

    a. the instrument identification number, the closed-vent system component identification number, and the operator name, initials, or identification number;

    b. the date the leak was detected and the date of first attempt to repair the leak;

    c. the date of successful repair of the leak; and

    d. maximum instrument reading measured by Method 21 of 40 CFR part 60, appendix A after it is successfully repaired or determined to be nonrepairable;

    e. "repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.

       i. The owner or operator may develop a written procedure that identifies the conditions that justify a delay of repair. In such cases, reasons for delay of repair may be documented by citing the relevant sections of the written procedure.

ii. If delay of repair was caused by depletion of stocked parts, there must be documentation that the spare parts were sufficiently stocked on-site before depletion and the reason for depletion.

D. Record Retention. Records of the monitoring, operating, and inspection information required by Subsection C.3-10 of this Section must be kept on site for three years following the date of each occurrence, measurement, maintenance, corrective action, or record.

E. Alternative Control Devices. For a control device other than a thermal vapor incinerator, catalytic vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system, the administrative authority will specify the appropriate recordkeeping requirements.

F. Log. Up-to-date information and data used to determine whether or not a process vent is subject to the requirements in LAC 33:V.1707 including supporting documentation as required by LAC 33:V.1711.D.2 when application of the knowledge of the nature of the hazardous waste stream or the process by which it was produced is used, shall be recorded in a log that is kept in the facility operating record.

§1715. Reporting Requirements

A. A semiannual report shall be submitted by owners and operators subject to the requirements of this Subchapter to the administrative authority by dates specified by the administrative authority. The report shall include the following information:

1. the Environmental Protection Agency identification number, name, and address of the facility; and

2. for each month during the semiannual reporting period, dates when the control device exceeded or operated outside of the design specifications as defined in LAC 33:V.1713.C.4 and as indicated by the control device monitoring required by LAC 33:V.1709.F and such exceedances were not corrected within 24 hours, or that a flare operated with visible emissions as defined in LAC 33:V.1709.D and as determined by Method 22 monitoring, the duration and cause of each exceedance or visible emissions, and any corrective measures taken.

B. If, during the semiannual reporting period, the control device does not exceed or operate outside of the design specifications as defined in LAC 33:V.1713.C.4 for more than 24 hours or a flare does not operate with visible emissions as defined in LAC 33:V.1709.D, a report to the administrative authority is not required.

Subchapter B. Equipment Leaks

§1717. Applicability

A. The regulations in this Subchapter apply to owners and operators of facilities that treat, store, or dispose of hazardous wastes (except as provided in LAC 33:V.1501).

B. Except as provided in LAC 33:V.1743.K, this Subchapter applies to equipment that contains or contacts hazardous wastes with organic concentrations of at least 10 percent by weight that are managed in one of the following:

1. a unit that is subject to the permitting requirements of LAC 33:V.Chapters 3, 5, 7, 31, and 43; or

2. a unit (including a hazardous waste recycling unit) that is not exempt from permitting under the provisions of LAC 33:V.1109.E.1 (i.e., a hazardous waste recycling unit that is not a 90-day tank or container) and that is located at a hazardous waste management facility otherwise subject to the permitting requirements of LAC 33:V.Chapters 3, 5, 7, 31, and 43; or

3. a unit that is exempt from permitting under the provisions of LAC 33:V.1109.E.1 (i.e., a 90-day tank or container) and is not a recycling unit under the provisions of LAC 33:V.4105.

<u>Response</u>

Equipment, per LAC 33:V.1703, is defined as each valve, pump, compressor, pressure relief device, sampling connection system, open-ended valve or line, flange, or other connector and any control devices or systems required by this Chapter. Exide does not utilize such equipment containing or contacting hazardous wastes with organic concentrations of at least 10 percent by weight. Therefore, this subchapter does not apply.

C. For the owner or operator of a facility subject to the requirements of this Subchapter and who has received a final permit under RCRA section 3005 and LAC 33:V.Subpart 1 prior to December 6, 1996, the requirements of this Subchapter must be incorporated when the permit is reissued under LAC 33:V.705 or reviewed under LAC 33:V.315. Until such date when the owner or operator receives a final permit incorporating the requirements of this Subchapter, the owner or operator is subject to the requirements of LAC 33:V.Chapter 43.Subchapter Q.

D. Each piece of equipment to which this Subchapter applies shall be marked in such a manner that it can be distinguished readily from other pieces of equipment.

E. Equipment that is in vacuum service is excluded from the requirements of LAC 33:V.1719-1735 if it is identified as required in LAC 33:V.1743.G.5.

F. Equipment that contains or contacts hazardous waste with an organic concentration of at least 10 percent by weight for less than 300 hours per calendar year is excluded from the requirements of LAC 33:V.1719 - 1735 if it is identified, as required in LAC 33:V.1743.

§1719. Standards: Pumps in Light Liquid Service

A. Monitoring

1. Each pump in light liquid service shall be monitored monthly to detect leaks by the methods specified in LAC 33:V.1741.B, except as provided in Subsections D, E, and F of this Section.

2. Each pump in light liquid service shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal.

B. Leak Detection

1. If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

2. If there are indications of liquids dripping from the pump seal, a leak is detected.

C. Repair

1. When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in LAC 33:V.1733.

2. A first attempt at repair (e.g., tightening the packing gland) shall be made no later than five calendar days after each leak is detected.

D. Dual Mechanical Seal Exemption. Each pump equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of LAC 33:V.1719.A provided the following requirements are met.

1. Operation and Equipment. Each dual mechanical seal system must be:

a. operated with the barrier fluid at a pressure that is at all times greater than the pump stuffing box pressure; or

b. equipped with a barrier fluid degassing reservoir that is connected by a closed-vent system to a control device that complies with the requirements of LAC 33:V.1735; or

c. equipped w ith a s ystem t hat p urges t he b arrier fluid into a hazardous waste stream with no detectable emissions to the atmosphere.

2. Barrier Fluid System. The barrier fluid system must not be a hazardous waste with organic concentrations 10 percent or greater by weight.

3. Barrier Fluid System Sensor. Each barrier fluid system must be equipped with a sensor that will detect failure of the seal system, the barrier fluid system, or both.

4. Pump Inspection. Each pump must be checked by visual inspection, each calendar week, for indications of liquids dripping from the pump seals.

5. Seal System and Sensor Function

   a. Each sensor as described in LAC 33:V.1719.D.3 must be checked daily or be equipped with an audible alarm that must be checked monthly to ensure that it is functioning properly.

   b. The owner or operator must determine, on the basis of design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.

6. Leak Detection and Repair

   a. If there are indications of liquids dripping from the pump seal or the sensor indicates failure of the seal system, the barrier fluid system, or both on the basis of the criterion determined in LAC 33:V.1719.D.5.b, a leak is detected.

   b. When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in LAC 33:V.1733.

   c. A first attempt at repair (e.g., relapping the seal) shall be made no later than five calendar days after each leak is detected.

E. No Detectable Emission Exemption. Any pump that is designated, as described in LAC 33:V.1743.G.2, for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of LAC 33:V.1719.A, C, and D if the pump meets the following requirements:

1. The pump must have no externally actuated shaft penetrating the pump housing.

2. The pump must operate with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background as measured by the methods specified in LAC 33:V.1741.C.

3. The pump must be tested for compliance with LAC 33:V.1719.E.2 initially upon designation, annually, and at other times as requested by the administrative authority.

F. Closed Vent System Exemption. If any pump is equipped with a closed-vent system capable of capturing and transporting any leakage from the seal or seals to a control device that complies with the requirements of LAC 33:V.1735, it is exempt from the requirements of LAC 33:V.1719.A-E.

§1721. Standards: Compressors

A. Equipment. Each compressor shall be equipped w ith a s eal s ystem t hat includes a barrier fluid system and that prevents leakage of total organic emissions to the atmosphere, except as provided in LAC 33:V.1721.H and I.

B. Seal System. Each compressor seal system as required in LAC 33:V.1721.A shall be:

1. operated with the barrier fluid at a pressure that is at all times greater than the compressor stuffing box pressure, or

2. equipped with a barrier fluid system that is connected by a closed-vent system to a control device that complies with the requirements of LAC 33:V.1735, or

3. equipped with a system that purges the barrier fluid into a hazardous waste stream with no detectable emissions to atmosphere.

C. Barrier Fluid System. The barrier fluid must not be a hazardous waste with organic concentrations 10 percent or greater by weight.

D. Barrier Fluid System Sensor. Each barrier fluid system as described in LAC 33:V.1721.A-C shall be equipped with a sensor that will detect failure of the seal system, barrier fluid system, or both.

E. Seal System and Sensor Function

1. Each sensor as required in LAC 33:V.1721.D shall be checked daily or shall be equipped with an audible alarm that must be checked monthly to ensure that it is functioning properly unless the compressor is located within the boundary of an unmanned plant site, in which case the sensor must be checked daily.

2. The owner or operator shall determine, on the basis of design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.

F. Leak Detection. If the sensor indicates failure of the seal system, the barrier fluid system, or both on the basis of the criterion determined under LAC 33:V.1721.E.2, a leak is detected.

G. Leak Repair

1. When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in LAC 33:V.1733.

2. A first attempt at repair (e.g., tightening the packing gland) shall be made no later than five calendar days after each leak is detected.

H. Closed-Vent System Exemption. A compressor is exempt from the requirements of LAC 33:V.1721.A and B if it is equipped with a closed-vent

system capable of capturing and transporting any leakage from the seal to a control device that complies with the requirements of LAC 33:V.1735, except as provided in LAC 33:V.1721.I.

I. No Detectable Emission Exemption. Any compressor that is designated, as described in LAC 33:V.1743.G.2, for no detectable emissions as indicated by an instrument reading of less than 500 ppm above background is exempt from the requirements of LAC 33:V.1721.A-H if the compressor:

1. is determined to be operating with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the method specified in LAC 33:V.1741.C; and

2. is tested for compliance with LAC 33:V. 1721.I.1 initially upon designation, annually, and at other times as required by the administrative authority.

§1723. Standards: Pressure Relief Devices in Gas/Vapor Service

A. Operation. Except during pressure releases, each pressure relief device in gas/vapor service shall be operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the method specified in LAC 33:V.1741.C.

B. Monitoring

1. After each pressure release, the pressure relief device shall be returned to a condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as soon as practicable, but no later than five calendar days after each pressure release, except as provided in LAC 33:V.1733.

2. No later than five calendar days after the pressure release, the pressure relief device shall be monitored to confirm the condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the method specified in LAC 33:V.1741.C.

C. Exemption. Any pressure relief device that is equipped with a closed-vent system capable of capturing and transporting leakage from the pressure relief device to a control device as described in LAC 33:V.1735 is exempt from the requirements of LAC 33:V.1723.A and B.

§1725. Standards: Sampling Connection Systems

A. Each sampling connection system shall be equipped with a closed purge, closed loop, or closed-vent system. This system shall collect the sample purge for return to the process or for routing to the appropriate treatment system. Gases displaced during filling of the sample container are not required to be collected or captured.

B. Each closed-purge, closed loop, or closed-vent system, as required in Subsection A of this Section, shall meet one of the following requirements:

1. return the purged process fluid directly to the process line;

2. collect and recycle the purged process fluid; or

3. be designed and operated to capture and transport all the purged process fluid to a waste management unit that c omplies w ith t he applicable requirements of LAC 33:V.1755-1759 or a control device that complies with the requirements of LAC 33:V.1735.

C. In situ sampling systems and sampling systems without purges are exempt from the requirements of Subsections A and B of this Section.

§1727. Standards: Open-Ended Valves or Lines

A. Equipment

1. Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve.

2. The cap, blind flange, plug, or second valve shall seal the open end at all times except during operations requiring hazardous waste stream flow through the open-ended valve or line.

B. Operation. Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the hazardous waste stream end is closed before the second valve is closed.

C. Compliance. When a double block and bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but shall comply with LAC 33:V.1727.A at all other times.

§1729. Standards: Valves in Gas/Vapor Service or in Light Liquid Service

A. Monitoring, General. Each valve in gas/vapor or light liquid service shall be monitored monthly to detect leaks by the methods specified in LAC 33:V.1741.B and shall comply with LAC 33:V.1729.B-E, except as provided in LAC 33:V.1729.F, G, and H, and LAC 33:V.1737 and 1739.

B. Leak Detection. If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

C. Monitoring Intervals

1. Any valve for which a leak is not detected for two successive months may be monitored the first month of every succeeding quarter, beginning with the next quarter, until a leak is detected.

2. If a leak is detected, the valve shall be monitored monthly until a leak is not detected for two successive months.

D. Repair, General

1. When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in LAC 33:V.1733.

2. A first attempt at repair shall be made no later than five calendar days after each leak is detected.

E. Repair Methods. First attempts at repair include, but are not limited to, the following best practices where practicable:

1. tightening of bonnet bolts;

2. replacement of bonnet bolts;

3. tightening of packing gland nuts; and

4. injection of lubricant into lubricated packing.

F. No Detectable Emission Exemption. Any valve that is designated, as described in LAC 33:V.1743.G.2, for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of LAC 33:V.1729.A if the valve:

1. has no external actuating mechanism in contact with the hazardous waste stream;

2. is operated with emissions less than 500 ppm above background as determined by the method specified in LAC 33:V.1741.C; and

3. is tested for compliance with LAC 33:V.1729.F.2 initially upon designation, annually, and at other times as requested by the administrative authority.

G. Unsafe-to-Monitor Exemption. Any valve that is designated, as described in LAC 33:V.1743.H.1, as an unsafe-to-monitor valve is exempt from the requirements of LAC 33:V.1729.A if:

1. the owner or operator of the valve determines that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with LAC 33:V.1729.A; and

2. the owner or operator of the valve adheres to a written plan that requires monitoring of the valve as frequently as practicable during safe-to-monitor times.

H. Difficult-to-Monitor Exemption. Any valve that is designated, as described in LAC 33:V.1743.H.2, as a difficult-to-monitor valve is exempt from the requirements of LAC 33:V.1729.A if:

1. the owner or operator of the valve determines that the valve cannot be monitored without elevating the monitoring personnel more than two meters above a support surface;

2. the hazardous waste management unit within which the valve is located was in operation before June 21, 1990; and

3. the owner or operator of the valve follows a written plan that requires monitoring of the valve at least once per calendar year.

§1731. Standards: Pumps and Valves in Heavy Liquid Service, Pressure Relief Devices in Light Liquid or Heavy Liquid Service, and Flanges and Other Connectors

A. Monitoring. Pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and flanges and other connectors shall be monitored within five days by the method specified in LAC 33:V.1741.B if evidence of a potential leak is found by visual, audible, olfactory, or any other detection method.

B. Leak Detection. If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

C. Repair

1. When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in LAC 33:V.1733.

2. The first attempt at repair shall be made no later than five calendar days after each leak is detected.

D. Repair Methods. First attempts at repair include, but are not limited to, the best practices described under LAC 33:V.1729.E.

E. Any connector that is inaccessible or is ceramic or ceramic-lined (e.g., porcelain, glass, or glass-lined) is exempt from the monitoring requirements of Subsection A of this Section and from the recordkeeping requirements of LAC 33:V.1743.

§1733. Standards: Delay of Repair

A. Delay of repair of equipment for which leaks have been detected will be allowed if the repair is technically infeasible without a hazardous waste management unit shutdown. In such a case, repair of this equipment shall occur before the end of the next hazardous waste management unit shutdown.

B. Delay of repair of equipment for which leaks have been detected will be allowed for equipment that is isolated from the hazardous waste management unit and that does not continue to contain or contact hazardous waste with organic concentrations at least 10 percent by weight.

C. Delay of repair for valves will be allowed if:

1. the owner or operator determines that emissions of purged material resulting from immediate repair are greater than the emissions likely to result from delay of repair;

2. repair procedures are effected, the purged material is collected and destroyed or recovered in a control device complying with LAC 33:V.1735.

D. Delay of repair for pumps will be allowed if:

1. repair requires the use of a dual mechanical seal system that includes a barrier fluid system;

2. repair is completed as soon as practicable, but n ot l ater t han s ix months after the leak was detected.

E. Delay of repair beyond a hazardous waste management unit shutdown will be allowed for a valve if valve assembly replacement is necessary during the hazardous waste management unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the next hazardous waste management unit shutdown will not be allowed unless the next hazardous waste management unit shutdown occurs sooner than six months after the first hazardous waste management unit shutdown.

§1735. Standards: Closed-Vent Systems and Control Devices

A. Owners or operators of closed-vent systems and control devices subject to this Subchapter shall comply with the provisions of LAC 33:V.1709.

1. The o wner o r o perator o f a n e xisting f acility w ho c annot i nstall a closed-vent system and control device to comply with the provisions of this Subchapter on the effective date that the facility becomes subject to the provisions of this Subchapter must prepare an implementation schedule that includes dates by which the closed-vent system and control device will be installed and in operation. The controls must be installed as soon as possible, but the implementation schedule may allow up to 30 months after the effective date that the facility becomes subject to this Subchapter for installation and start-up.

2. Any unit that begins operation after December 21, 1990, and is subject to the provisions of this Subchapter when operation begins, must comply with the rules immediately (i.e., must have control devices installed and operating on start-up of the affected unit); the 30-month implementation schedule does not apply.

3. The owner or operator of any facility in existence on the effective date of an EPA regulatory amendment that renders the facility subject to this Subchapter shall comply with all requirements of this Subchapter as soon as practicable, but no later than 30 months after the regulation's effective date. When control equipment required by this Subchapter can not be installed and begin operation by the effective date of the amendment, the facility owner or operator shall prepare an

implementation schedule that includes the following information: specific calendar dates for award or contracts or issuance of purchase orders for the control equipment; initiation of on-site installation of the control equipment; completion of the control equipment installation; and performance of any testing to demonstrate that the installed equipment meets the applicable standards of this Subchapter. The owner or operator shall enter the implementation schedule in the operating record or in a permanent, readily available file located at the facility.

4. Owners and operators of facilities and units that become newly subject to the requirements of this Subchapter after December 8, 1997, due to an action other than those described in Subsection B.3 of this Section must comply with all applicable requirements immediately (i.e., must have control devices installed and operating on the date the facility or unit becomes subject to this Subchapter; the 30-month implementation schedule does not apply).

§1737. Alternative Standards for Valves in Gas/Vapor Service or in Light Liquid Service: Percentage of Valves Allowed to Leak

A. An owner or operator subject to the requirements of LAC 33:V.1729 may elect to have all valves within a hazardous waste management unit comply with an alternative standard that allows no greater than 2 percent of the valves to leak.

B. The following requirements shall be met if an owner or operator decides to comply with the alternative standard of allowing 2 percent of the valves to leak.

1. An owner or operator must notify the administrative authority that the owner or operator has elected to comply with the requirements of this Section.

2. A performance test as specified in LAC 33:V.1737.C shall be conducted initially upon designation, annually, and at other times requested by the administrative authority.

3. If a valve leak is detected, it shall be repaired in accordance with LAC 33:V.1729.D and E.

C. Performance tests shall be conducted in the following manner:

1. All valves subject to the requirements of LAC 33:V.1729 within the hazardous waste management unit shall be monitored within one week by the methods specified in LAC 33:V.1741.B.

2. If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

3. The leak percentage shall be determined by dividing the number of valves subject to the requirements in LAC 33:V.1729 for which leaks are detected by the total number of valves subject to the requirements in LAC 33:V.1729 within the hazardous waste management unit.

D. If an owner or operator decides to comply with this Section no longer, the owner or operator must notify the administrative authority in writing that the work practice standard described in LAC 33:V.1729.A-E will be followed.

§1739. Alternative Standards for Valves in Gas/Vapor Service or in Light Liquid Service: Skip Period Leak Detection and Repair

A. Alternative Work Practices

1. An owner or operator subject to the requirements of LAC 33:V.1729 may elect for all valves within a hazardous waste management unit to comply with one of the alternative work practices specified in LAC 33:V.1739.B.2 and 3.

2. An owner or operator must notify the administrative authority before implementing one of the alternative work practices.

B. Leak Detection Skip Period

1. An owner or operator shall comply with the requirements for valves, as described in LAC 33:V.1729, except as described in LAC 33:V.1739.B.2 and 3.

2. After two consecutive quarterly leak detection periods with the percentage of valves leaking equal to or less than two percent, an owner or operator may begin to skip one of the quarterly leak detection periods (i.e., monitor for leaks once every six months) for the valves subject to the requirements in LAC 33:V.1729.

3. After five consecutive quarterly leak detection periods with the percentage of valves leaking equal to or less than two percent, an owner or operator may begin to skip three of the quarterly leak detection periods (i.e., monitor for leaks once every year) for the valves subject to the requirements in LAC 33:V.1729.

4. If the percentage of valves leaking is greater than two percent, the owner or operator shall monitor monthly in compliance with the requirements in LAC 33:V.1729, but may again elect to use this Section after meeting the requirements of LAC 33:V.1729.C.1.

§1741. Test Methods and Procedures

A. Each owner or operator subject to the provisions of this Subchapter shall comply with the test methods and procedures requirements provided in this Section.

B. Leak detection monitoring, as required in LAC 33:V.1719-1739, shall comply with the following requirements:

1. Monitoring shall comply with Reference Method 21 in LAC 33:III.6077.

2. The detection instrument shall meet the performance criteria of Reference Method 21.

3. The instrument shall be calibrated before use on each day of its use by the procedures specified in Reference Method 21.

4. Calibration gases shall be:

   a. zero air (less than 10 ppm of hydrocarbon in air); and

   b. a mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 ppm methane or n-hexane.

5. The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Reference Method 21.

C. When equipment is tested for compliance with no detectable emissions, as required in LAC 33:V.1719.E, 1721.I, 1723, and 1729.F, the test shall comply with the following requirements:

1. The requirements of LAC 33:V.1741.B.1-4 shall apply.

2. The background level shall be determined as set forth in Reference Method 21.

3. The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Reference Method 21.

4. The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 ppm for determining compliance.

D. In accordance with the waste analysis plan required by LAC 33:V.1519.B, an owner or operator of a facility must determine, for each piece of equipment, whether the equipment contains or contacts a hazardous waste with organic concentration that equals or exceeds 10 percent by weight using the following:

1. methods described in ASTM Methods D 2267-88, E 169-87, E 168-88, E 260-85, as incorporated by reference at LAC 33:V.110;

2. method 9 060 o r 8 260 of Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, EPA Publication SW-846, as incorporated by reference at LAC 33:V.110; or

3. application of the knowledge of the nature of the hazardous waste stream or the process by which it was produced. A waste determination by knowledge must be documented. Examples of documentation that shall be used to support a determination under this provision include production process information documenting that no organic compounds are used, information that the waste is generated by a process that is identical to a process at the same or another facility that has previously been demonstrated by direct measurement to have a total organic content less than 10 percent, or prior speciation analysis results on the same waste stream where it can also be

documented that no process changes have occurred since that analysis that could affect the waste total organic concentration.

E. If an owner or operator determines that a piece of equipment contains or contacts a hazardous waste with organic concentrations at least 10 percent by weight, the determinations can be revised only after following the procedures in LAC 33:V.1741.D.1 or 2.

F. When an owner or operator and the administrative authority do not agree on whether a piece of equipment contains or contacts a hazardous waste with organic concentrations at least 10 percent by weight, the procedures in LAC 33:V.1741.D.1 or 2 can be used to resolve the dispute.

G. Samples used in determining the percentage organic content shall be representative of the highest total organic content hazardous waste that is expected to be contained in or contact the equipment.

H. To determine whether pumps or valves are in light liquid service, the vapor pressures of constituents may be obtained from standard reference texts or may be determined by ASTM D-2879-86, as incorporated by reference at LAC 33:V.110.

I. Performance tests to determine whether a control device achieves 95 weight percent organic emission reduction shall comply with the procedures of LAC 33:V.1711.C.1-4.

§1743. Recordkeeping Requirements

A. Compliance with Recordkeeping

1. Each owner or operator subject to the provisions of this Subchapter shall comply with the recordkeeping requirements of this Section.

2. An owner or operator of more than one hazardous waste management unit subject to the provisions of this Subchapter may comply with the recordkeeping requirements for these hazardous waste management units in one recordkeeping system if the system identifies each record by each hazardous waste management unit.

B. Facility Operating Record. Owners and operators must record the following information in the facility operating record.

1. For each piece of equipment to which LAC 33:V.Chapter 17, Subchapter B, applies:

a. equipment identification number and hazardous waste management unit identification;

b. approximate locations within the facility (e.g., identify the hazardous waste management unit on a facility plot plan);

c. type of equipment (e.g., a pump or pipeline valve);

d. percent-by-weight total organics in the hazardous waste stream at the equipment;

e. hazardous waste state at the equipment (e.g., gas/vapor or liquid); and

f. method of compliance with the standard (i.e., "monthly leak detection and repair" or "equipped with dual mechanical seals").

2. For facilities that comply with the provisions of LAC 33:V.1709.A.2, an implementation schedule as specified in LAC 33:V.1709.A.2.

3. Where an owner or operator chooses to use test data to demonstrate the organic removal efficiency or total organic compound concentration achieved by the control device, a performance test plan as specified in LAC 33:V.1713.B.3.

4. Documentation of compliance with LAC 33:V.1735, including the detailed design documentation or performance test results specified in LAC 33:V.1713.B.4.

C. Leak Detection. When each leak is detected as specified in LAC 33:V.1719, 1721, 1729, and 1731, the following requirements apply.

1. A weatherproof and readily visible identification, marked with the equipment identification number, the date evidence of a potential leak was found in accordance with LAC 33:V.1731.A, and the date the leak was detected, shall be attached to the leaking equipment.

2. The identification on equipment, except on a valve, may be removed after it has been repaired.

3. The identification on a valve may be removed after it has been monitored for two successive months as specified in LAC 33:V.1729.C, and no leak has been detected during those two months.

D. Inspection Log. When each leak is detected as specified in LAC 33:V.1719, 1721, 1729, and 1731, the following information shall be recorded in an inspection log and shall be kept in the facility operating record:

1. the instrument and operator identification numbers and the equipment identification number;

2. the date evidence of a potential leak was found in accordance with LAC 33:V.1731.A;

3. the date the leak was detected and the dates of each attempt to repair the leak;

4. repair methods applied in each attempt to repair the leak;

5. "above 10,000" if the maximum instrument reading measured by the methods specified in LAC 33:V.1741.B after each repair attempt is equal to or greater than 10,000 ppm;

6. "repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak;

7. documentation supporting the delay of repair of a valve in compliance with LAC 33:V.1733.C;

8. the signature of the owner or operator (or the designee authorized by the owner or operator in writing in the operating record) whose decision it was that repair could not be effected without a hazardous waste management unit shutdown;

9. the expected date of successful repair of the leak if a leak is not repaired within 15 calendar days; and

10. the date of successful repair of the leak.

E. Design Documentation and Monitoring, Operating, and Inspection Information. Design documentation and monitoring, operating, and inspection information for each closed-vent system and control device required to comply with the provisions of LAC 33:V.1735 shall be recorded and kept up-to-date in the facility operating record as specified in LAC 33:V.1713.C. Design documentation is specified in LAC 33:V.1713.C.1 and 2, and monitoring, operating, and inspection information in LAC 33:V.1713.C.3-8.

F. Control Device Exemptions. For a control device other than a thermal vapor incinerator, catalytic vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system, the administrative authority will specify the appropriate recordkeeping requirements.

G. Equipment Information Log. The following information pertaining to all equipment subject to the requirements in LAC 33:V.1719-1735 shall be recorded in a log that is kept in the facility operating record.

1. Identification Numbers: General. A list of identification numbers for equipment (except welded fittings) subject to the requirements of this Subchapter shall be kept in the log.

2. Identification Numbers: No Detectable Emission Equipment

   a. A list of identification numbers for equipment that the owner or operator elects to designate for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, under the provisions of LAC 33:V.1719.E, 1721.I, and 1729.F, shall be kept in the log.

   b. The designation of this equipment as subject to the requirements of LAC 33:V.1719.E, 1721.I, or 1729.F shall be signed by the owner or operator.

3. Identification Numbers: Pressure Relief Devices. A list of equipment identification numbers for pressure relief devices required to comply with LAC 33:V.1723.A shall be kept in the log.

4. Compliance Test. The following compliance test information shall be included:

a. the dates of each compliance test required in LAC 33:V.1719.E, 1721.I, 1723, and 1729.F;

b. the background level measured during each compliance test; and

c. the maximum instrument reading measured at the equipment during each compliance test.

5. Identification Numbers: Equipment in Vacuum Service. A list of identification numbers for equipment in vacuum service shall be kept in the log.

6. Identification. Either by list or location (area or group) of equipment that contains or contacts hazardous waste with an organic concentration of at least 10 percent by weight for less than 300 hours per calendar year.

H. Identification Numbers: Valves. The following information pertaining to all valves subject to the requirements of LAC 33:V.1729.G and H shall be recorded in a log that is kept in the facility operating record:

1. a list of identification numbers for valves that are designated as unsafe to monitor, an explanation for each valve stating why the valve is unsafe to monitor, and the plan for monitoring each valve; and

2. a list of identification numbers for valves that are designated as difficult to monitor, an explanation for each valve stating why the valve is difficult to monitor, and the planned schedule for monitoring each valve.

I. Valve Information Log. The following information shall be recorded in the facility operating record for valves complying with LAC 33:V.1739:

1. a schedule of monitoring; and

2. the percentage of valves found leaking during each monitoring period.

J. Pump Seal System Information Log. The following information shall be recorded in a log that is kept in the facility operating record:

1. criteria required in LAC 33:V.1719.D.5.b and 1721.E.2 and an explanation of the design criteria; and

2. any changes to these criteria and the reasons for the changes.

K. Exemption Log. The following information shall be recorded in a log that is kept in the facility operating record for use in determining exemptions as provided in the applicability Section of this Subchapter and other specific Subchapters.

1. An analysis determining the design capacity of the hazardous waste management unit shall be recorded in the log.

2. A statement listing the hazardous waste influent to and effluent from each hazardous waste management unit subject to the requirements in

LAC 33:V.1719-1735 and an analysis determining whether these hazardous wastes are heavy liquids shall be recorded in the log.

3. An up-to-date analysis and the supporting information and data used to determine whether or not equipment is subject to the requirements in LAC 33:V.1719-1735 shall be recorded in the log. The record shall include supporting documentation as required in LAC 33:V.1741.D.3 when application of the knowledge of the nature of the hazardous waste stream or the process by which it was produced is used. If the owner or operator takes any action (e.g., changing the process that produced the waste) that could result in an increase in the total organic content of the waste contained in or contacted by equipment determined not to be subject to the requirements in LAC 33:V.1719-1735, then a new determination is required.

L. Record Retention Period for Equipment Leak Information. Records of the equipment leak information required by LAC 33:V.1743.D and the operating information required by LAC 33:V.1743.E must be kept for three years.

M. The owner or operator of a facility with equipment that is subject to this Subchapter and to regulations at 40 CFR part 60, part 61, or part 63 may elect to determine compliance with this Subchapter by documentation either in accordance with this Section or by documentation of compliance with the regulations at 40 CFR part 60, part 61, or part 63 in accordance with the relevant provisions of the regulations at 40 CFR part 60, part 61, or part 63 . The documentation of compliance under the regulation at 40 CFR part 60, part 61, or part 63 shall be kept with or made readily available with the facility operating record.

§1745. Reporting Requirements

A. A semiannual report shall be submitted by owners and operators subject to the requirements of this Subchapter to the administrative authority by dates specified by the administrative authority. The report shall include the following information.

1. The Environmental Protection Agency identification number, name, and address of the facility shall be included.

2. For each month during the semiannual reporting period, the following shall be included:

   a. the equipment identification number of each valve for which a leak was not repaired as required in LAC 33:V.1729.D;

   b. the equipment identification number of each pump for which a leak was not repaired as required in LAC 33:V.1719.C and D.6; and

   c. the equipment identification number of each compressor for which a leak was not repaired as required in LAC 33:V.1721.G.

3. Dates of hazardous waste management unit shutdowns that occurred within the semiannual reporting period shall be included.

4. For each month during the semiannual reporting period, dates when the control device installed as required by LAC 33:V.1719, 1721, 1723, or 1725 exceeded or operated outside of the design specifications as defined in LAC 33:V.1743.E and as indicated by the control device monitoring required by LAC 33:V.1735 and was not corrected within 24 hours, the duration and cause of each exceedance, and any corrective measures taken shall be included.

B. If, during the semiannual reporting period, leaks from valves, pumps, and compressors are repaired as required in LAC 33:V.1729.D, LAC 33:V.1719.C and D.6, and LAC 33:V.1721.G, respectively, and the control device does not exceed or operate outside of the design specifications as defined LAC 33:V.1743.E for more than 24 hours, a report to the administrative authority is not required.

Subchapter C. Air Emission Standards for Tanks, Surface Impoundments, and Containers

§1747. Applicability

A. The requirements of this Subchapter apply to owners and operators of all facilities that treat, store, or dispose of hazardous waste in tanks, surface impoundments, or containers subject to either Chapter 19, 21, or 29, except as LAC 33:V.1501 and Subsection B of this Section provide otherwise.

Response
Exide does not have tanks or surface impoundments which contain hazardous wastes; therefore, these portions of this subchapter do not apply. Exide does store containers (55-gallon drums and batteries) subject to Chapter 21 and those portions of this subchapter do apply.

B. The requirements of this Subchapter do not apply to the following waste management units at the facility:

1. a waste management unit that holds hazardous waste placed in the unit before December 6, 1996, and in which no hazardous waste is added to the unit on or after December 6, 1996.

2. a container that has design capacity less than or equal to 0.1 m^3;

3. a tank in which an owner or operator has stopped adding hazardous waste and the owner or operator has begun implementing or completed closure pursuant to an approved closure plan;

4. a surface impoundment in which an owner or operator has stopped adding hazardous waste (except to implement an approved closure plan) and the owner or operator has begun implementing or completed closure pursuant to an approved closure plan;

5. a waste management unit that is used solely for on-site treatment or storage of hazardous waste that is placed in the unit as a result of implementing remedial activities required under the corrective action

authorities of RCRA sections 3004(u), 3004(v), or 3008(h), CERCLA authorities, or similar state authorities;

6. **a waste management unit that is used solely for the management of radioactive mixed waste in accordance with all applicable regulations under the authority of the Atomic Energy Act and the Nuclear Waste Policy Act;**

7. **a hazardous waste management unit that the owner or operator certifies is equipped with and operating air emission controls in accordance with the requirements of an applicable Clean Air Act regulation codified under 40 CFR part 60, part 61, or part 63. For the purpose of complying with this Paragraph, a tank for which the air emission control includes an enclosure, as opposed to a cover, must be in compliance with the enclosure and control device requirements of LAC 33:V.1755.I, except as provided in LAC 33:V.1751.C.5; and**

8. **a tank that has a process vent as defined in LAC 33:V.1703.**

Response
Exide does not have any tanks, containers, or surface impoundments that meet these criteria; therefore, these portions of this subchapter do apply for the drums and batteries stored at the Baton Rouge smelter.

C. **For the owner and operator of a facility subject to this Chapter and who received a final permit under RCRA section 3005 and LAC 33:V.Subpart 1 prior to December 6, 1996, the requirements of this Chapter must be incorporated into the permit when the permit is reissued in accordance with the requirements of LAC 33:V.705 or reviewed in accordance with the requirements of LAC 33:V.315. Until such date when the permit is reissued in accordance with the requirements of LAC 33:V.705 or reviewed in accordance with the requirements of LAC 33:V.315, the owner and operator are subject to the requirements of LAC 33:V.Chapter 43.Subchapter V.**

Response
Exide acknowledges this citation and will comply. The requirements of this Chapter have been incorporated into this permit renewal application.

D. **The requirements of this Subchapter, except for the recordkeeping requirements specified in LAC 33:V.1765.I, are administratively stayed for a tank or a container used for the management of hazardous waste generated by organic p eroxide m anufacturing a nd i ts associated laboratory operations when the owner or operator of the unit meets all of the following conditions:**

1. **the owner or operator identifies that the tank or container receives hazardous waste generated by an organic peroxide manufacturing process producing more than one functional family of organic peroxides or multiple organic peroxides within one functional family, that one or more of these organic peroxides could potentially undergo self-accelerating thermal decomposition at or below ambient temperatures, and that organic peroxides are the predominant products**

manufactured by the process. For the purpose of meeting the conditions of this paragraph, "organic peroxide" means an organic compound that contains the bivalent —O—O— structure and which may be considered to be a structural derivative of hydrogen peroxide where one or both of the hydrogen atoms has been replaced by an organic radical;

2. **the owner or operator prepares documentation, in accordance with the requirements of LAC 33:V.1765.I, explaining why an undue safety hazard would be created if air emission controls specified in LAC 33:V.1755-1761 are installed and operated on the tanks and containers used at the facility to manage the hazardous waste generated by the organic peroxide manufacturing process or processes meeting the conditions of Subsection D.1 of this Section; and**

3. **the owner or operator notifies the administrative authority, in writing, that hazardous waste generated by an organic peroxide manufacturing process or processes meeting the conditions of Subsection D.1 of this Section are managed at the facility in tanks or containers meeting the conditions of Subsection D.2 of this Section. The notification shall state the name and address of the facility and be signed and dated by an authorized representative of the facility owner or operator.**

Response

Exide does not manufacture organic peroxides and the requirements of these citations do not apply.

§1749. Definitions

As used in this Chapter, all terms shall have the meaning given to them in LAC 33:V.1703 and 109.

Response

Exide acknowledges this citation.

§1751. Standards: General

A. **This Section applies to the management of hazardous waste in tanks, surface impoundments, and containers subject to this Subchapter.**

Response

Exide stores hazardous wastes in containers (55-gallon drums) which are subject to the requirements of this subchapter. Exide does not manage hazardous wastes in tanks or surface impoundments and those requirements of this subchapter do not apply.

B. **The owner or operator shall control air pollutant emissions from each hazardous waste management unit in accordance with standards specified in LAC 33:V.1755-1761, as applicable to the hazardous waste management unit, except as provided for in Subsection C of this Section.**

Response
Exide acknowledges this citation and will comply.

C. **A tank, surface impoundment, or container is exempt from standards specified in LAC 33:V.1755-1761, as applicable, provided that the waste management unit is one of the following:**

1. **a tank, surface impoundment, or container for which all hazardous waste entering the unit has an average VO concentration at the point of waste origination of less than 500 parts per million by weight (ppmw). The average VO concentration shall be determined using the procedures specified in LAC 33:V.1753.A. The owner or operator shall review and update, as necessary, this determination at least once every 12 months following the date of the initial determination for the hazardous waste streams entering the unit;**

2. **a tank, surface impoundment, or container for which the organic content of all the hazardous waste entering the waste management unit has been reduced by an organic destruction or removal process that achieves any one of the following conditions:**

   a. **a process that removes or destroys the organics contained in the hazardous waste to a level such that the average VO concentration of the hazardous waste at the point of waste treatment is less than the exit concentration limit (C_t) established for the process. The average VO concentration of the hazardous waste at the point of waste treatment and the exit concentration limit for the process shall be determined using the procedures specified in LAC 33:V.1753.B;**

   b. **a process that removes or destroys the organics contained in the hazardous waste to a level such that the organic reduction efficiency (R) for the process is equal to or greater than 95 percent, and the average VO concentration of the hazardous waste at the point of waste treatment is less than 100 ppmw. The organic reduction efficiency for the process and the average VO concentration of the hazardous waste at the point of waste treatment shall be determined using the procedures specified in LAC 33:V.1753.B;**

   c. **a process that removes or destroys the organics contained in the hazardous waste to a level such that the actual organic mass removal rate (MR) for the process is equal to or greater than the required organic mass removal rate (RMR) established for the process. The required organic mass removal rate and the actual organic mass removal rate for the process shall be determined using the procedures specified in LAC 33:V.1753.B;**

   d. **a biological process that destroys or degrades the organics contained in the hazardous waste, such that either of the following conditions is met:**

i. the organic reduction efficiency (R) for the process is equal to or greater than 95 percent and the organic biodegradation efficiency (R_{bio}) for the process is equal to or greater than 95 percent. The organic reduction efficiency and the organic biodegradation efficiency for the process shall be determined using the procedures specified in LAC 33:V.1753.B; or

ii. the total actual organic mass biodegradation rate (MR_{bio}) for all hazardous waste treated by the process is equal to or greater than the required organic mass removal rate (RMR). The required organic mass removal rate and the actual organic mass biodegradation rate for the process shall be determined using the procedures specified in LAC 33:V.1753.B;

e. a process that removes or destroys the organics contained in the hazardous waste and meets all of the following conditions:

i. from the point of waste origination through the point where the hazardous waste enters the treatment process, the hazardous waste is managed continuously in waste management units that use air emission controls in accordance with the standards specified in LAC 33:V.1755-1761, as applicable to the waste management unit;

ii. from the point of waste origination through the point where the hazardous waste enters the treatment process, any transfer of the hazardous waste is accomplished through continuous hard-piping or other closed system transfer that does not allow exposure of the waste to the atmosphere. The EPA considers a drain system that meets the requirements of 40 CFR part 63, subpart RR—National Emission Standards for Individual Drain Systems to be a closed system; and

iii. the average VO concentration of the hazardous waste at the point of waste treatment is less than the lowest average VO concentration at the point of waste origination determined for each of the individual waste streams entering the process or 500 ppmw, whichever value is lower. The average VO concentration of each individual waste stream at the point of waste origination shall be determined using the procedures specified in LAC 33:V.1753.A. The average VO concentration of the hazardous waste at the point of waste treatment shall be determined using the procedures specified in LAC 33:V.1753.B;

f. a process that removes or destroys the organics contained in the hazardous waste to a level such that the organic reduction efficiency (R) for the process is equal to or greater than 95

percent and the owner or operator certifies that the average VO concentration at the point of waste origination for each of the individual waste streams entering the process is less than 10,000 ppmw. The organic reduction efficiency for the process and the average VO concentration of the hazardous waste at the point of waste origination shall be determined using the procedures specified in LAC 33:V.1753.A and B, respectively;

g. a hazardous waste incinerator for which the owner or operator has either:

   i. been issued a final permit under LAC 33:V.Chapter 5 that implements the requirements of LAC 33:V.Chapter 31; or

   ii. designed and operates the incinerator in accordance with the interim status requirements of LAC 33:V.Chapter 43.Subchapter N;

h. a boiler or industrial furnace for which the owner or operator has either:

   i. been issued a final permit under LAC 33:V.Chapter 5 that implements the requirements of LAC 33:V.Chapter 30; or

   ii. designed and operates the boiler or industrial furnace in accordance with the interim status requirements of LAC 33:V.Chapter 30;

i. for the purpose of determining the performance of an organic destruction or removal process in accordance with the conditions in each of Subsection C.2.a-f of this Section, the owner or operator shall account for VO concentrations determined to be below the limit of detection of the analytical method by using the following VO concentration:

   i. if Method 25D in 40 CFR part 60, appendix A is used for the analysis, one-half the blank value determined in the method at section 4.4 of Method 25D in 40 CFR 60, appendix A, or a value of 25 ppmw, whichever is less; or

   ii. if any other analytical method is used, one-half the limit of detection established for each organic constituent in the waste that has a Henry's law constant value at least 0.1 mole-fraction-in-the-gas-phase/mole-fraction-in-the-liquid-phase (0.1 Y/X) [which can also be expressed as 1.8×10^{-6} atmospheres/gram-mole/m^3] at 25°C;

3. a tank or surface impoundment used for biological treatment of hazardous waste in accordance with the requirements of Subsection C.2.d of this Section;

4. a tank, surface impoundment, or container for which all hazardous waste placed in the unit either:

   a. meets the numerical concentration limits for organic hazardous constituents applicable to the hazardous waste, as specified in

LAC 33:V.Chapter 22.Table 2 "Treatment Standards for Hazardous Waste"; or

b. the organic hazardous constituents in the waste have been treated by the treatment technology established by the EPA for the waste in LAC 33:V.2227.A or have been removed or destroyed by an equivalent method of treatment approved by the department in accordance with LAC 33:V.2227.B;

5. a tank used for bulk feed of hazardous waste to a waste incinerator and all of the following conditions are met:

a. the tank is located inside an enclosure vented to a control device that is designed and operated in accordance with all applicable requirements specified under 40 CFR part 61, subpart FF—National Emission Standards for Benzene Waste Operations for a facility at which the total annual benzene quantity from the facility waste is equal to or greater than 10 megagrams per year;

b. the enclosure and control device serving the tank were installed and began operation prior to November 25, 1996; and

c. the enclosure is designed and operated in accordance with the criteria for a permanent total enclosure as specified in Procedure T—Criteria for and Verification of a Permanent or Temporary Total Enclosure under 40 CFR 52.741, appendix B. The enclosure may have permanent or temporary openings to allow worker access; passage of material into or out of the enclosure by conveyor, vehicles, or other mechanical or electrical equipment; or to direct air flow into the enclosure. The owner or operator shall perform the verification procedure for the enclosure as specified in section 5.0 to Procedure T—Criteria for and Verification of a Permanent or Temporary Total Enclosure annually.

Response

Exide does not have any waste management units which meet the above criteria with the exception of LAC 33:V.1751.C.1. However, Exide is not claiming the exemption provided in LAC 33:V.1751.C.1; therefore, this section does not apply. Exide will comply with the provisions of this section and LAC 33:V.1755-1761 including when containers that meet the specifications of this exemption.

D. The administrative authority may at any time perform or request that the owner or operator perform a waste determination for a hazardous waste managed in a tank, surface impoundment, or container exempted from using air emission controls under the provisions of this Section as follows:

1. the waste determination for average VO concentration of a hazardous waste at the point of waste origination shall be performed using direct measurement in accordance with the applicable requirements of LAC

33:V.1753.A. The waste determination for a hazardous waste at the point of waste treatment shall be performed in accordance with the applicable requirements of LAC 33:V.1753.B;

Response
Exide acknowledges and understands this requirement.

2. **in performing a waste determination in accordance with Subsection D.1 of this Section, the sample preparation and analysis shall be conducted as follows:**

   a. **in accordance with the method used by the owner or operator to perform t he w aste analysis, except in the case specified in Subsection D.2.b of this Section; and**

   b. **if the administrative authority determines that the method used by the owner or operator was not appropriate for the hazardous waste managed in the tank, surface impoundment, or container, then the administrative authority may choose an appropriate method;**

Response
Exide acknowledges and understands this requirement.

3. **in a case when the owner or operator is requested to perform the waste determination, the administrative authority may elect to have an authorized representative observe the collection of the hazardous waste samples used for the analysis;**

Response
Exide acknowledges and understands this requirement.

4. **in a case when the results of the waste determination performed or requested by the administrative authority do not agree with the results of a waste determination performed by the owner or operator using knowledge of the waste, then the results of the waste determination performed in accordance with the requirements of Subsection D.1 of this Section shall be used to establish compliance with the requirements of this Subchapter;**

Response
Exide acknowledges and understands this requirement.

5. **in a case when the owner or operator has used an averaging period greater than one hour for determining the average VO concentration of a hazardous waste at the point of waste origination, the administrative authority may elect to establish compliance with this Subchapter by performing or requesting that the owner or operator perform a waste**

determination using direct measurement based on waste samples collected within a one-hour period as follows:

a. the average VO concentration of the hazardous waste at the point of waste origination shall be determined by direct measurement in accordance with the requirements of LAC 33:V.1753.A;

<u>Response</u>
Exide acknowledges and understands this requirement.

b. results of the waste determination performed or requested by the administrative authority showing that the average VO concentration of the hazardous waste at the point of waste origination is equal to or greater than 500 ppmw shall constitute noncompliance with this Subchapter, except in a case as provided for in Subsection D.5.c of this Section; and

<u>Response</u>
Exide acknowledges and understands this requirement.

c. for the case when the average VO concentration of the hazardous waste at the point of waste origination previously has been determined by the owner or operator using an averaging period greater than one hour to be less than 500 ppmw, but because of normal operating process variations the VO concentration of the hazardous waste determined by direct measurement for any given one-hour period may be equal to or greater than 500 ppmw, information that was used by the owner or operator to determine the average VO concentration of the hazardous waste (e.g., test results, measurements, calculations, and other documentation) and recorded in the facility records in accordance with the requirements of LAC 33:V.1753.A and 1765 shall be considered by the administrative authority together with the results of the waste determination performed or requested by the administrative authority in establishing compliance with this Subchapter.

<u>Response</u>
Exide acknowledges and understands this requirement.

§1753. Waste Determination Procedures

A. Waste Determination Procedure to Determine Average Volatile Organic (VO) Concentration of a Hazardous Waste at the Point of Waste Origination

1. An owner or operator shall determine the average VO concentration at the point of waste origination for each hazardous waste placed in a waste management unit exempted under the provisions of LAC

33:V.1751.C.1 from using air emission controls in accordance with standards specified in LAC 33:V.4727, as applicable to the waste management unit.

a. An initial determination of the average VO concentration of the waste stream shall be made before the first time any portion of the material in the hazardous waste stream is placed in a waste management unit exempted under the provisions of LAC 33:V.1751.C.1 from using air emission controls, and thereafter, an initial determination of the average VO concentration of the waste stream shall be made for each averaging period that a hazardous waste is managed in the unit.

b. Perform a new waste determination whenever changes to the source generating the waste stream are reasonably likely to cause the average VO concentration of the hazardous waste to increase to a level that is equal to or greater than the applicable VO concentration limits specified in LAC 33:V.1751.

<u>Response</u>
Exide is not claiming the exemption provided in LAC 33:V.1751.C.1; therefore, this section does not apply and waste determination is not required. Exide will comply with the provisions of this section and LAC 33:V.1755-1761 if containers are handled that meet the specifications of the exemption provided in LAC 33:V.1751.C.1.

2. For a waste determination that is required by Subsection A.1 of this Section, the average VO concentration of a hazardous waste at the point of waste origination shall be determined in accordance with the procedures in LAC 33:V.4727.A.2 - 4.

<u>Response</u>
Exide is not claiming the exemption provided in LAC 33:V.1751.C.1; therefore, this section does not apply and waste determination is not required.

B. Waste Determination Procedures for Treated Hazardous Waste

1. An owner or operator shall perform the applicable waste determinations for each treated hazardous waste placed in waste management units exempted under the provisions of LAC 33:V.1751.C.2.a-f from using air emission controls in accordance with standards specified in LAC 33:V.1755-1761, as applicable to the waste management unit.

a. An initial determination of the average VO concentration of the waste stream shall be made before the first time any portion of the material in the treated waste stream is placed in the exempt waste management unit, and thereafter, the information used for the waste determination shall be updated at least once every 12 months following the date of the initial waste determination.

b. **Perform a new waste determination whenever changes to the process generating or treating the waste stream are reasonably likely to cause the average VO concentration of the hazardous waste to increase to a level such that the applicable treatment conditions specified in LAC 33:V.1751.C.2 are not achieved.**

Response
Exide is not claiming the exemption provided in LAC 33:V.1751.C.2.a-f; therefore, this section does not apply.

2. **The waste determination for a treated hazardous waste shall be performed in accordance with the procedures specified in LAC 33:V.4727, as applicable to the treated hazardous waste.**

C. **Procedure to Determine the Maximum Organic Vapor Pressure of a Hazardous Waste in a Tank**

1. **An owner or operator shall determine the maximum organic vapor pressure for each hazardous waste placed in a tank using Tank Level 1 controls in accordance with standards specified in LAC 33:V.1755.C.**

2. **The maximum organic vapor pressure of the hazardous waste may be determined in accordance with the procedures specified in LAC 33:V.4727.**

Response

Exide does not store hazardous waste in tanks; therefore, this section is not applicable.

D. **The procedure for determining no detectable organic emissions for the purpose of complying with this Subchapter shall be conducted in accordance with the procedures specified in LAC 33:V.4727.**

Response
Exide understands and will comply with this provision.

§1755. Standards: Tanks

A. **The provisions of this Section apply to the control of air pollutant emissions from tanks for which LAC 33:V.1751.B references the use of this Section for such air emission control.**

Response
Exide does not treat, store, or dispose of hazardous waste in tanks; therefore, this Section does not apply.

B. **The owner or operator shall control air pollutant emissions from each tank subject to this Section in accordance with the following requirements, as applicable:**

1. for a tank that manages hazardous waste that meets all of the conditions specified in Subsection B.1.a-c of this Section, the owner or operator shall control air pollutant emissions from the tank in accordance with the Tank Level 1 controls specified in Subsection C of this Section or the Tank Level 2 controls specified in Subsection D of this Section:

   a. the hazardous waste in the tank has a maximum organic vapor pressure that is less than the maximum organic vapor pressure limit for the tank's design capacity category as follows:

      i. for a tank design capacity equal to or greater than 151 m^3, the maximum organic vapor pressure limit for the tank is 5.2 kPa;

      ii. for a tank design capacity equal to or greater than 75 m^3, but less than 151 m^3, the maximum organic vapor pressure limit for the tank is 27.6 kPa;

      iii. for a tank design capacity less than 75 m^3, the maximum organic vapor pressure limit for the tank is 76.6 kPa;

   b. the hazardous waste in the tank is not heated by the owner or operator to a temperature that is greater than the temperature at which the maximum organic vapor pressure of the hazardous waste is determined for the purpose of complying with Subsection B.1.a of this Section; and

   c. the hazardous waste in the tank is not treated by the owner or operator using a waste stabilization process, as defined in LAC 33:V.4721; and

2. for a tank that manages hazardous waste that does not meet all of the conditions specified in Subsection B.1.a-c of this Section, the owner or operator shall control air pollutant emissions from the tank by using Tank Level 2 controls in accordance with the requirements of Subsection D of this Section. Examples of tanks required to use Tank Level 2 controls include a tank used for a waste stabilization process and a tank for which the hazardous waste in the tank has a maximum organic vapor pressure that is equal to or greater than the maximum organic vapor pressure limit for the tank's design capacity category as specified in Subsection B.1.a of this Section.

C. Owners and operators controlling air pollutant emissions from a tank using Tank Level 1 controls shall meet the requirements specified in Subsection C.1-4 of this Section:

1. the owner or operator shall determine the maximum organic vapor pressure for a hazardous waste to be managed in the tank using Tank Level 1 controls before the first time the hazardous waste is placed in the tank. The maximum organic vapor pressure shall be determined using the procedures specified in LAC 33:V.1753.C. Thereafter, the owner or operator shall perform a new determination whenever changes to the hazardous waste managed in the tank could potentially

cause the maximum organic vapor pressure to increase to a level that is equal to or greater than the maximum organic vapor pressure limit for the tank design capacity category specified in Subsection B.1.a of this Section, as applicable to the tank;

2. the tank shall be equipped with a fixed roof designed to meet the following specifications:

   a. the fixed roof and its closure devices shall be designed to form a continuous barrier over the entire surface area of the hazardous waste in the tank. The fixed roof may be a separate cover installed on the tank (e.g., a removable cover mounted on an open-top tank) or may be an integral part of the tank structural design (e.g., a horizontal cylindrical tank equipped with a hatch);

   b. the fixed roof shall be installed in a manner such that there are no visible cracks, holes, gaps, or other open spaces between roof section joints or between the interface of the roof edge and the tank wall;

   c. each opening in the fixed roof, and any manifold system associated with the fixed roof, shall be either:

      i. equipped with a closure device designed to operate such that when the closure device is secured in the closed position there are no visible cracks, holes, gaps, or other open spaces in the closure device or between the perimeter of the opening and the closure device; or

      ii. connected by a closed-vent system that is vented to a control device. The control device shall remove or destroy organics in the vent stream, and shall be operating whenever hazardous waste is managed in the tank, except as follows:

         (a) during periods when it is necessary to provide access to the tank for performing the activities of Subsection C.2.c.ii.(b) of this Section, venting of the vapor headspace underneath the fixed roof to the control device is not required, opening of closure devices is allowed, and removal of the fixed roof is allowed. Following completion of the activity, the owner or operator shall promptly secure the closure device in the closed position or reinstall the cover, as applicable, and resume operation of the control device; or

         (b) during periods of routine inspection, maintenance, or other activities needed for normal operations, and for removal of accumulated sludge or other residues from the bottom of the tank;

   d. the fixed roof and its closure devices shall be made of suitable materials that will minimize exposure of the hazardous waste to

the atmosphere, to the extent practical, and will maintain the integrity of the fixed roof and closure devices throughout their intended service life. Factors to be considered when selecting the materials for and designing the fixed roof and closure devices shall include organic vapor permeability; the effects of any contact with the hazardous waste or its vapors managed in the tank; the effects of outdoor exposure to wind, moisture, and sunlight; and the operating practices used for the tank on which the fixed roof is installed;

3. whenever a hazardous waste is in the tank, the fixed roof shall be installed with each closure device secured in the closed position except as follows:

   a. opening of closure devices or removal of the fixed roof is allowed at the following times:

      i. to provide access to the tank for performing routine inspection, maintenance, or other activities needed for normal operations. Examples of such activities include those times when a worker needs to open a port to sample the liquid in the tank or when a worker needs to open a hatch to maintain or repair equipment. Following completion of the activity the owner or operator shall promptly secure the closure device in the closed position or reinstall the cover, as applicable, to the tank;

      ii. to remove accumulated sludge or other residues from the bottom of the tank;

   b. opening of a spring-loaded pressure-vacuum relief valve, conservation vent, or similar type of pressure relief device that vents to the atmosphere is allowed during normal operations for the purpose of maintaining the tank internal pressure in accordance with the tank design specifications. The device shall be designed to operate with no detectable organic emissions when the device is secured in the closed position. The settings at which the device opens shall be established such that the device remains in the closed position whenever the tank internal pressure is within the internal pressure operating range determined by the owner or operator based on the tank manufacturer recommendations, applicable regulations, fire protection and prevention codes, standard engineering codes and practices, or other requirements for the safe handling of flammable, ignitable, explosive, reactive, or hazardous materials. Examples of normal operating conditions that may require these devices to open are during those times when the tank internal pressure exceeds the internal pressure operating range for the tank as a result of loading operations or diurnal ambient temperature fluctuations;

c. opening of a safety device, as defined in LAC 33:V.4721, is allowed at any time conditions require doing so to avoid an unsafe condition;

4. the owner or operator shall inspect the air emission control equipment in accordance with the following requirements:

a. the fixed roof and its closure devices shall be visually inspected by the owner or operator to check for defects that could result in air pollutant emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in the roof sections or between the roof and the tank wall; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices;

b. the owner or operator shall perform an initial inspection of the fixed roof and its closure devices on or before the date that the tank becomes subject to this Section. Thereafter, the owner or operator shall perform the inspections at least once every year, except under the special conditions provided for in Subsection L of this Section;

c. in the event that a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of Subsection K of this Section; and

d. the owner or operator shall maintain a record of the inspection in accordance with the requirements specified in LAC 33:V.1765.B.

D. Owners and operators controlling air pollutant emissions from a tank using Tank Level 2 controls shall use one of the following tanks:

1. a fixed-roof tank equipped with an internal floating roof in accordance with the requirements specified in Subsection E of this Section;

2. a tank equipped with an external floating roof in accordance with the requirements specified in Subsection F of this Section;

3. a tank vented through a closed-vent system to a control device in accordance with the requirements specified in Subsection G of this Section;

4. a pressure tank designed and operated in accordance with the requirements specified in Subsection H of this Section; or

5. a tank located inside an enclosure that is vented through a closed-vent system to an enclosed combustion control device in accordance with the requirements specified in Subsection I of this Section.

E. The owner or operator who controls air pollutant emissions from a tank using a fixed roof with an internal floating roof shall meet the requirements specified in Subsection E.1-3 of this Section.

1. the tank shall be equipped with a fixed roof and an internal floating roof in accordance with the following requirements:

   a. the internal floating roof shall be designed to float on the liquid surface except when the floating roof must be supported by the leg supports;

   b. the internal floating roof shall be equipped with a continuous seal between the wall of the tank and the floating roof edge that meets either of the following requirements:

      i. a single continuous seal that is either a liquid-mounted seal or a metallic shoe seal, as defined in LAC 33:V.4721; or

      ii. two continuous seals mounted one above the other. The lower seal may be a vapor-mounted seal;

   c. the internal floating roof shall meet the following specifications:

      i. each opening in a noncontact internal floating roof, except for automatic bleeder vents (vacuum breaker vents) and the rim space vents, is to provide a projection below the liquid surface;

      ii. each opening in the internal floating roof shall be equipped with a gasketed cover or a gasketed lid except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains;

      iii. each penetration of the internal floating roof for the purpose of sampling shall have a slit fabric cover that covers at least 90 percent of the opening;

      iv. each automatic bleeder vent and rim space vent shall be gasketed;

      v. each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover; and

      vi. each penetration of the internal floating roof that allows for passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover;

2. the owner or operator shall operate the tank in accordance with the following requirements:

   a. when the floating roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be completed as soon as practical;

   b. automatic bleeder vents are to be set closed at all times when the roof is floating, except when the roof is being floated off or is being landed on the leg supports; and

c. prior to filling the tank, each cover, access hatch, gauge float well, or lid on any opening in the internal floating roof shall be bolted or fastened closed (i.e., no visible gaps). Rim space vents are to be set to open only when the internal floating roof is not floating or when the pressure beneath the rim exceeds the manufacturer's recommended setting;

3. the owner or operator shall inspect the internal floating roof in accordance with the procedures specified as follows:

a. the floating roof and its closure devices shall be visually inspected by the owner or operator to check for defects that could result in air pollutant emissions. Defects include, but are not limited to, the internal floating roof is not floating on the surface of the liquid inside the tank; liquid has accumulated on top of the internal floating roof; any portion of the roof seals have detached from the roof rim; holes, tears, or other openings are visible in the seal fabric; the gaskets no longer close off the hazardous waste surface from the atmosphere; or the slotted membrane has more than 10 percent open area;

b. the owner or operator shall inspect the internal floating roof components as follows, except as provided in Subsection E.3.c of this Section:

i. visually inspect the internal floating roof components through openings on the fixed-roof (e.g., manholes and roof hatches) at least once every 12 months after initial fill; and

ii. visually inspect the internal floating roof, primary seal, secondary seal (if one is in service), gaskets, slotted membranes, and sleeve seals (if any) each time the tank is emptied and degassed and at least every 10 years;

c. as an alternative to performing the inspections specified in Subsection E.3.b of this Section for an internal floating roof equipped with two continuous seals mounted one above the other, the owner or operator may visually inspect the internal floating roof, primary and secondary seals, gaskets, slotted membranes, and sleeve seals (if any) each time the tank is emptied and degassed and at least every 5 years;

d. prior to each inspection required by Subsection E.3.b or c of this Section, the owner or operator shall notify the administrative authority in advance of each inspection to provide the administrative authority with the opportunity to have an observer present during the inspection. The owner or operator shall notify the administrative authority of the date and location of the inspection as follows:

i. prior to each visual inspection of an internal floating roof in a tank that has been emptied and degassed, written notification shall be prepared and sent by the owner or

operator so that it is received by the administrative authority at least 30 calendar days before refilling the tank except when an inspection is not planned as provided for in Subsection E.3.d.ii of this Section;

ii. when a visual inspection is not planned and the owner or operator could not have known about the inspection 30 calendar days before refilling the tank, the owner or operator shall notify the administrative authority as soon as possible, but no later than seven calendar days before refilling of the tank. This notification may be made by telephone and immediately followed by a written explanation for why the inspection is unplanned. Alternatively, written notification, including the explanation for the unplanned inspection, may be sent so that it is received by the administrative authority at least seven calendar days before refilling the tank;

e. in the event that a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of Subsection K of this Section; and

f. the owner or operator shall maintain a record of the inspection in accordance with the requirements specified in LAC 33:V.1765.B.

4. safety devices, as defined in LAC 33:V.4721, may be installed and operated as necessary on any tank complying with the requirements of Subsection E of this Section.

F. The owner or operator who controls air pollutant emissions from a tank using an external floating roof shall meet the requirements specified in Subsection F.1-3 of this Section.

1. the owner or operator shall design the external floating roof in accordance with the following requirements:

a. the external floating roof shall be designed to float on the liquid surface except when the floating roof must be supported by the leg supports;

b. the floating roof shall be equipped with two continuous seals, one above the other, between the wall of the tank and the roof edge. The lower seal is referred to as the primary seal, and the upper seal is referred to as the secondary seal;

i. the primary seal shall be a liquid-mounted seal or a metallic shoe seal, as defined in LAC 33:V.4721. The total area of the gaps between the tank wall and the primary seal shall not exceed 212 square centimeters (cm^2) per meter of tank diameter, and the width of any portion of these gaps shall not exceed 3.8 centimeters (cm). If a metallic shoe seal is used for the primary seal, the metallic shoe seal shall be designed so that one end

extends into the liquid in the tank and the other end extends a vertical distance of at least 61 centimeters above the liquid surface; and

ii. the secondary seal shall be mounted above the primary seal and cover the annular space between the floating roof and the wall of the tank. The total area of the gaps between the tank wall and the secondary seal shall not exceed 21.2 square centimeters (cm^2) per meter of tank diameter, and the width of any portion of these gaps shall not exceed 1.3 centimeters (cm); and

c. the external floating roof shall meet the following specifications:

i. except for automatic bleeder vents (vacuum breaker vents) and rim space vents, each opening in a noncontact external floating roof shall provide a projection below the liquid surface;

ii. except for automatic bleeder vents, rim space vents, roof drains, and leg sleeves, each opening in the roof shall be equipped with a gasketed cover, seal, or lid;

iii. each access hatch and each gauge float well shall be equipped with a cover designed to be bolted or fastened when the cover is secured in the closed position;

iv. each automatic bleeder vent and each rim space vent shall be equipped with a gasket;

v. each roof drain that empties into the liquid managed in the tank shall be equipped with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening;

vi. each unslotted and slotted guide pole well shall be equipped with a gasketed sliding cover or a flexible fabric sleeve seal;

vii. each unslotted guide pole shall be equipped with a gasketed cap on the end of the pole;

viii. each slotted guide pole shall be equipped with a gasketed float or other device which closes off the liquid surface from the atmosphere; and

ix. each gauge hatch and each sample well shall be equipped with a gasketed cover;

2. the owner or operator shall operate the tank in accordance with the following requirements:

a. when the floating roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be completed as soon as practical;

b. except for automatic bleeder vents, rim space vents, roof drains, and leg sleeves, each opening in the roof shall be secured and maintained in a closed position at all times except when the closure device must be open for access;

c. covers on each access hatch and each gauge float well shall be bolted or fastened when secured in the closed position;

d. automatic bleeder vents shall be set closed at all times when the roof is floating, except when the roof is being floated off or is being landed on the leg supports;

e. rim space vents shall be set to open only at those times that the roof is being floated off the roof leg supports or when the pressure beneath the rim seal exceeds the manufacturer's recommended setting;

f. the cap on the end of each unslotted guide pole shall be secured in the closed position at all times except when measuring the level or collecting samples of the liquid in the tank;

g. the cover on each gauge hatch or sample well shall be secured in the closed position at all times except when the hatch or well must be opened for access; and

h. both the primary seal and the secondary seal shall completely cover the annular space between the external floating roof and the wall of the tank in a continuous fashion except during inspections;

3. the owner or operator shall inspect the external floating roof in accordance with the procedures specified as follows:

a. the owner or operator shall measure the external floating roof seal gaps in accordance with the following requirements:

i. the owner or operator shall perform measurements of gaps between the tank wall and the primary seal within 60 calendar days after initial operation of the tank following installation of the floating roof and, thereafter, at least once every five years;

ii. the owner or operator shall perform measurements of gaps between the tank wall and the secondary seal within 60 calendar days after initial operation of the tank following installation of the floating roof and, thereafter, at least once every year;

iii. if a tank ceases to hold hazardous waste for a period of one year or more, subsequent introduction of hazardous waste into the tank shall be considered an initial operation for the purposes of Subsection F.3.a.i and ii of this Section;

iv. the owner or operator shall determine the total surface area of gaps in the primary seal and in the secondary seal individually using the following procedure:

(a) the seal gap measurements shall be performed at one or more floating roof levels when the roof is floating off the roof supports;

(b) seal gaps, if any, shall be measured around the entire perimeter of the floating roof in each place where a 0.32-centimeter (cm) diameter uniform probe passes freely (without forcing or binding against the seal) between the seal and the wall of the tank and measure the circumferential distance of each such location;

(c) for a seal gap measured under Subsection F.3 of this Section, the gap surface area shall be determined by using probes of various widths to measure accurately the actual distance from the tank wall to the seal and multiplying each such width by its respective circumferential distance;

(d) the total gap area shall be calculated by adding the gap surface areas determined for each identified gap location for the primary seal and the secondary seal individually, and then dividing the sum for each seal type by the nominal diameter of the tank. These total gap areas for the primary seal and secondary seal are then compared to the respective standards for the seal type as specified in Subsection F.1.b of this Section.

v. in the event that the seal gap measurements do not conform to the specifications in Subsection F.1.b of this Section, the owner or operator shall repair the defect in accordance with the requirements of Subsection K of this Section; and

vi. the owner or operator shall maintain a record of the inspection in accordance with the requirements specified in LAC 33:V.1765.B;

b. the owner or operator shall visually inspect the external floating roof in accordance with the following requirements:

i. the floating roof and its closure devices shall be visually inspected by the owner or operator to check for defects that could result in air pollutant emissions. Defects include, but are not limited to, holes, tears, or other openings in the rim seal or seal fabric of the floating roof; a rim seal detached from the floating roof; all or a portion of the floating roof deck being submerged below the surface of the liquid in the tank; broken, cracked, or

otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices;

ii. the owner or operator shall perform an initial inspection of the external floating roof and its closure devices on or before the date that the tank becomes subject to this Section. Thereafter, the owner or operator shall perform the inspections at least once every year except for the special conditions provided for in Subsection L of this Section;

iii. in the event that a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of Subsection K of this Section; and

iv. the owner or operator shall maintain a record of the inspection in accordance with the requirements specified in LAC 33:V.1765.B;

c. prior to each inspection required by Subsection F.3.a or F.3.b of this Section, the owner or operator shall notify the administrative authority in advance of each inspection to provide the administrative authority with the opportunity to have an observer present during the inspection. The owner or operator shall notify the administrative authority of the date and location of the inspection as follows:

i. prior to each inspection to measure external floating roof seal gaps as required under Subsection F.3.a of this Section, written notification shall be prepared and sent by the owner or operator so that it is received by the administrative authority at least 30 calendar days before the date the measurements are scheduled to be performed;

ii. prior to each visual inspection of an external floating roof in a tank that has been emptied and degassed, written notification shall be prepared and sent by the owner or operator so that it is received by the administrative authority at least 30 calendar days before refilling the tank, except when an inspection is not planned as provided for in Subsection F.3.c.iii of this Section; and

iii. when a visual inspection is not planned and the owner or operator could not have known about the inspection 30 calendar days before refilling the tank, the owner or operator shall notify the administrative authority as soon as possible, but no later than seven calendar days before refilling of the tank. This notification may be made by telephone and immediately followed by a written explanation stating why the inspection is unplanned. Alternatively, written notification, including the explanation for the unplanned inspection, may be sent so

that it is received by the administrative authority at least seven calendar days before refilling the tank.

4. safety devices, as defined in LAC 33:V.4721, may be installed and operated as necessary on any tank complying with the requirements of Subsection F of this Section.

G. The owner or operator who controls air pollutant emissions from a tank by venting the tank to a control device shall meet the requirements specified in Subsection G.1-3 of this Section:

1. the tank shall be covered by a fixed roof and vented directly through a closed-vent system to a control device in accordance with the following requirements:

   a. the fixed roof and its closure devices shall be designed to form a continuous barrier over the entire surface area of the liquid in the tank;

   b. each opening in the fixed roof not vented to the control device shall be equipped with a closure device. If the pressure in the vapor headspace underneath the fixed roof is less than atmospheric pressure when the control device is operating, the closure devices shall be designed to operate such that when the closure device is secured in the closed position there are no visible cracks, holes, gaps, or other open spaces in the closure device or between the perimeter of the cover opening and the closure device. If the pressure in the vapor headspace underneath the fixed roof is equal to or greater than atmospheric pressure when the control device is operating, the closure device shall be designed to operate with no detectable organic emissions;

   c. the fixed roof and its closure devices shall be made of suitable materials that will minimize exposure of the hazardous waste to the atmosphere, to the extent practical, and will maintain the integrity of the fixed roof and closure devices throughout their intended service life. Factors to be considered when selecting the materials for and designing the fixed roof and closure devices shall include organic vapor permeability; the effects of any contact with the liquid and its vapor managed in the tank; the effects of outdoor exposure to wind, moisture, and sunlight; and the operating practices used for the tank on which the fixed roof is installed; and

   d. the closed-vent system and control device shall be designed and operated in accordance with the requirements of LAC 33:V.1761;

2. whenever a hazardous waste is in the tank, the fixed roof shall be installed with each closure device secured in the closed position and the vapor headspace underneath the fixed roof vented to the control device except as follows:

a. venting to the control device is not required, and opening of closure devices or removal of the fixed roof is allowed at the following times:

i. to provide access to the tank for performing routine inspection, maintenance, or other activities needed for normal operations. Examples of such activities include those times when a worker needs to open a port to sample liquid in the tank or when a worker needs to open a hatch to maintain or repair equipment. Following completion of the activity, the owner or operator shall promptly secure the closure device in the closed position or reinstall the cover, as applicable, to the tank; and

ii. to remove accumulated sludge or other residues from the bottom of a tank;

b. opening of a safety device, as defined in LAC 33:V.4721, is allowed at any time conditions require doing so to avoid an unsafe condition;

3. the owner or operator shall inspect and monitor the air emission control equipment in accordance with the following procedures:

a. the fixed roof and its closure devices shall be visually inspected by the owner or operator to check for defects that could result in air pollutant emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in the roof sections or between the roof and the tank wall; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices;

b. the closed-vent system and control device shall be inspected and monitored by the owner or operator in accordance with the procedures specified in LAC 33:V.1761;

c. the owner or operator shall perform an initial inspection of the air emission control equipment on or before the date that the tank becomes subject to this Section. Thereafter, the owner or operator shall perform the inspections at least once every year, except for the special conditions provided for in Subsection L of this Section;

d. in the event that a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of Subsection K of this Section; and

e. the owner or operator shall maintain a record of the inspection in accordance with the requirements specified in LAC 33:V.1765.B;

H. The owner or operator who controls air pollutant emissions by using a pressure tank shall meet the following requirements:

1. the tank shall be designed not to vent to the atmosphere as a result of compression of the vapor headspace in the tank during filling of the tank to its design capacity;

2. all tank openings shall be equipped with closure devices designed to operate with no detectable organic emissions as determined using the procedure specified in LAC 33:V.1753.D; and

3. whenever a hazardous waste is in the tank, the tank shall be operated as a closed system that does not vent to the atmosphere except under either of the following conditions as specified in Subsection H.3.a and b of this Section:

   a. at those times when opening of a safety device, as defined in LAC 33:V.1703, is required to avoid an unsafe condition; or

   b. at those times when purging of inerts from the tank is required and the purge stream is routed to a closed-vent system and control device designed and operated in accordance with the requirements of LAC 33:V.1761.

I. The owner or operator who controls air pollutant emissions by using an enclosure vented through a closed-vent system to an enclosed combustion control device shall meet the requirements specified in Subsection I.1-4 of this Section:

1. the tank shall be located inside an enclosure. The enclosure shall be designed and operated in accordance with the criteria for a permanent total enclosure as specified in Procedure T—Criteria for and Verification of a Permanent or Temporary Total Enclosure under 40 CFR 52.741, appendix B. The enclosure may have permanent or temporary openings to allow worker access; passage of material into or out of the enclosure by conveyor, vehicles, or other mechanical means; entry of permanent mechanical or electrical equipment; or direct airflow into the enclosure. The owner or operator shall perform the verification procedure for the enclosure as specified in section 5.0 to Procedure T—Criteria for and Verification of a Permanent or Temporary Total Enclosure initially when the enclosure is first installed and, thereafter, annually;

2. the enclosure shall be vented through a closed-vent system to an enclosed combustion control device that is designed and operated in accordance with the standards for either a vapor incinerator, boiler, or process heater specified in LAC 33:V.1761;

3. safety devices, as defined in LAC 33:V.4721, may be installed and operated as necessary on any enclosure, closed-vent system, or control device used to comply with the requirements of Subsection I.1 and 2 of this Section; and

4. the owner or operator shall inspect and monitor the closed-vent system and control device as specified in LAC 33:V.1761.

J. The owner or operator shall transfer hazardous waste to a tank subject to this Section in accordance with the following requirements:

1. transfer of hazardous waste, except as provided in Subsection J.2 of this Section, to the tank from another tank subject to this Section or from a surface impoundment subject to LAC 33:V.1757 shall be conducted using continuous hard-piping or another closed system that does not allow exposure of the hazardous waste to the atmosphere. For the purpose of complying with this provision, an individual drain system is considered to be a closed system when it meets the requirements of 40 CFR part 63, subpart RR—National Emission Standards for Individual Drain Systems; and

2. the requirements of Subsection J.1 of this Section do not apply when transferring a hazardous waste to the tank under any of the following conditions:

   a. the hazardous waste meets the average VO concentration conditions specified in LAC 33:V.1751.C.1 at the point of waste origination;

   b. the hazardous waste has been treated by an organic destruction or removal process to meet the requirements in LAC 33:V.1751.C.2; or

   c. the hazardous waste meets the requirements of LAC 33:V.1751.C.4.

K. The owner or operator shall repair each defect detected during an inspection performed in accordance with the requirements of Subsection C.4, E.3, F.3, or G.3 of this Section as follows:

1. the owner or operator shall make first efforts at repair of the defect no later than five calendar days after detection, and repair shall be completed as soon as possible, but no later than 45 calendar days after detection, except as provided in Subsection K.2 of this Section; and

2. repair of a defect may be delayed beyond 45 calendar days if the owner or operator determines that repair of the defect requires emptying or temporary removal from service of the tank and no alternative tank capacity is available at the site to accept the hazardous waste normally managed in the tank. In this case, the owner or operator shall repair the defect the next time the process or unit that is generating the hazardous waste managed in the tank stops operation. Repair of the defect shall be completed before the process or unit resumes operation.

L. Following the initial inspection and monitoring of the cover as required by the applicable provisions of this Subchapter, subsequent inspection and monitoring may be performed at intervals longer than one year under the following special conditions:

1. in the case when inspecting or monitoring the cover would expose a worker to dangerous, hazardous, or other unsafe conditions, then the owner or operator may designate a cover as an "unsafe to inspect and monitor cover" and comply with all of the following requirements:

   a. prepare a written explanation for the cover stating the reasons why the cover is unsafe to visually inspect or to monitor, if required; and

   b. develop and implement a written plan and schedule to inspect and monitor the cover, using the procedures specified in the applicable section of this Subchapter, as frequently as practicable during those times when a worker can safely access the cover; and

2. in the case when a tank is buried partially or entirely underground, an owner or operator is required to inspect and monitor, as required by the applicable provisions of this Section, only those portions of the tank cover and those connections to the tank (e.g., fill ports, access hatches, gauge wells, etc.) that are located on or above the ground surface.

§1757. Standards: Surface Impoundments

A. The provisions of this Section apply to the control of air pollutant emissions from surface impoundments for which LAC 33:V.1751.B references the use of this Section for such air emission control.

<u>Response</u>
Exide has no surface impoundments; therefore, this section does not apply.

B. The owner or operator shall control air pollutant emissions from the surface impoundment by installing and operating either of the following:

1. a floating membrane cover in accordance with the provisions specified in Subsection C of this Section; or

2. a cover that is vented through a closed-vent system to a control device in accordance with the provisions specified in Subsection D of this Section.

C. The owner or operator who controls air pollutant emissions from a surface impoundment using a floating membrane cover shall meet the requirements specified in Subsection C.1-3 of this Section.

1. the surface impoundment shall be equipped with a floating membrane cover designed to meet the following specifications:

   a. the floating membrane cover shall be designed to float on the liquid surface during normal operations and form a continuous barrier over the entire surface area of the liquid;

   b. the cover shall be fabricated from a synthetic membrane material that is either:

i. high density polyethylene (HDPE) with a thickness no less than 2.5 millimeters (mm); or

ii. a material or a composite of different materials determined to have both organic permeability properties that are equivalent to those of the material listed in Subsection C.1.b.i of this Section and chemical and physical properties that maintain the material integrity for the intended service life of the material;

c. the cover shall be installed in a manner such that there are no visible cracks, holes, gaps, or other open spaces between cover section seams or between the interface of the cover edge and its foundation mountings;

d. except as provided for in Subsection C.1.e of this Section, each opening in the floating membrane cover shall be equipped with a closure device designed to operate such that when the closure device is secured in the closed position there are no visible cracks, holes, gaps, or other open spaces in the closure device or between the perimeter of the cover opening and the closure device;

e. the floating membrane cover may be equipped with one or more emergency cover drains for removal of stormwater. Each emergency cover drain shall be equipped with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening or a flexible fabric sleeve seal; and

f. the closure devices shall be made of suitable materials that will minimize exposure of the hazardous waste to the atmosphere, to the extent practical, and will maintain the integrity of the closure devices throughout their intended service life. Factors to be considered when selecting the materials of construction and designing the cover and closure devices shall include: organic vapor permeability; the effects of any contact with the liquid and its vapor managed in the surface impoundment; the effects of outdoor exposure to wind, moisture, and sunlight; and the operating practices used for the surface impoundment on which the floating membrane cover is installed;

2. whenever a hazardous waste is in the surface impoundment, the floating membrane cover shall float on the liquid and each closure device shall be secured in the closed position except as follows:

a. opening of closure devices or removal of the cover is allowed at the following times:

i. to provide access to the surface impoundment for performing routine inspection, maintenance, or other activities needed for normal operations. Examples of such activities include those times when a worker needs to open a port to sample the liquid in the surface impoundment or when a worker needs to open a hatch to

maintain or repair equipment. Following completion of the activity, the owner or operator shall promptly replace the cover and secure the closure device in the closed position, as applicable; and

ii. to remove accumulated sludge or other residues from the bottom of the surface impoundment; and

b. opening of a safety device, as defined in LAC 33:V.4721, is allowed at any time conditions require doing so to avoid an unsafe condition; and

3. the owner or operator shall inspect the floating membrane cover in accordance with the following procedures:

a. the floating membrane cover and its closure devices shall be visually inspected by the owner or operator to check for defects that could result in air pollutant emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in the cover section seams or between the interface of the cover edge and its foundation mountings; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices; and

b. the owner or operator shall perform an initial inspection of the floating membrane cover and its closure devices on or before the date that the surface impoundment becomes subject to this Section. Thereafter, the owner or operator shall perform the inspections at least once every year, except for the special conditions provided for in Subsection G of this Section;

c. in the event that a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of Subsection F of this Section; and

d. the owner or operator shall maintain a record of the inspection in accordance with the requirements specified in LAC 33:V.1765.C.

D. The owner or operator who controls air pollutant emissions from a surface impoundment using a cover vented to a control device shall meet the requirements specified in Subsection D.1-3 of this Section.

1. the surface impoundment shall be covered by a cover and vented directly through a closed-vent system to a control device in accordance with the following requirements:

a. the cover and its closure devices shall be designed to form a continuous barrier over the entire surface area of the liquid in the surface impoundment;

b. each opening in the cover not vented to the control device shall be equipped with a closure device. If the pressure in the vapor headspace underneath the cover is less than atmospheric pressure when the control device is operating, the closure

devices shall be designed to operate such that when the closure device is secured in the closed position there are no visible cracks, holes, gaps, or other open spaces in the closure device or between the perimeter of the cover opening and the closure device. If the pressure in the vapor headspace underneath the cover is equal to or greater than atmospheric pressure when the control device is operating, the closure device shall be designed to operate with no detectable organic emissions using the procedure specified in LAC 33:V.1753.D;

c. the cover and its closure devices shall be made of suitable materials that will minimize exposure of the hazardous waste to the atmosphere, to the extent practical, and will maintain the integrity of the cover and closure devices throughout their intended service life. Factors to be considered when selecting the materials of construction and designing the cover and closure devices shall include: organic vapor permeability; the effects of any contact with the liquid or its vapors managed in the surface impoundment; the effects of outdoor exposure to wind, moisture, and sunlight; and the operating practices used for the surface impoundment on which the cover is installed; and

d. the closed-vent system and control device shall be designed and operated in accordance with the requirements of LAC 33:V.1761;

2. whenever a hazardous waste is in the surface impoundment, the cover shall be installed with each closure device secured in the closed position and the vapor headspace underneath the cover vented to the control device except as follows:

a. venting to the control device is not required, and opening of closure devices or removal of the cover is allowed at the following times:

i. to provide access to the surface impoundment for performing routine inspection, maintenance, or other activities needed for normal operations. Examples of such activities include those times when a worker needs to open a port to sample liquid in the surface impoundment or when a worker needs to open a hatch to maintain or repair equipment. Following completion of the activity, the owner or operator shall promptly secure the closure device in the closed position or reinstall the cover, as applicable, to the surface impoundment; and

ii. to remove accumulated sludge or other residues from the bottom of the surface impoundment;

b. opening of a safety device, as defined in LAC 33:V.4721, is allowed at any time conditions require doing so to avoid an unsafe condition;

3. the owner or operator shall inspect and monitor the air emission control equipment in accordance with the following procedures:

   a. the surface impoundment cover and its closure devices shall be visually inspected by the owner or operator to check for defects that could result in air pollutant emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in the cover section seams or between the interface of the cover edge and its foundation mountings; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices;

   b. the closed-vent system and control device shall be inspected and monitored by the owner or operator in accordance with the procedures specified in LAC 33:V.1761;

   c. the owner or operator shall perform an initial inspection of the air emission control equipment on or before the date that the surface impoundment becomes subject to this Section. Thereafter, the owner or operator shall perform the inspections at least once every year, except for the special conditions provided for in Subsection G of this Section;

   d. in the event that a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of Subsection F of this Section; and

   e. the owner or operator shall maintain a record of the inspection in accordance with the requirements specified in LAC 33:V.1765.C.

E. The owner or operator shall transfer hazardous waste to a surface impoundment subject to this Section in accordance with the following requirements:

1. transfer of hazardous waste, except as provided in Subsection E.2 of this Section, to the surface impoundment from another surface impoundment subject to this Section or from a tank subject to LAC 33:V.1755 shall be conducted using continuous hard-piping or another closed system that does not allow exposure of the waste to the atmosphere. For the purpose of complying with this provision, an individual drain system is considered to be a closed system when it meets the requirements of 40 CFR part 63, subpart RR□National Emission Standards for Individual Drain Systems; and

2. the requirements of Subsection E.1 of this Section do not apply when transferring a hazardous waste to the surface impoundment under either of the following conditions:

   a. the hazardous waste meets the average VO concentration conditions specified in LAC 33:V.1751.C.1 at the point of waste origination;

b. the hazardous waste has been treated by an organic destruction or removal process to meet the requirements in LAC 33:V.1751.C.2;

c. the hazardous waste meets the requirements of LAC 33:V.1751.C.4.

F. The owner or operator shall repair each defect detected during an inspection performed in accordance with the requirements of Subsection C.3 or D.3 of this Section:

1. the owner or operator shall make first efforts at repair of the defect no later than five calendar days after detection, and repair shall be completed as soon as possible, but no later than 45 calendar days, after detection except as provided in Subsection F.2 of this Section;

2. repair of a defect may be delayed beyond 45 calendar days if the owner or operator determines that repair of the defect requires emptying or temporary removal from service of the surface impoundment and no alternative capacity is available at the site to accept the hazardous waste normally managed in the surface impoundment. In this case, the owner or operator shall repair the defect the next time the process or unit that is generating the hazardous waste managed in the surface impoundment stops operation. Repair of the defect shall be completed before the process or unit resumes operation.

G. Following the initial inspection and monitoring of the cover as required by the applicable provisions of this Subchapter, subsequent inspection and monitoring may be performed at intervals longer than one year in the case when inspecting or monitoring the cover would expose a worker to dangerous, hazardous, or other unsafe conditions. In this case, the owner or operator may designate the cover as an "unsafe to inspect and monitor cover" and comply with all of the following requirements:

1. prepare a written explanation for the cover stating the reasons why the cover is unsafe to visually inspect or to monitor, if required; and

2. develop and implement a written plan and schedule to inspect and monitor the cover using the procedures specified in the applicable section of this Subchapter as frequently as practicable during those times when a worker can safely access the cover.

§1759. Standards: Containers

A. The provisions of this Section apply to the control of air pollutant emissions from containers for which LAC 33:V.1751.B references the use of this Section for such air emission control.

Response

Exide stores hazardous waste in DOT-approved 55-gallon drums in the K069/D008 container storage area and spent lead-acid batteries at the Whole Battery Storage Area and Truck/Trailer Storage Area. Exide also operates an air handling and

treatment system as part of operations at the Containment Building. A schematic drawing of the air handling system is provided as Figure 8.

B. General Requirements

1. The owner or operator shall control air pollutant emissions from each container subject to this Section in accordance with the following requirements, as applicable to the container, except when the special provisions for waste stabilization processes specified in Subsection B.2 of this Section apply to the container:

a. for a container having a design capacity greater than 0.1 m^3 and less than or equal to 0.46 m^3, the owner or operator shall control air pollutant emissions from the container in accordance with the Container Level 1 standards specified in Subsection C of this Section;

<u>Response</u>
Exide stores hazardous wastes in containers with design capacities greater than 0.1 m^3 and less than or equal to 0.46 m^3. Air pollutant emissions from these containers will be controlled per Level 1 standards.

b. for a container having a design capacity greater than 0.46 m^3 that is not in light material service, the owner or operator shall control air pollutant emissions from the container in accordance with the Container Level 1 standards specified in Subsection C of this Section; and

c. for a container having a design capacity greater than 0.46 m^3 that is in light material service, the owner or operator shall control air pollutant emissions from the container in accordance with the Container Level 2 standards specified in Subsection D of this Section.

2. When a container having a design capacity greater than 0.1 m^3 is used for treatment of a hazardous waste by a waste stabilization process, the owner or operator shall control air pollutant emissions from the container in accordance with the Container Level 3 standards specified in Subsection E of this Section at those times during the waste stabilization process when the hazardous waste in the container is exposed to the atmosphere.

<u>Response</u>

As Exide does not use containers of any size for treatment of hazardous waste, therefore Level 3 standards do not apply.

C. Container Level 1 Standards

1. A container using Container Level 1 controls is one of the following:

a. a container that meets the applicable U.S. Department of Transportation (DOT) regulations on packaging hazardous materials for transportation, as specified in Subsection F of this Section;

b. a container equipped with a cover and closure devices that form a continuous barrier over the container openings such that when the cover and closure devices are secured in the closed position there are no visible holes, gaps, or other open spaces into the interior of the container. The cover may be a separate cover installed on the c ontainer (e.g., a l id o n a d rum o r a suitably secured tarp on a roll-off box) or may be an integral part of the container structural design (e.g., a "portable tank" or bulk cargo container equipped with a screw-type cap);

c. an open-top container in which an organic-vapor-suppressing barrier is placed on or over the hazardous waste in the container such that no hazardous waste is exposed to the atmosphere. One example of such a barrier is application of a suitable organic-vapor-suppressing foam.

Response

Hazardous waste is stored in DOT-approved 55 gallon drums with lids.

2. A container used to meet the requirements of Subsection C.1.b or c of this Section shall be equipped with covers and closure devices, as applicable to the container, that are composed of suitable materials to minimize exposure of the hazardous waste to the atmosphere and to maintain the equipment integrity, for as long as the container is in service. Factors to be considered in selecting the materials of construction and designing the cover and closure devices shall include: organic vapor permeability; the effects of contact with the hazardous waste or its vapor managed in the container; the effects of outdoor exposure of the closure device or cover material to wind, moisture, and sunlight; and the operating practices for which t he container is intended to be used.

Response

Exide does not use containers to meet the requirements of subsection C.1.b or c of this section.

3. Whenever a hazardous waste is in a container using Container Level 1 controls, the owner or operator shall install all covers and closure devices for the container, as applicable to the container, and secure and maintain each closure device in the closed position except as follows:

a. opening of a closure device or cover is allowed for the purpose of adding hazardous waste or other material to the container as follows:

i. **in the case when the container is filled to the intended final level in one continuous operation, the owner or operator shall promptly secure the closure devices in the closed position and install the covers, as applicable to the container, upon conclusion of the filling operation; and**

ii. **in the case when discrete quantities or batches of material intermittently are added to the container over a period of time, the owner or operator shall promptly secure the closure devices in the closed position and install covers, as applicable to the container, upon either the container being filled to the intended final level, the completion of a batch loading after which no additional material will be added to the container within 15 minutes, the person performing the loading operation leaving the immediate vicinity of the container, or the shutdown of the process generating the material being added to the container, whichever condition occurs first;**

Response
Containers (i.e., 55 gallon drums) holding hazardous wastes are kept closed during storage except when adding or removing waste. Container storage areas are inspected for open containers and noted on an inspection form. An example inspection form has been included with the Inspection Plan and Schedule in Appendix 5.

b. **opening of a closure device or cover is allowed for the purpose of removing hazardous waste from the container as follows:**

i. **for the purpose of meeting the requirements of this Section an empty container, as defined in LAC 33:V.109, may be open to the atmosphere at any time (i.e., covers and closure devices are not required to be secured in the closed position on an empty container);**

ii. **in the case when discrete quantities or batches of material are removed from the container but the container does not meet the conditions to be an empty container, as defined in LAC 33:V.109, the owner or operator shall promptly secure the closure devices in the closed position and install covers, as applicable to the container, upon the completion of a batch removal after which no additional material will be removed from the container within 15 minutes or the person performing the unloading operation leaves the immediate vicinity of the container, whichever condition occurs first;**

Response
Containers holding hazardous wastes are kept closed during storage except when adding or removing waste. Container

storage areas are inspected for open containers and noted on an inspection form. An example inspection form is included with the Inspection Plan and Schedule in Appendix 5.

c. **opening of a closure device or cover is allowed when access inside the container is needed to perform routine activities other than transfer of hazardous waste. Examples of such activities include those times when a worker needs to open a port to measure the depth of or sample the material in the container or when a worker needs to open a manhole hatch to access equipment inside the container. Following completion of the activity the owner or operator shall promptly secure the closure device in the closed position or reinstall the cover, as applicable to the container;**

Response
Exide acknowledges and understands this requirement.

d. **opening of a spring-loaded pressure-vacuum relief valve, conservation vent, or similar type of pressure relief device that vents to the atmosphere is allowed during normal operations for the purpose of maintaining the internal pressure of the container in accordance with the container design specifications. The device shall be designed to operate with no detectable organic emissions when the device is secured in the closed position. The settings at which the device opens shall be established such that the device remains in the closed position whenever the internal pressure of the container is within the internal pressure operating range determined by the owner or operator based on container manufacturer recommendations, applicable regulations, fire protection and prevention codes, standard engineering codes and practices, or other requirements for the safe handling of flammable, ignitable, explosive, reactive, or hazardous materials. Examples of normal operating conditions that may require these devices to open are during those times when the internal pressure of the container exceeds the internal pressure operating range for the container as a result of loading operations or diurnal ambient temperature fluctuations; and**

Response

Exide acknowledges and understands this requirement.

e. **opening of a safety device, as defined in LAC 33:V.4721, is allowed at any time conditions require doing so to avoid an unsafe condition.**

Response

Exide acknowledges and understands this requirement.

4. **The owner or operator of containers using Container Level 1 controls shall inspect the containers and their covers and closure devices as follows:**

   a. **in the case when a hazardous waste already is in the container at the time the owner or operator first accepts possession of the container at the facility and the container is not emptied within 24 hours after the container is accepted at the facility (i.e., does not meet the conditions for an empty container as specified in LAC 33:V.109), the owner or operator shall visually inspect the container and its cover and closure devices to check for visible cracks, holes, gaps, or other open spaces into the interior of the container when the cover and closure devices are secured in the closed position. The container visual inspection shall be conducted on or before the date that the LAC 33:V.Chapter 17.Subchapter C container is accepted at the facility (i.e., the date the container becomes subject to the container standards of this Section). For purposes of this requirement, the date of acceptance is the date of signature that the facility owner or operator enters on Item 20 of the Uniform Hazardous Waste Manifest (EPA Forms 8700-22 and 8700-22A, DEQ Form HW-3), as required under LAC 33:V.905. If a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of Subsection C.4.c of this Section;**

   b. **in the case when a container used for managing hazardous waste remains at the facility for a period of one year or more, the owner or operator shall visually inspect the container and its cover and closure devices initially and, thereafter, at least once every 12 months, to check for visible cracks, holes, gaps, or other open spaces into the interior of the container when the cover and closure devices are secured in the closed position. If a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of Subsection C.4.c of this Section;**

   c. **when a defect is detected for the container, cover, or closure devices, the owner or operator shall make first efforts at repair of the defect no later than 24 hours after detection, and repair shall be completed as soon as possible, but no later than five calendar days, after detection. If repair of a defect cannot be completed within five calendar days, then the hazardous waste shall be removed from the container and the container shall not be used to manage hazardous waste until the defect is repaired.**

   <u>Response</u>

   Exide will comply with these requirements. Weekly inspections of the container storage areas, K069 container storage area, and the 90-day nickel-cadmium batteries in drums, are performed. The inspection form (provided in the Inspection Plan, Appendix 5) includes the inspection of specific items at each hazardous waste

unit. Any defect noted during the inspection will be repaired as soon as possible, but no later than five calendar days after detection.

5. **The owner or operator shall maintain at the facility a copy of the procedure used to determine that containers with a capacity of 0.46 m^3 or greater, which do not meet applicable DOT regulations as specified in Subsection F of this Section, are not managing hazardous waste in light material service.**

Response

Exide does not typically handle containers with a capacity of 0.46 m^3 or greater. Exide will comply with this requirement if such a container is handled.

D. **Container Level 2 Standards**

1. **A container using Container Level 2 controls is one of the following:**

   a. **a container that meets the applicable DOT regulations on packaging hazardous materials for transportation, as specified in Subsection F of this Section;**

   b. **a container that operates with no detectable organic emissions as defined in LAC 33:V.4721 and determined in accordance with the procedure specified in Subsection G of this Section;**

   c. **a container that has been demonstrated within the preceding 12 months to be vapor-tight by using 40 CFR part 60, appendix A, Method 27 in accordance with the procedure specified in Subsection H of this Section.**

Response

Exide has no containers using Level 2 control; therefore, this section is not currently applicable. Exide acknowledges, understands and will comply with this requirement if containers are used that require Level 2 controls.

2. **Transfer of hazardous waste in or out of a container using Container Level 2 controls shall be conducted in such a manner as to minimize exposure of the hazardous waste to the atmosphere, to the extent practical, considering the physical properties of the hazardous waste and good engineering and safety practices for handling flammable, ignitable, explosive, reactive, or other hazardous materials. Examples of container loading procedures that the EPA considers to meet the requirements of this Paragraph include using any one of the following: a submerged-fill pipe or other submerged-fill method to load liquids into the container, a vapor-balancing system or a vapor-recovery system to collect and control the vapors displaced from the container during filling operations, or a fitted opening in the top of a container**

through which the hazardous waste is filled and subsequently purging the transfer line before removing it from the container opening.

Response

Exide has no containers using Level 2 control; therefore, this section is not currently applicable. Exide acknowledges, understands and will comply with this requirement if containers are used that require Level 2 controls.

3. **Whenever a hazardous waste is in a container using Container Level 2 controls, the owner or operator shall install all covers and closure devices for the container and secure and maintain each closure device in the closed position except as follows:**

   a. **opening of a closure device or cover is allowed for the purpose of adding hazardous waste or other material to the container as follows:**

      i. **in the case when the container is filled to the intended final level in one continuous operation, the owner or operator shall promptly secure the closure devices in the closed position and install the covers, as applicable to the container, upon conclusion of the filling operation;**

      ii. **in the case when discrete quantities or batches of material intermittently are added to the container over a period of time, the owner or o perator s hall p romptly secure the closure devices in the closed position and install covers, as applicable to the container, upon either the container being filled to the intended final level, the completion of a batch loading after which no additional material will be added to the container within 15 minutes, the person performing the loading operation leaving the immediate vicinity of the container, or the shutdown of the process generating the material being added to the container, whichever condition occurs first;**

   b. **opening of a closure device or cover is allowed for the purpose of removing hazardous waste from the container as follows:**

      i. **for the purpose of meeting the requirements of this Section an empty container, as defined in LAC 33:V.109, may be open to the atmosphere at any time (i.e., covers and closure devices are not required to be secured in the closed position on an empty container);**

      ii. **in the case when discrete quantities or batches of material are removed from the container but the container does not meet the conditions to be an empty container, as defined in LAC 33:V.109, the owner or operator shall promptly secure the closure devices in the closed position and install covers, as applicable to the container, upon the completion of a batch removal after**

which no additional material will be removed from the container within 15 minutes or the person performing the unloading operation leaves the immediate vicinity of the container, whichever condition occurs first;

c. opening of a closure device or cover is allowed when access inside the container is needed to perform routine activities other than transfer of hazardous waste. Examples of such activities include those times when a worker needs to open a port to measure the depth of or sample the material in the container or when a worker needs to open a manhole hatch to access equipment inside the container. Following completion of the activity the owner or operator shall promptly secure the closure device in the closed position or reinstall the cover, as applicable to the container;

d. opening of a spring-loaded, pressure-vacuum relief valve, conservation vent, or similar type of pressure relief device that vents to the atmosphere is allowed during normal operations for the purpose of maintaining the internal pressure of the container in accordance with the container design specifications. The device shall be designed to operate with no detectable organic emission when the device is secured in the closed position. The settings at which the device opens shall be established such that the device remains in the closed position whenever the internal pressure of the container is within the internal pressure operating range determined by the owner or operator based on container manufacturer recommendations, applicable regulations, fire protection and prevention codes, standard engineering codes and practices, or other requirements for the safe handling of flammable, ignitable, explosive, reactive, or hazardous materials. Examples of normal operating conditions that may require these devices to open are during those times when the internal pressure of the container exceeds the internal pressure operating range for the container as a result of loading operations or diurnal ambient temperature fluctuations;

e. opening of a safety device, as defined in LAC 33:V.4721, is allowed at any time conditions require doing so to avoid an unsafe condition.

Response

Exide has no containers using Level 2 control; therefore, this section is not currently applicable. Exide acknowledges, understands and will comply with this requirement if containers are used that require Level 2 controls.

4. The owner or operator of containers using Container Level 2 controls shall inspect the containers and their covers and closure devices as follows:

a. in the case when a hazardous waste already is in the container at the time the owner or operator first accepts possession of the container at the facility and the container is not emptied within 24 hours after the container is accepted at the facility (i.e., does not meet the conditions for an empty container as specified in LAC 33:V.109), the owner or operator shall visually inspect the container and its cover and closure devices to check for visible cracks, holes, gaps, or other open spaces into the interior of the container when the cover and closure devices are secured in the closed position. The container visual inspection shall be conducted on or before the date that the container is accepted at the facility (i.e., the date the container becomes subject to the LAC 33:V.Chapter 17.Subchapter C container standards of this Section). For purposes of this requirement, the date of acceptance is the date of signature that the facility owner or operator enters on Item 20 of the Uniform Hazardous Waste Manifest (EPA Forms 8700-22 and 8700-22A, DEQ Form HW-3), as required under LAC 33:V.905. If a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of Subsection D.4.c of this Section;

b. in the case when a container used for managing hazardous waste remains at the facility for a period of one year or more, the owner or operator shall visually inspect the container and its cover and closure devices initially and, thereafter, at least once every 12 months, to check for visible cracks, holes, gaps, or other open spaces into the interior of the container when the cover and closure devices are secured in the closed position. If a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of Subsection D.4.c of this Section;

c. when a defect is detected for the container, cover, or closure devices, the owner or operator shall make first efforts at repair of the defect no later than 24 hours after detection, and repair shall be completed as soon as possible, but no later than five calendar days, after detection. If repair of a defect cannot be completed within five calendar days, then the hazardous waste shall be removed from the container and the container shall not be used to manage hazardous waste until the defect is repaired.

Response

Exide has no containers using Level 2 control; therefore, this section is not currently applicable. Exide acknowledges, understands and will comply with this requirement if containers are used that require Level 2 controls.

E. Container Level 3 Standards

1. A container using Container Level 3 controls is one of the following:

a. **a container that is vented directly through a closed-vent system to a control device in accordance with the requirements of Subsection E.2.b of this Section;**

b. **a container that is vented inside an enclosure that is exhausted through a closed-vent system to a control device in accordance with the requirements of Subsection E.2.a and b of this Section.**

Response

Exide has no containers using Level 3 control; therefore, this section is not currently applicable. Exide acknowledges, understands and will comply with this requirement if containers are used that require Level 3 controls.

2. **The owner or operator shall meet the following requirements, as applicable to the type of air emission control equipment selected by the owner or operator:**

a. **the container enclosure shall be designed and operated in accordance with the criteria for a permanent total enclosure as specified in Procedure T—Criteria for and Verification of a Permanent or Temporary Total Enclosure under 40 CFR 52.741, appendix B. The enclosure may have permanent or temporary openings to allow worker access, passage of containers through the enclosure by conveyor or other mechanical means, entry of permanent mechanical or electrical equipment, or direct airflow into the enclosure. The owner or operator shall perform the verification procedure for the enclosure as specified in section 5.0 to Procedure T—Criteria for and Verification of a Permanent or Temporary Total Enclosure initially when the enclosure is first installed and, thereafter, annually; and**

b. **the closed-vent system and control device shall be designed and operated in accordance with the requirements of LAC 33:V.1761.**

Response

Exide has no containers using Level 3 control; therefore, this section is not currently applicable. Exide acknowledges, understands and will comply with this requirement if containers are used that require Level 3 controls.

3. **Safety devices, as defined in LAC 33:V.4721, may be installed and operated as necessary on any container, enclosure, closed-vent system, or control device used to comply with the requirements of Subsection E.1 of this Section.**

Response

Exide has no containers using Level 3 control; therefore, this section is not currently applicable. Exide acknowledges, understands and will comply with this requirement if containers are used that require Level 3 controls.

4. **Owners and operators using Container Level 3 controls in accordance with the provisions of this Subchapter shall inspect and monitor the closed-vent systems and control devices as specified in LAC 33:V.1761.**

Response

Exide has no containers using Level 3 control; therefore, this section is not currently applicable. Exide acknowledges, understands and will comply with this requirement if containers are used that require Level 3 controls.

5. **Owners and operators that use Container Level 3 controls in accordance with the provisions of this Subchapter shall prepare and maintain the records specified in LAC 33:V.1765.D.**

Response

Exide has no containers using Level 3 control; therefore, this section is not currently applicable. Exide acknowledges, understands and will comply with this requirement if containers are used that require Level 3 controls.

6. **Transfer of hazardous waste in or out of a container using container level 3 controls shall be conducted in such a manner as to minimize exposure of the hazardous waste to the atmosphere, to the extent practical, considering the physical properties of the hazardous waste and good engineering and safety practices for handling flammable, ignitable, explosive, reactive, or other hazardous materials. Examples of container loading procedures that the department considers to meet the requirements of this Paragraph include using any one of the following: a submerged-fill pipe or other submerged-fill method to load liquids into the container; a vapor-balancing system or a vapor-recovery system to collect and control the vapors displaced from the container during filling operations; or a fitted opening in the top of a container through which the hazardous waste is filled and subsequently purging the transfer line before removing it from the container opening.**

Response

Exide has no containers using Level 3 control; therefore, this section is not currently applicable. Exide acknowledges, understands and will comply with this requirement if containers are used that require Level 3 controls.

F. **For the purpose of compliance with Subsection C.1.a or D.1.a of this Section, containers shall be used that meet the applicable DOT regulations on packaging hazardous materials for transportation as follows:**

1. **the container meets the applicable requirements specified in 49 CFR part 178—Specifications for Packaging or 49 CFR part 179—Specifications for Tank Cars;**

Response

Exide acknowledges and understands this requirement. Only DOT-approved 55-gallon drums are used for waste storage.

2. **hazardous waste is managed in the container in accordance with the applicable requirements specified in 49 CFR part 107, subpart B—Exemptions; 49 CFR part 172—Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements; 49 CFR part 173—Shippers—General Requirements for Shipments and Packages; and 49 CFR part 180—Continuing Qualification and Maintenance of Packagings;**

   Response

   Exide acknowledges and understands this requirement.

3. **for the purpose of complying with this Subchapter, no exceptions to the 49 CFR part 178 or part 179 regulations are allowed except as provided for in Subsection F.4 of this Section; and**

   Response

   Exide acknowledges and understands this requirement.

4. **for a lab pack that is managed in accordance with the requirements of 49 CFR part 178 for the purpose of complying with this Subchapter, an owner or operator may comply with the exceptions for combination packagings specified in 49 CFR 173.12(b).**

   Response

   Exide acknowledges and understands this requirement.

G. **To determine compliance with the detectable organic emissions requirement of Subsection D.1.b of this Section, the procedure specified in LAC 33:V.1753.D shall be used.**

1. **Each potential leak interface (i.e., a location where organic vapor leakage could occur) on the container, its cover, and associated closure devices, as applicable to the container, shall be checked. Potential leak interfaces that are associated with containers include, but are not limited to, the interface of the cover rim and the container wall, the periphery of any opening on the container or container cover and its associated closure device, and the sealing seat interface on a spring-loaded pressure-relief valve.**

   Response

   Subsection D.1.b pertaining to Level 2 control is not applicable; therefore, this section is not applicable.

2. **The test shall be performed when the container is filled with a material having a volatile organic concentration representative of the range of volatile organic concentrations for the hazardous wastes expected to**

be managed in this type of container. During the test, the container cover and closure devices shall be secured in the closed position.

Response
Subsection D.1.b pertaining to Level 2 control is not applicable; therefore, this section is not applicable.

H. The owner or operator shall use the procedure for determining a container to be vapor-tight using Method 27 of 40 CFR part 60, appendix A for the purpose of complying with Subsection D.1.c of this Section.

1. The test shall be performed in accordance with Method 27 of 40 CFR part 60, appendix A.

Response
Subsection D.1.c pertaining to Level 2 control is not applicable; therefore, this section is not applicable.

2. A pressure measurement device shall be used that has a precision of ± 2.5 mm water and that is capable of measuring above the pressure at which the container is to be tested for vapor tightness.

Response
Subsection D.1.c pertaining to Level 2 control is not applicable; therefore, this section is not applicable.

3. If the test results determined by Method 27 indicate that the container sustains a pressure change less than or equal to 750 Pascals within five minutes after it is pressurized to a minimum of 4,500 Pascals, then the container is determined to be vapor-tight.

Response
Subsection D.1.c pertaining to Level 2 control is not applicable; therefore, this section is not applicable.

§1761. Standards: Closed-Vent Systems and Control Devices

A. This Section applies to each closed-vent system and control device installed and operated by the owner or operator to control air emissions in accordance with standards of this Subchapter.

Response
Exide does not operate a closed-vent system or control device to control air emissions in accordance with the standards of this subchapter.

B. The closed-vent system shall meet the following requirements:

1. shall route the gases, vapors, and fumes emitted from the hazardous waste in the waste management unit to a control device that meets the requirements specified in Subsection C of this Section;

2. shall be designed and operated in accordance with the requirements specified in LAC 33:V.1709.K;

3. in the case when the closed-vent system includes bypass devices that could be used to divert the gas or vapor stream to the atmosphere before entering the control device, each bypass device shall be equipped with either a flow indicator as specified in Subsection B.3.a of this Section or a seal or locking device as specified in Subsection B.3.b of this Section. For the purpose of complying with this Paragraph, low leg drains, high point bleeds, analyzer vents, open-ended valves or lines, spring-loaded pressure-relief valves, and other fittings used for safety purposes are not considered to be bypass devices:

   a. if a flow indicator is used to comply with this Subsection, the indicator shall be installed at the inlet to the bypass line used to divert gases and vapors from the closed-vent system to the atmosphere at a point upstream of the control device inlet. For this paragraph, a flow indicator means a device that indicates the presence of either gas or vapor flow in the bypass line;

   b. if a seal or locking device is used to comply with this Subsection, the device shall be placed on the mechanism by which the bypass device position is controlled (e.g., valve handle, damper lever) when the bypass device is in the closed position such that the bypass device cannot be opened without breaking the seal or removing the lock. Examples of such devices include, but are not limited to, a car-seal or a lock-and-key configuration valve. The owner or operator shall visually inspect the seal or closure mechanism at least once every month to verify that the bypass mechanism is maintained in the closed position;

4. shall be inspected and monitored by the owner or operator in accordance with the procedure specified in LAC 33:V.1709.L.

<u>Response</u>
Exide does not operate a closed-vent system or control device to control air emissions in accordance with the standards of this subchapter.

C. The control device shall meet the following requirements:

1. shall be one of the following devices:

   a. a control device designed and operated to reduce the total organic content of the inlet vapor stream vented to the control device by at least 95 percent by weight;

   b. an enclosed combustion device designed and operated in accordance with the requirements of LAC 33:V.1709.C; or

   c. a flare designed and operated in accordance with the requirements of LAC 33:V.1709.D;

2. the owner or operator who elects to use a closed-vent system and control device to comply with the requirements of this Section shall comply with the requirements specified in Subsection C.2.a-f of this Section:

   a. periods of planned routine maintenance of the control device, during which the control device does not meet the specifications of Subsection C.1.a, b, or c of this Section, as applicable, shall not exceed 240 hours per year;

   b. the specifications and requirements in Subsection C.1.a, b, or c of this Section for control devices do not apply during periods of planned routine maintenance;

   c. the specifications and requirements in Subsection C.1.a, b, or c of this Section for control devices do not apply during a control device system malfunction;

   d. the owner or operator shall demonstrate compliance with the requirements of Subsection C.2.a of this Section (i.e., planned routine maintenance of a control device, during which the control device does not meet the specifications of Subsection C.1.a, b, or c of this Section, as applicable, shall not exceed 240 hours per year) by recording the information specified in LAC 33:V.1765.E.1.e;

   e. the owner or operator shall correct control device system malfunctions as soon as practicable after their occurrence in order to minimize excess emissions of air pollutants; and

   f. the owner or operator shall operate the closed-vent system such that g ases, v apors, o r f umes a re n ot actively vented to the control device during periods of planned maintenance or control device system malfunction (i.e., periods when the control device is not operating or not operating normally) except in cases when it is necessary to vent the gases, vapors, and/or fumes to avoid an u nsafe condition or to implement malfunction corrective actions or planned maintenance actions;

3. the owner or operator using a carbon adsorption system to comply with Subsection C.1 of this Section shall operate and maintain the control device in accordance with the following requirements:

   a. following the initial startup of the control device, all activated carbon in the control device shall be replaced with fresh carbon on a regular basis in accordance with the requirements of LAC 33:V.1709.G or H; and

   b. all carbon that is a hazardous waste and that is removed from the control device shall be managed in accordance with the requirements of LAC 33:V.1709.N, regardless of the average volatile organic concentration of the carbon;

4. an owner or operator using a control device other than a thermal vapor incinerator, flare, boiler, process heater, condenser, or carbon

adsorption system to comply with Subsection C.1 of this Section shall operate and maintain the control device in accordance with the requirements of LAC 33:V.1709.J;

5. the owner or operator shall demonstrate that a control device achieves the performance requirements of Subsection C.1 of this Section as follows:

   a. an owner or operator shall demonstrate, using either a performance test as specified in Subsection C.5.c of this Section or a design analysis as specified in Subsection C.5.d of this Section, the performance of each control device except for the following:

      i. a flare;

      ii. a boiler or process heater with a design heat input capacity of 44 megawatts or greater;

      iii. a boiler or process heater into which the vent stream is introduced with the primary fuel;

      iv. a boiler or industrial furnace burning hazardous waste for which the owner or operator has been issued a final permit under LAC 33:V.Chapter 5 and has designed and operates the unit in accordance with the requirements of LAC 33:V.Chapter 30; or

      v. a boiler or industrial furnace burning hazardous waste for which the owner or operator has designed and operates in accordance with the interim status requirements of LAC 33:V.Chapter 30;

   b. an owner or operator shall demonstrate the performance of each flare in accordance with the requirements specified in LAC 33:V.1709.E;

   c. for a performance test conducted to meet the requirements of Subsection C.5.a of this Section, the owner or operator shall use test methods and procedures specified in LAC 33:V.1711.C.1-4;

   d. for a design analysis conducted to meet the requirements of Subsection C.5.a of this Section, the design analysis shall meet the requirements specified in LAC 33:V.1713.B.4.c; and

   e. the owner or operator shall demonstrate that a carbon adsorption system achieves the performance requirements of Subsection C.1 of this Section based on the total quantity of organics vented to the atmosphere from all carbon adsorption system equipment that is used for organic adsorption, organic desorption or carbon regeneration, organic recovery, and carbon disposal;

6. if the owner or operator and the administrative authority do not agree on a demonstration of control device performance using a design analysis, then the disagreement shall be resolved using the results of a

performance test performed by the owner or operator in accordance with the requirements of Subsection C.5.c of this Section. The administrative authority may choose to have an authorized representative observe the performance test; and

7. the closed-vent system and control device shall be inspected and monitored by the owner or operator in accordance with the procedures specified in LAC 33:V.1709.F.2 and L. The readings from each monitoring device required by LAC 33:V.1709.F.2 shall be inspected at least once each operating day to check control device operation. Any necessary corrective measures shall be immediately implemented to ensure the control device is operated in compliance with the requirements of this Section.

Response
Exide does not operate a closed-vent system or control device to control air emissions in accordance with the standards of this subchapter.

§1763. Inspection and Monitoring Requirements

A. The owner or operator shall inspect and monitor air emission control equipment used to comply with this Chapter in accordance with the applicable requirements specified in LAC 33:V.1755-1761.

Response
Inspections of the container storage areas are performed as described in the Inspection Plan in Appendix 5. An example of the inspection form is also included in the Inspection Plan. The inspection form includes the specific items inspected at each hazardous waste unit.

B. The owner or operator shall develop and implement a written plan and schedule to perform the inspections and monitoring required by Subsection A of this Section. The owner or operator shall incorporate this plan and schedule into the facility inspection plan required under LAC 33:V.1509.

Response
Exide has developed and implemented a written plan and schedule to perform inspections, which has been incorporated into the inspection plan required under LAC 33:V.1509. The Inspection Plan and Schedule is provided in Appendix 5.

§1765. Recordkeeping Requirements

A. Each owner or operator of a facility subject to requirements in this Subchapter shall record and maintain the information specified in Subsections B - J of this Section, as applicable to the facility. Except for air emission control equipment design documentation and information required by Subsections I and J of this Section, records required by this Section shall be maintained in the operating record for a minimum of three years. Air emission control equipment design documentation shall be maintained in the operating record until the air emission control equipment is replaced or otherwise no longer in service. Information required by Subsections I and J of this Section shall be maintained in the operating record for as long as the waste management unit

is not using air emission controls specified in LAC 33:V.1755 -1761 in accordance with the conditions specified in LAC 33:V.1747.B.7 or D, respectively.

Response
Exide acknowledges, understands, and will comply with this requirement. All inspections are recorded and the records are maintained at the site by the personnel safety director.

B. The owner or operator of a tank using air emission controls in accordance with the requirements of LAC 33:V.1755 shall prepare and maintain records for the tank that include the following information:

1. for each tank using air emission controls in accordance with the requirements of LAC 33:V.1755, the owner or operator shall record:

a. a tank identification number (or other unique identification description as selected by the owner or operator); and

b. a record for each inspection required by LAC 33:V.1755 that includes the following information:

i. date inspection was conducted; and

ii. for each defect detected during the inspection the location of the defect, a description of the defect, the date of detection, and corrective action taken to repair the defect. In the event that repair of the defect is delayed in accordance with the requirements of LAC 33:V.1755, the owner or operator shall also record the reason for the delay and the date that completion of repair of the defect is expected; and

2. in addition to the information required by Subsection B.1 of this Section, the owner or operator shall record the following information, as applicable to the tank:

a. the owner or operator using a fixed roof to comply with the Tank Level 1 control requirements specified in LAC 33:V.1755.C shall prepare and maintain records for each determination for the maximum organic vapor pressure of the hazardous waste in the tank performed in accordance with the requirements of LAC 33:V.1755.C. The records shall include the date and time the samples were collected, the analysis method used, and the analysis results;

Response
Exide does not treat, store, or dispose of hazardous waste in tanks; therefore, this section does not apply.

b. the owner or operator using an internal floating roof to comply with the Tank Level 2 control requirements specified in LAC 33:V.1755.E shall prepare and maintain documentation describing the floating roof design;

Response
Exide does not treat, store, or dispose of hazardous waste in tanks; therefore, this section does not apply.

c. **owners and operators using an external floating roof to comply with the Tank Level 2 control requirements specified in LAC 33:V.1755.F shall prepare and maintain the following records:**

i. **documentation describing the floating roof design and the dimensions of the tank; and**

ii. **records for each seal gap inspection required by LAC 33:V.1755.F.3 describing the results of the seal gap measurements. The records shall include the date that the measurements were performed, the raw data obtained for the measurements, and the calculations of the total gap surface area. In the event that the seal gap measurements do not conform to the specifications in LAC 33:V.1755.F.1, the records shall include a description of the repairs that were made, the date the repairs were made, and the date the tank was emptied, if necessary; and**

Response
Exide does not treat, store, or dispose of hazardous waste in tanks; therefore, this section does not apply.

d. **each owner or operator using an enclosure to comply with the Tank Level 2 control requirements specified in LAC 33:V.1755.I shall prepare and maintain the following records:**

i. **records for the most recent set of calculations and measurements performed by the owner or operator to verify that the enclosure meets the criteria of a permanent total enclosure as specified in Procedure T—Criteria for and Verification of a Permanent or Temporary Total Enclosure under 40 CFR 52.741, appendix B; and**

ii. **records required for the closed-vent system and control device in accordance with the requirements of Subsection E of this Section.**

Response

Exide does not treat, store, or dispose of hazardous waste in tanks; therefore, this section does not apply.

C. **The owner or operator of a surface impoundment using air emission controls in accordance with the requirements of LAC 33:V.1757 shall prepare and maintain records for the surface impoundment that include the following information:**

1. a surface impoundment identification number (or other unique identification description as selected by the owner or operator);

2. documentation describing the floating membrane cover or cover design, as applicable to the surface impoundment, that includes information prepared by the owner or operator or provided by the cover manufacturer or vendor describing the cover design and certification by the owner or operator that the cover meets the specifications listed in LAC 33:V.1757.C;

3. a record for each inspection required by LAC 33:V.1757 that includes the following information:

   a. date inspection was conducted; and

   b. for each defect detected during the inspection, include the following, the location of the defect, a description of the defect, the date of detection, and corrective action taken to repair the defect. In the event that repair of the defect is delayed in accordance with the provisions of LAC 33:V.1757.F, the owner or operator shall also record the reason for the delay and the date that completion of repair of the defect is expected; and

4. for a surface impoundment equipped with a cover and vented through a closed-vent system to a control device, the owner or operator shall prepare and maintain the records specified in Subsection E of this Section.

   Response
   Exide has no surface impoundments; therefore, this section does not apply.

D. The owner or operator of containers using Container Level 3 air emission controls in accordance with the requirements of LAC 33:V.1759 shall prepare and maintain records that include the following information:

1. records for the most recent set of calculations and measurements performed by the owner or operator to verify that the enclosure meets the criteria of a permanent total enclosure as specified in Procedure T—Criteria for and Verification of a Permanent or Temporary Total Enclosure under 40 CFR 52.741, appendix B; and

2. records required for the closed-vent system and control device in accordance with the requirements of Subsection E of this Section.

   Response
   Exide has no containers using Container Level 3 air emission controls; therefore this section does not apply.

E. The owner or operator using a closed-vent system and control device in accordance with the requirements of LAC 33:V.1761 shall prepare and maintain records that include documentation for the closed-vent system and control device that includes:

1. certification that is signed and dated by the owner or operator stating that the control device is designed to operate at the performance level documented by a design analysis as specified in Subsection E.2 of this Section or by performance tests as specified in Subsection E.3 of this Section when the tank, surface impoundment, or container is or would be operating at capacity or the highest level reasonably expected to occur;

2. if a design analysis is used, then design documentation as specified in LAC 33:V.1713.B.4. The documentation shall include information prepared by the owner or operator or provided by the control device manufacturer or vendor that describes the control device design in accordance with LAC 33:V.1713.B.4.c and certification by the owner or operator that the control equipment meets the applicable specifications;

3. if performance tests are used, then a performance test plan as specified in LAC 33:V.1713.B.3 and all test results;

4. information as required by LAC 33:V.1713.C.1 and 2, as applicable;

5. an owner or operator shall record, on a semiannual basis, the information specified in Subsection E.5.a and b of this Section for those planned routine maintenance operations that would require the control device not to meet the requirements of LAC 33:V.1761.C.1.a, b, or c, as applicable:

   a. a description of the planned routine maintenance that is anticipated to be performed for the control device during the next six-month period. This description shall include the type of maintenance necessary, planned frequency of maintenance, and lengths of maintenance periods; and

   b. a description of the planned routine maintenance that was performed for the control device during the previous six-month period. This description shall include the type of maintenance performed and the total number of hours during those six months that the control device did not meet the requirements of LAC 33:V.1761.C.1.a, b, or c, as applicable, due to planned routine maintenance;

6. an owner or operator shall record the information specified in Subsection E.6.a-c of this Section for those unexpected control device system malfunctions that would require the control device not to meet the requirements of LAC 33:V.1761.C.1.a, b, or c, as applicable:

   a. the occurrence and duration of each malfunction of the control device system;

   b. the duration of each period during a malfunction when gases, vapors, or fumes are vented from the waste management unit through the closed-vent system to the control device while the control device is not properly functioning; and

c. **actions taken during periods of malfunction to restore a malfunctioning control device to its normal or usual manner of operation; and**

7. **records of the management of carbon removed from a carbon adsorption system conducted in accordance with LAC 33:V.1761.C.3.b.**

Response
Exide does not operate a closed-vent system or control devices; therefore, this section does not apply.

F. **The owner or operator of a tank, surface impoundment, or container exempted from standards in accordance with the provisions of LAC 33:V.1751.C shall prepare and maintain the following records, as applicable:**

1. **for tanks, surface impoundments, and containers exempted under the hazardous waste organic concentration conditions specified in LAC 33:V.1751.C.1 or 2.a-f, the owner or operator shall record the information used for each waste determination (e.g., test results, measurements, calculations, and other documentation) in the facility operating log. If analysis results for waste samples are used for the waste determination, then the owner or operator shall record the date, time, and location that each waste sample is collected in accordance with applicable requirements of LAC 33:V.1753;**

2. **for tanks, surface impoundments, or containers exempted under the provisions of LAC 33:V.1751.C.2.g or h, the owner or operator shall record the identification number for the incinerator, boiler, or industrial furnace in which the hazardous waste is treated.**

Response
Exide does not operate any tanks, surface impoundments, or containers exempted from standards in this chapter; therefore, this section is not currently applicable. If Exide introduces such equipment, these records will be maintained.

G. **An owner or operator designating a cover as "unsafe to inspect and monitor" in accordance with LAC 33:V.1755.L or 1757.G shall record in a log that is kept in the facility operating record the following information: the identification numbers for waste management units with covers that are designated as "unsafe to inspect and monitor"; the explanation for each cover stating why the cover is unsafe to inspect and monitor; and the plan and schedule for inspecting and monitoring each cover.**

Response
LAC 33:V.1755.L regarding tanks and LAC 33:V.1757.G regarding surface impoundments are not applicable; therefore, this section is not applicable.

H. **The owner or operator of a facility that is subject to this Subchapter and to the control device standards in 40 CFR part 60, subpart VV or 40 CFR part 61, subpart V may elect to demonstrate compliance with the applicable sections of**

this Subchapter by documentation either in accordance with this Subchapter or the provisions of 40 CFR part 60, subpart VV or 40 CFR part 61, subpart V, to the extent that the documentation required by 40 CFR part 60 or 61 duplicates the documentation required by this Section.

Response
Exide acknowledges and understands this requirement.

I. For each tank or container not using air emission controls specified in LAC 33:V.1755 - 1761 in accordance with the conditions specified in LAC 33:V.1747.D, the owner or operator shall record and maintain the following information:

1. a list of the individual organic peroxide compounds manufactured at the facility that meet the conditions specified in LAC 33:V.1747.D.1;

2. a description of how the hazardous waste containing the organic peroxide compounds identified in Subsection I.1 of this Section are managed at the facility in tanks and containers. This description shall include:

a. for the tanks used at the facility to manage this hazardous waste, sufficient information shall be provided to describe, for each tank, a facility identification number for the tank; the purpose and placement of this tank in the management train of this hazardous waste, and the procedures used to ultimately dispose of the hazardous waste managed in the tanks; and

b. for containers used at the facility to manage these hazardous wastes, sufficient information shall be provided to describe a facility identification number for the container or group of containers, the purpose and placement of this container or group of containers in the management train of this hazardous waste, and the procedures used to ultimately dispose of the hazardous waste handled in the containers;

3. an explanation of why managing the hazardous waste containing the organic peroxide compounds identified in Subsection I.1 of this Section in the tanks and containers as described in Subsection I.2 of this Section would create an undue safety hazard if the air emission controls, as required under LAC 33:V.1755 - 1761, are installed and operated on these waste management units. This explanation shall include the following information:

a. for tanks used at the facility to manage these hazardous wastes, sufficient information shall be provided to explain how use of the required air emission controls on the tanks would affect the tank design features and facility operating procedures currently used to prevent an undue safety hazard during the management of this hazardous waste in the tanks, and why installation of safety devices on the required air emission controls, as allowed under this Subchapter, will not address those situations in

which evacuation of tanks equipped with these air emission controls is necessary and consistent with good engineering and safety practices for handling organic peroxides; and

b. for containers used at the facility to manage these hazardous wastes, sufficient information shall be provided to explain how use of the required air emission controls on the containers would affect the container design features and handling procedures currently used to prevent an undue safety hazard during the management of this hazardous waste in the containers, and why installation of safety devices on the required air emission controls, as allowed under this Subchapter, will not address those situations in which evacuation of containers equipped with these air emission controls is necessary and consistent with good engineering and safety practices for handling organic peroxides.

Response
As Exide does not manufacture organic peroxides, Exide is not claiming the exemption in LAC 33:V.1747.D; therefore, this section is not applicable.

J. For each hazardous waste management unit not using air emission controls specified in LAC 33:V.1755 - 1761 in accordance with the requirements of LAC 33:V.1747.B.7, the owner and operator shall record and maintain the following information:

1. certification that the waste management unit is equipped with and operating air emission controls in accordance with the requirements of an applicable Clean Air Act regulation codified under 40 CFR part 60, part 61, or part 63; and

2. identification of the specific requirements codified under 40 CFR part 60, part 61, or part 63 with which the waste management unit is in compliance.

Response
Exide is not claiming the exemption in LAC 33:V.1747.B.7; therefore, this Section is not applicable.

§1767. Reporting Requirements

A. Each owner or operator managing hazardous waste in a tank, surface impoundment, or container exempted from using air emission controls under the provisions of LAC 33:V.1751.C shall report to the administrative authority each occurrence when hazardous waste is placed in the waste management unit in noncompliance with the conditions specified in LAC 33:V.1751.C.1 or 2, as applicable. Examples of such occurrences include placing in the waste management unit a hazardous waste having an average VO concentration equal to or greater than 500 ppmw at the point of waste origination or placing in the waste management unit a treated hazardous waste of which the organic

content has been reduced by an organic destruction or removal process that fails to achieve the applicable conditions specified in LAC 33:V.1751.C.2.a-f. The owner or operator shall submit a written report within 15 calendar days of the time that the owner or operator becomes aware of the occurrence. The written report shall contain the EPA identification number, facility name and address, a description of the noncompliance event and the cause, the dates of the noncompliance, and the actions taken to correct the noncompliance and prevent recurrence of the noncompliance. The report shall be signed and dated by an authorized representative of the owner or operator.

Response
Exide is not claiming the exemption provided in LAC 33:V.1751.C; therefore, this section is not applicable. Exide will comply with this requirement if exempt containers are handled.

B. **Each owner or operator using air emission controls on a tank in accordance with the requirements LAC 33:V.1755.C shall report to the administrative authority each occurrence when hazardous waste is managed in the tank in noncompliance with the conditions specified in LAC 33:V.1755.B. The owner or operator shall submit a written report within 15 calendar days of the time that the owner or operator becomes aware of the occurrence. The written report shall contain the EPA identification number, facility name and address, a description of the noncompliance event and the cause, the dates of the noncompliance, and the actions taken to correct the noncompliance and prevent recurrence of the noncompliance. The report shall be signed and dated by an authorized representative of the owner or operator.**

Response
Exide does not treat, store, or dispose of hazardous waste in tanks; therefore, this section is not applicable.

C. **Each owner or operator using a control device in accordance with the requirements of LAC 33:V.1761 shall submit a semiannual written report to the administrative authority, except as provided for in Subsection D of this Section. The report shall describe each occurrence during the previous six-month period when either:**

1. **a control device is operated continuously for 24 hours or longer in noncompliance with the applicable operating values defined in LAC 33:V.1713.C.4; or**
2. **a flare is operated with visible emissions for five minutes or longer in a two-hour period, as defined in LAC 33:V.1709.D. The written report shall include the EPA identification number, facility name and address, an explanation why the control device could not be returned to compliance within 24 hours, and actions taken to correct the noncompliance. The report shall be signed and dated by an authorized representative of the owner or operator.**

Response
Exide does not operate a control device in accordance with the requirements of LAC 33:V.1761; therefore, this section is not applicable.

D. A report to the administrative authority in accordance with the requirements of Subsection C of this Section is not required for a six-month period during which all control devices subject to this Chapter are operated by the owner or operator such that:

1. during no period of 24 hours or longer did a control device operate continuously in noncompliance with the applicable operating values defined in LAC 33:V.1713.C.4; and

2. no flare was operated with visible emissions for five minutes or longer in a two-hour period, as defined in LAC 33:V.1709.D.

Response
Exide is not subject to the requirements in subsection C of this section.

26. *LAC 33:V.1801.A.1-4, The Permittee must provide an explanation of the number value and indicate the thickness of the man-made material.*

Information regarding the existing floor systems at Areas 1 and 2 and the proposed floor system at Area 2 have been provided as follows including the type and thickness of material:

§1801. Applicability

A. The requirements of this Section apply to owners or operators who store or treat hazardous waste in units designed and operated under LAC 33:V.1802. These provisions became effective on February 18, 1993, although an owner or operator may have notified EPA or the administrative authority of his intent to be bound by this Section or its federal equivalent at an earlier time. The owner or operator is not subject to the definition of land disposal in LAC 33:V.2203 or R.S. 30:2193 provided that the unit:

1. is a completely enclosed, self-supporting structure that is designed and constructed of manmade materials of sufficient strength and thickness to support themselves, the waste contents, and any personnel and heavy equipment that operate within the unit, and to prevent failure due to pressure gradients, settlement, compression, uplift, physical contact with the hazardous wastes to which they are exposed, climatic conditions, and the stresses of daily operation, including t he movement of heavy equipment within the unit and contact of such equipment with containment walls;

Response
The Containment Building is a self-supporting structure, completely enclosed with a floor, a roof, and walls designed to reduce the potential for lead particles to escape the building. The ventilation system for point sources within the Containment Building provides a constant inward air

flow at these openings, thereby minimizing the potential for fugitive emissions from the building openings.

Maximum Storage

The Containment Building has a maximum capacity of 3,333 tons of blast furnace slag and 12,080 tons of lead material for recycling, including battery plates, lead oxide paste, reverberatory furnace slag, lead dross and purchased scrap. Pastes stored in Area 1 do not contain free liquids and do not have the potential to contain free liquids. The following calculations were obtained from the Closure Cost Estimate in Appendix 9. The production/operation area (Area 3) is not used for hazardous waste storage.

Maximum slag quantity

(Area 1) Slag Area 1: 100 ft x 25 ft x 10 ft = 25,000 cf
25,000 cf / 27 = 925.93 cy
925.93 cy x 1.3 tons/cy
= 1,204 tons (assume 1,333 tons)
(Area 1) Slag Area 2: 77 ft x 45 ft x 12 ft = 41,580 cf
41,580 cf / 27 = 1,540 cy
1,540 cy x 1.3 tons/cy = 2,000 tons
Total slag = 1,333 + 2,000 = 3,333 tons

Other Material Quantities

(Area 2) Paste Storage Area 3: 95 ft x 80 ft x 12 ft = 91,200 cf
91,200 cf / 27 = 3,377.8 cy
3,377.8 cy x 1.8 tons/cy = 6,080 tons

(Area 1) Dry Paste Area 4: 50 ft x 50 ft x 12 ft = 30,000 cf
30,000 cf /27 = 1,111.11 cy
1,111.11 cy x 1.7 tons/cy
= 1,888 tons (round to 2,000 tons)

(Area 1) Dry Paste Area 5: 100 ft x 25 ft x 12 ft = 30,000 cf
30,000 cf /27 = 1,111.11 cy
1,111.11 cy x 1.7 tons/cy
= 1,888 tons (round to 2,000 tons)

(Area 1) Dry Paste Area 6: 100 ft x 25 ft x 12 ft = 30,000 cf
30,000 cf /27 = 1,111.11 cy
1,111.11 cy x 1.7 tons/cy
= 1,888 tons (round to 2,000 tons)

Total Other Materials = 12,080 tons

Area 1

The Raw Material Storage Area (Area 1) was constructed in 1991. Area 1 is used for storage of battery plates, dry lead oxide paste, reverberatory

furnace slag, lead dross and purchased scrap. In 1992 Woodward-Clyde Consultants (WCC) submitted a professional engineer's certification document demonstrating that the design and construction of the building base in the Raw Material Storage Area/Dross Bin was in "substantial conformance with the plans developed for this project". The Containment Building Certification Document and available structural information are included as Appendix 12. LDEQ has not yet approved the certification. Additionally, this building has adequately handled operations similar to its current operation for over ten years.

The floors, walls, and roof of Area 1 are the primary barrier system. The primary barrier system is constructed of man-made materials designed to withstand the movement of and contact with personnel, waste, and handling equipment during the operating life of the unit and are appropriate for the physical and chemical characteristics of the lead bearing materials to be managed. Sketches of the floor construction in the storage area (Area 1) are included with the professional engineer's certification documents in Appendix 12. The floor system includes, from top to bottom, 6 inches concrete, Amoco 4516 geotextile, 40 mil HDPE geomembrane, and 1 inch sand over existing concrete. The geomembrane is attached to the concrete with a stainless steel batton bar, bolts, double neoprene gasket and caulking. The strength of the concrete is not known as the original design documents are not available. The reinforced concrete walls of Area 1 are 12 feet high and 1 foot thick. The quantity and size of reinforcing steel and the concrete strength are not known as the original design data for the building is not available.

The greatest load on the floor system in Area 1 would occur when Slag Storage Area 2 is at maximum capacity. For conservatism, a higher unit weight has been assigned to the slag for this calculation. The floor integrity calculations are as follows:

77 ft x 45 ft = 3,465 sf x 144 = 498,960 si
Maximum capacity = 77 ft x 45 ft x 12 ft = 41,580 cf
41,580 cf x 205 lb/cf = 8,523,900 lbs at maximum capacity
Weight of front-end loader = 24,000 lbs
Weight of 55 personnel = 55 x 200 lbs = 11,000 lbs
8,523,900 lbs + 24,000 lbs + 11,000 lbs = 8,558,900 lbs
Maximum load = 8,558,900 lbs / 498,960 si = 17.15 psi

In order to support operations, the concrete strength at Area 1 of the Containment Building would need to be a minimum of 17.15 psi. As concrete has a typical strength of 3,000 to 4,000 psi, the concrete floor is capable of supporting the anticipated loads when properly reinforced and constructed on an adequately prepared subgrade.

Design calculations for the Containment Building walls and information regarding the size and quantity of reinforcing steel could not be located as part of the Part B Permit renewal process. Qualitatively it is obvious that the reinforced concrete walls for the structure provide adequate strength based on the observation that the walls have been functioning since their

construction over 10 years ago. The ultimate limit state of the Containment Building walls would be failure by flexure (moment) and shear. No excessive movement or cracking has been observed that would suggest either failure mechanism is occurring.

To substantiate the qualitative observation that the strength of the walls is adequate, a simplified quantitative evaluation for shear stress was performed. For evaluation purposes, the exterior walls are considered as unit lengths with a fixed end at the ground surface and unsupported at the top of the wall, relying on the inherent strength of the walls to resist shear from the applied loads. As shown in the attached calculations, shear forces imposed by the lateral loads from the materials contained in the building are easily handled (F.S.= 1.7) by the resistance developed in the reinforced wall. Calculations are provided in Appendix 23.

For the moment, the building relies on a combination of the inherent strength of the reinforced wall and frame action provided by the building columns. Approximately half of the stress is accommodated by the wall strength with the remainder of the stress being transferred to the building frame. Unlike shear, a simplified quantitative evaluation for flexure could not be completed utilizing the information available, although as stated earlier, no visual observations were made that indicate that the building has not been adequate for the services loads experienced during the last 10 years of operation.

Area 2

The Paste Storage Area (Area 2) is used for the initial staging of neutralized lead paste from the battery breaking/desulfurization process prior to moving the paste to Area 1. As previously stated, the paste stored in Area 2 is a high-density, solid reddish-brown material with a moisture content of less than 5 percent that has the potential to contain free liquids. The existing conditions of Area 2 are presented in the Containment Building Certification Document in Appendix 12 as the Battery Plate Storage Area. Due to the potential to contain free liquids, Exide submitted plans on October 17, 2001 to upgrade Area 2 to meet the requirements of this chapter. While approval of the permit modification has not yet been received, LDEQ has approved construction of the upgrades as shown in Appendix 20. The upgrades are scheduled to begin in July 2003. Details of the proposed upgrades are provided in Appendix 20.

The floors, walls and roof of Area 2 act as the primary barrier. The reinforced walls of Area 2 are 12 feet high and one foot thick. The type and quantity of reinforcement and the strength of the concrete are not known as original design information is not available.

The plans for the upgrade include renovating the floor system to ensure that it is designed and constructed of materials of sufficient strength and thickness to support itself, the waste contents, any personnel and heavy equipment that operate within the unit, and to prevent failure due to pressure gradients, settlement, compression, uplift, physical contact with the

hazardous waste to which it is exposed, climatic conditions, and the stresses of daily operation, including the movement of heavy equipment within the unit and contact of such equipment with containment walls. The professional engineer's certification for Area 2 will be submitted once upgrades are complete. Existing asphalt will be removed and the concrete surface prepared for installation of new barrier and drainage layers. Once constructed, the upgraded floor system for Area 2 will be, from top to bottom, acid brick, minimum of 6 inches 4,000 psi reinforced concrete, 12 ounce geotextile, 80 mil HDPE geomembrane, and geonet drainage layer, overlying the existing system of 4 inches concrete, limestone gravel, 2 inch Schedule 40 PVC piping with 3/8 inch perforations, 1.5 inches asphalt and 4 inches concrete. The concrete will be reinforced with #5 rebar at 12 inches on center in each direction. All joints will be covered with corrosive resistant tape. Concrete will be mixed and placed in accordance with ACI standards. The geomembrane will be attached to the existing concrete wall with a stainless steel batton bar, bolts, and neoprene gaskets. Drawings showing the proposed upgrades are provided in Appendix 20.

Wall strength calculations for Area 2 are the same as wall strength calculations for Area 1. Please refer to calculations presented in the response to LAC 33:V.1801.1 regarding Area 1 for an evaluation of Containment Building wall strength.

2. **has a primary barrier that is designed to be sufficiently durable to withstand the movement of personnel, wastes, and handling equipment within the unit;**

Response

Based on the calculations provided in the response to LAC 33.V:1801.1, the primary barrier system (floors, walls and roof) of Area 1 (6 inches concrete, Amoco 4516 geotextile, and 40 mil HDPE geomembrane) and Area 2 (acid brick, minimum of 6 inches 4,000 psi reinforced concrete, 12 ounce geotextile, and 80 mil HDPE geomembrane) of Exide's Containment Building are capable of withstanding the movement of personnel, waste, and handling equipment within the unit during the operating life of the unit and are appropriate for the physical and chemical characteristics of the lead bearing materials to be managed on the primary barrier.

3. **when used to manage liquids:**

   a. **has a primary barrier designed and constructed of materials to prevent migration of hazardous constituents into the barrier;**

Response

The Containment Building has an efficient primary barrier designed and constructed to prevent the migration of any hazardous constituents into the barrier. Area 1 manages wastes without free liquids; but will utilize small amounts of water for the purpose of dust suppression. However, this activity should not generate any free standing liquids and this citation does not apply to this area. The floor system of Area 1 is constructed of concrete and geomembrane and is sloped to collection points to facilitate removal of wastes from the primary barrier to prevent migration of hazardous

constituents into the barrier. The drainage pattern for the Area 1 floor is shown on sketches in Appendix 12.

Area 2 will be used to manage free liquids. The proposed upgrades for this area include a sloped primary barrier consisting of acid brick, a minimum of 6 inches of concrete, and a HDPE liner. The sloped floor and the materials of construction will facilitate collection and removal of wastes from the floor and prevent migration of hazardous constituents. Floor slopes are shown on the design drawings provided in Appendix 20.

b. has a liquid collection system designed and constructed of materials to minimize the accumulation of liquid on the primary barrier; and

Response

Area 1 is not required to have a liquid collection system as liquids are not managed in the area.

The Area 2 floor system will be upgraded to acid brick, concrete, and HDPE geomembrane as shown in Appendix 20. Drainage from the primary barrier system in Area 2 is directed to sumps to minimize the accumulation of free liquids on the primary barrier. Sloped floors facilitate the collection of liquids for removal. The liquids collected at the sumps are pumped from the sump and transferred to the facility wastewater treatment plant.

c. has a secondary containment system designed and constructed of materials to prevent migration of hazardous constituents into the barrier, with a leak detection and liquid collection system capable of detecting, collecting, and removing leaks of hazardous constituents at the earliest practicable time, unless the unit has been granted a variance from the secondary containment system requirements under LAC 33:V.1802.B.4;

Response

As Area 1 does not manage free liquids, a leak detection and liquid collection system is not required.

Beneath the primary barrier in Area 2 is a secondary containment system designed with a leak detection and liquid collection system capable of detecting, collecting, and removing hazardous constituents at the earliest practicable time. The leak detection and liquid collection system consists of a geonet drainage layer beneath the geomembrane. The secondary containment system underlying the drainage layer is the prepared surface of the existing 4 inch thick concrete. Remaining components of the former floor system including limestone gravel, perforated PVC pipes, asphalt and concrete will not be utilized as leak detection or barrier layers, but will be allowed to remain in-place. Drawings of this design are included in Appendix 20.

4. has controls as needed to permit fugitive dust emissions to meet the no visible emission standard in LAC 33:V.1802.C.1.d; and

Response

Exide has measures in place to control fugitive dust emissions such that any openings (doors, windows, vents, cracks, etc.) exhibit no visible emissions (according to 40 CFR Part 60 Appendix A, Visual Determination of Fugitive Emissions from Material Sources and Smoke Emissions from Flares). In addition, all associated particulate collection devices (e.g., fabric filter, electrostatic precipitator) will be operated and maintained with sound air pollution control practices. Exide maintains a state of no visible emissions at all times during normal operating and maintenance conditions, including when vehicles and personnel are entering and exiting the Containment Building. Exide's Containment Building is operated with a ventilation system to permitted point sources as shown on Figure 8. This ventilation system provides inward air flow (negative pressure) on the building. In addition, liquids are occasionally used on the lead bearing materials within the building for dust suppression purposes. These controls are used to ensure that no visible emissions are emitted from the building.

The certification of the containment building was not approved by the Department. The references indicating the structure, material, design, operations, handling, etc. are not completely accurate. Responses must be revised.

A statement has been added to the response to §1801.A.1 indicating that the Containment Building certification has not yet been approved by LDEQ. The information presented in the certification document is the only information available to Exide regarding the structure, material and design of the Containment Building. The certification cannot be revised as additional information is not available. Additional wall and floor calculations based on the available information have been provided in the revised response to §1801.A.1. No visual observations have been made that indicate that the building has not been adequate for the service loads experienced during the last 10 years of operation.

The references to the floor construction in Area 1 and references to Area 2 included in the certification were not approved by the Department. The Permittee must revise these responses.

Please refer to the previous response to comment.

The Permittee must clarify the paste containing free liquids in the Paste Storage Area (Area 2) and the management of these free liquids.

The paste stored in Area 2 is a high-density, solid reddish-brown material with a moisture content of less than 5 percent that has the potential to contain free liquids. The floor of Area 2 is sloped to drain to a sump, where liquids are collected and transferred to the facility's wastewater treatment system. These responses have been included in Chapter 18 (above).

The Permittee must explain, in detail, the controls needed to permit fugitive dust emissions to meet the no visible emission standard. Explain the current system in place (i.e., collection devices being operated, particulate, etc.).

Additional information regarding the air handling system at the Containment Building has been provided in the response to Chapter 18 and Figure 8.

27. *LAC 33:V.1802.A.2.a-b, The Permittee must explain how the upgrades to the floor and walls will withstand the heavy equipment, waste, chemical compatibility, etc. (i.e., the use of acid brick). Explain how the upgrades and the structural integrity are recognized by the ACI and the ASTM.*

The response has been provided as follows:

2. **the floor and containment walls of the unit, including the secondary containment system if required under LAC 33:V.1802.B, must be designed and constructed of materials of sufficient strength and thickness to support themselves, the waste contents, and any personnel and heavy equipment that operate within the unit and to prevent failure due to pressure gradients, settlement, compression, uplift, physical contact with the hazardous wastes to which they are exposed, climatic conditions, and the stresses of daily operation, including the movement of heavy equipment within the unit and contact of such equipment with containment walls. The unit must be designed so that it has sufficient structural strength to prevent collapse or other failure. All surfaces to be in contact with hazardous wastes must be chemically compatible with those wastes. The administrative authority will consider standards established by professional organizations g enerally recognized by the industry, such as the American Concrete Institute (ACI) and the American Society of Testing Materials (ASTM), in judging the structural integrity requirements of LAC 33:V.1802.A. If appropriate to the nature of the waste management operation to take place in the unit, an exception to the structural strength requirement may be made for light-weight doors and windows that meet these criteria:**

   a. **they provide an effective barrier against fugitive dust emissions under LAC 33:V.1802.C.1.d; and**

   b. **the unit is designed and operated in a fashion that ensures that wastes will not actually come in contact with these openings;**

   Response

   As previously discussed, the walls and floors at Areas 1 and 2 have sufficient strength and thickness to support themselves, wastes, equipment and personnel and to prevent failure due to pressure gradients, settlement, compression, uplift, physical contact with the hazardous wastes to which they are exposed, climatic conditions, and the stresses of daily operation, including the movement of heavy equipment within the unit and contact of such equipment with containment walls. Calculations for the structural integrity of Area 1 and 2 walls and floors are provided in the response to LAC 33:V.1801.1.

   The wall surfaces are concrete, which is compatible with the wastes contained in Areas 1 and 2 including blast furnace slag, battery plates, lead

oxide paste, reverberatory furnace slag, lead dross and purchased scrap. The surface of the floor system in Area 1 is concrete, which is compatible with the battery plates, lead oxide paste, reverberatory furnace slag, lead dross and purchased scrap. Materials with free liquids are not stored in Area 1, therefore, compatibility of the concrete with battery acid is not a concern. The surface of the floor system in Area 2 is acid brick, which is compatible with any free liquid that may be produced by the lead oxide paste.

Although specific design data from the initial design of the building is not available, the foundation and structure of the Containment Building were designed and constructed to meet the applicable building standards to ensure the integrity of the building and the safety of the facility personnel. Prior to installing the foundation, the bearing capacity of the underlying soil was tested to ensure that it could adequately support the building and the design loads required by the facility's operation. The test results are not available. The soil borings and geology report provided in Appendix 11 indicates that the materials underlying the facility are silty clay, clayey silt, sandy silt and silty sand.

The concrete foundation was properly reinforced according to the design standards of the American Concrete Institute (ACI); however the type and quantity of reinforcement is not available. In addition, to meet the utilization needs of the building, the exterior walls were constructed of reinforced concrete in accordance with the ACI standards; however the type and quantity of reinforcement is not available. The design wind loads for the area, according to the building code standards of the time, were also utilized in the design and construction of the exterior walls; however, the specific design load is not known.

The Permittee must provide design data for the foundation and structure of the containment building. The design and construction must meet the applicable building standards. The load-bearing capacity and supporting information on the underlying soils tested to ensure adequate support of the building must be provided. Please provide the documentation that the concrete foundation was properly reinforced according to the design standards of the ACI.

As stated in the responses, design data for the foundation and structure of the Containment Building is not available beyond what is presented in the Containment Building certification document. The building was designed and constructed to the building standards applicable at that time. A geotechnical investigation of the underlying soils was conducted as part of the original design and construction; however, detailed results of the investigation are not available. The concrete foundation was reinforced; however the specific size and quantity of reinforcement is not known. The Containment Building has been in operation for over 10 years with no structural failures or settlement of the floor system or walls. Based on this record, Exide believes that the containment building can continue to function structurally during normal operations.

28. *LAC 33:V.1802.A.4, The Permittee must explain the secondary barrier and its design to withstand the movement of personnel, waste, chemical characteristics, etc.*

The responses have been revised to indicate that the concrete in the primary and secondary barrier can withstand the movement of personnel, waste and equipment:

4. a Containment Building must have a primary barrier designed to withstand the movement of personnel, waste, and handling equipment in the unit during the operating life of the unit and be appropriate for the physical and chemical characteristics of the waste to be managed.

Response

Exide's Containment Building is completely enclosed with floors, walls, and a roof. As previously discussed, the walls and floors at Areas 1 and 2 have sufficient strength and thickness to support themselves, wastes, equipment and personnel and the movement of heavy equipment within the unit and contact of such equipment with containment walls. Calculations for the structural integrity of Area 1 and 2 walls and floors are provided in the response to LAC 33:V.1801.1 and Appendix 23.

The wall surfaces are concrete, which is compatible with the wastes contained in Areas 1 and 2 including blast furnace slag, battery plates, lead oxide paste, reverberatory furnace slag, lead dross, and purchased scrap. The surface of the floor system in Area 1 is concrete, which is compatible with the battery plates, lead oxide paste, reverberatory furnace slag, lead dross, and purchased scrap. Materials with free liquids are not stored in Area 1, therefore, compatibility of the concrete with battery acid is not a concern. The surface of the floor system in Area 2 is acid brick, which is compatible with any free liquid that may be produced by the lead oxide paste.

The proposed leak detection system in Area 2, as described in the response to LAC 33:V.1801.1

The Permittee stated that "This history of adequate structural strength is the basis for assuming the building is of sufficient structural strength. Specific design data from the initial design of the building is not available." The Permittee must clarify these contradicting statements. The Permittee must document the containment building's compliance with the ACI standards.

Exide does not agree that these statements are conflicting. The statements indicate that design data for the Containment Building is not available and that structural strength has been established based on the building's performance over time. Exide cannot document the Containment Building's compliance with ACI standards as design details for the building are not available.

The Permittee must explain how the new design, upgrades and repairs will be sufficient to withstand the movement of personnel, waste, and handling equipment during the operating

life of the unit and the physical and chemical characteristics of the waste to be managed (i.e., the strength of the acid brick).

The responses have been revised to include calculations that indicate that the concrete in the primary and secondary barrier can withstand the movement of personnel, waste and equipment. Concrete is chemically compatible with the wastes stored in the Containment Building. The durability of the existing floor system also indicates that the concrete layer comprising the secondary barrier will continue to withstand the movement of personnel, equipment and waste. A similar floor system, including acid brick as a protective layer for the concrete, has been used successfully at another Exide smelter for the same application for nearly 10 years.

29. *LAC 33:V.1802.C.1.b-c, The Permittee must define the height of the containment walls and the proper handling of contaminated clothes.*

The response to these citations have been revised as follows:

C. Owners or operators of all Containment Buildings must:

1. use controls and practices to ensure containment of the hazardous waste within the unit; and, at a minimum:

a. maintain the primary barrier to be free of significant cracks, gaps, corrosion, or other deterioration that could cause hazardous waste to be released from the primary barrier;

Response
Exide will maintain the primary barrier to be free of significant cracks, gaps, corrosion, or other deterioration that could cause the lead bearing materials within the Containment Building to be released from the primary barrier. The Inspection Plan and Schedule, Appendix 5 includes operational procedures for inspection of the feed pile containment areas.

b. maintain the level of the stored/treated hazardous waste within the containment walls of the unit so that the height of any containment wall is not exceeded;

Response
Exide will maintain the level of stored/treated hazardous waste within the containment walls of the unit so that the height of any containment wall is not exceeded. The height of the Containment Building walls in Areas 1 and 2 is 12 feet.

c. take measures to prevent the tracking of hazardous waste out of the unit by personnel or by equipment used in handling the waste. An area must be designated to decontaminate equipment and any rinsate must be collected and properly managed; and

Response
Exide has measures in place to prevent the tracking of lead bearing materials out of the Containment Building by personnel or by equipment used in handling the waste. Exide operates two vehicle wash stations (Figure 4) at the main entrances to the Containment Building to ensure the containment of wastes and to prevent tracking of wastes. All vehicles exiting the building are required to use the vehicle washes to remove any accumulated waste prior to departure from the building. All rinsate generated from the vehicle washes is collected and conveyed to the facility's wastewater treatment plant for treatment prior to discharge.

The potential for personnel tracking of materials from the Containment Building to the outer lying areas is minimized through the use of personnel wash areas located in select access areas of the building. In addition, contaminated clothing is removed and is contained for proper handling of these materials. Spent PPE is recycled in the furnace or disposed off-site at a permitted facility.

30. *LAC 33:V.1802.C.2, The Permittee must clarify that the certification placed in the facility's operating record and in Appendix 12 was not approved by the Department.*

A statement indicating that the Containment Building certification has not yet been approved by LDEQ has been added to the response to this citation as follows:

2. **obtain certification by a qualified registered professional engineer that the Containment Building design meets the requirements of LAC 33:V.1802.A-C. For units placed into operation prior to February 18, 1993, this certification must be placed in the facility's operating record (on-site files for generators who are not formally required to have operating records) no later than 60 days after the date of initial operation of the unit. After February 18, 1993, PE certification will be required prior to operation of the unit;**

Response
Appendix 12 contains certification by a qualified professional engineer that the Containment Building design for Area 1 meets the requirements of LAC 33:V.1802 A-C. Certification for Area 2, which will manage any free liquids, will be provided by the Design Engineer and forwarded by Exide once construction of upgrades are complete. Copies of these certification documents will be maintained on file with the facility's Part B Permit at Exide, Baton Rouge Smelter. The certification has not yet been approved by LDEQ.

31. *LAC 33:V.1802.D.2, The Permittee must explain the building contours separating Area 2 from other areas. The Permittee must explain the material management practices for these areas.*

The response has been revised as follows:

2. **take measures to prevent the release of liquids or wet materials into areas without secondary containment; and**

Response
Exide will operate the storage areas in accordance with the requirements of LAC 33:V.1802.A and C. The potential for a release of liquids or wet materials into areas without secondary containment are minimized through the building contours that separate Area 2 from the other areas coupled with the use of good material management practices. Area 2 is sloped to drain to a liquid collection sump such that liquids do not flow into adjacent areas. Only lead oxide pastes with the potential to contain free liquids are stored in Area 2. Materials which do not contain free liquids such as dry paste and battery components are only stored in Area 1.

32. *LAC33.V.1802.E, The Permittee must explain how the stored waste will adsorb any liquids to a point that the waste will pass the paint filter test. Explain the measures to collect and remove any liquids.*

The response has been revised as follows:

E. **Notwithstanding any other provision of this Chapter, the administrative authority may waive requirements for secondary containment for a permitted Containment Building where the owner or operator demonstrates that the only free liquids in the unit are limited amounts of dust suppression liquids required to meet occupational health and safety requirements and where containment of managed wastes and liquids can be ensured without a secondary containment system.**

Response
Exide requests that the administrative authority waive requirements for secondary containment for the potential occurrence that liquids could be generated from dust suppression activities in the Raw Materials Storage Area (Area 1).

Periodically dust suppression liquids are used to suppress dust to a level that meets occupational health and safety requirements. The materials stored in Area 1 include battery components, dry lead-oxide paste and slag. Typically, the stored waste will adsorb the liquids to a point that the waste will still pass the paint filter test. This occurs as the waste is initially dry and capable of absorbing additional moisture. Saturation of wastes is not practiced as operations and safety requires that any material feed to the furnaces is as dry as possible. Should liquids become present, Exide will take measures to collect and remove the liquid using a collection sump within the area or absorbent materials. The procedures for handling accumulated liquids are also described in the Dust Suppression Operational Procedure in Appendix 13.

Since the Paste Storage Area (Area 2) will be managed to handle free liquids, it has been designed to have an upgraded floor system with secondary containment and therefore, will have means to remove free liquids as necessary.

33. *LAC 33.V.1803.B, The Permittee must provide a brief summary of the information in the Closure and Post-Closure Plan.*

A brief summary of the information in the Closure and Post-Closure Plan has been provided as follows:

B. If, after removing or decontaminating all residues and making all reasonable efforts to effect removal or decontamination of contaminated components, subsoils, structures, and equipment as required in Subsection A of this section, the owner or operator finds that not all contaminated subsoils can be practicably removed or decontaminated, he must either:

1. close the facility and perform post-closure care in accordance with the closure and post-closure requirements that apply to landfills (LAC 33:V.2521). In addition, for the purposes of closure, post-closure, and financial responsibility, such a Containment Building is then considered to be a landfill and the owner or operator must meet all of the requirements for landfills specified in LAC 33:V.Chapters 35 and 37; or

2. perform a risk assessment to demonstrate that closure with the remaining contaminant levels in protective of human health and the environment in accordance with LAC 33:I. Chapter 13. Any such risk assessment is subject to approval by the administrative authority and must demonstrate that post-closure care is not necessary to adequately protect human health and the environment.

<u>Response</u>

Exide acknowledges these citations and will comply. Closure for the Containment Building is addressed in Appendix 9, Closure and Post Closure Plan. The Closure and Post Closure Plan includes general closure procedures; specific closure procedures for the slag stabilization area, the Containment Building, the K069/D008 storage area, the Truck Trailer Storage area, and the Whole Battery storage area; a closure cost estimate and post-closure care procedures.

Slag remaining in the Containment Building at closure will be loaded into lined end dump trailers for transport to an off-site permitted hazardous waste disposal site. Battery components and other lead-bearing materials remaining in the Containment Building at closure will be loaded into vehicles for transport to another lead smelter for recycling. A sweeper truck will be used to clean any residual material. The walls and floor of the Containment Building will be decontaminated with steam cleaners. Equipment used for loading and sweeping will also be decontaminated. Wash water will be collected in trailers and transported for off-site disposal. Samples of the wash water will be collected to determine if the decontamination process is complete. Confirmation samples will be collected by drilling through the concrete and collecting soil samples for analysis. A certification report stating that the Containment Building was

closed in accordance with the approved closure plan will be prepared by an independent registered professional engineer.

34. *LAC 33:V.2109.C, The Permittee must address the revisions to the inspection plan and the inspection records since the original application was submitted.*

This citation has been revised as follows:

C. All inspection records must be maintained according to the recordkeeping requirements of LAC 33:V.1529.

Response
Exide understands this citation and will maintain inspection records for at least three years from the date of inspection. Since the original permit application, Exide has revised its inspection procedures to maintain compliance with regulations and safe work practices. The specifics of the changes are not available; however, the current Inspection Plan is provided in Appendix 5.

35. *LAC 33:V.3301.B, The Permittee's response cites the solid waste regulations. The Permittee must provide the correct citation.*

This citation has been revised to read:

B. All solid waste management units must comply with the requirements in LAC 33:V.3322. A surface impoundment, waste pile, and land treatment unit or landfill that receives hazardous waste after July 26, 1982 (hereinafter referred to as a "regulated unit") must comply with the requirements of LAC 33:V.3303-LAC 33:V.3321 in lieu of LAC 33:V.3322 for purposes of detecting, characterizing and responding to releases to the uppermost aquifer. The financial responsibility requirements of LAC 33:V.3322 apply to regulated units.

Response
Exide acknowledges the requirements of this citation and will comply. Exide maintains one active and one closed solid waste landfill. The closed solid waste landfill is maintained under solid waste permit GD0332054P0326. The active solid waste landfill is maintained under solid waste permit GD0332054P0160.

36. *LAC 33:V.3301.C.2.c & f, The Permittee must provide a response to these regulatory requirements.*

The responses have been revised as follows to include available information regarding the caps at the closed hazardous waste piles:

c. is designed and operated to exclude liquid, precipitation, and other run-on and run-off;

Response
The caps on the hazardous waste piles are clay with vegetative cover. The caps were designed and are operated to exclude liquid, precipitation and other run-on and run-off.

f. the owner or operator will provide continuing operation and maintenance of these leak detection systems during the active life of the unit and the closure and post-closure care periods; and

Response
Exide acknowledges the requirements of this section. As the waste piles do not have leak detection systems, they cannot be operated or maintained. Exide does conduct scheduled inspections of the cap system and monitoring of groundwater in the detection monitoring program.

37. *LAC 33:V.3301.D, The Permittee must address the scenario of not achieving clean closure.*

The response has been revised as follows:

D. The regulations under this Chapter apply during the active life of the regulated unit (including the closure period). After closure of the regulated unit, the regulations in this Subpart:

1. do not apply if all waste, waste residues, contaminated containment system components, and contaminated subsoils are removed or decontaminated at closure;

Response

The two closed hazardous waste piles were closed in-place and were not removed or decontaminated at closure; therefore this citation does not apply.

For the regulated units at the facility, including the Truck/Trailer Storage Area, the K069/D008 storage area, the Whole Battery storage area, Slag Stabilization Unit and the Containment Building, closure will be conducted by removing waste, waste residue, contaminated system components, and contaminated subsoils. If all waste, waste residues, contaminated system components and contaminated subsoils cannot be removed, the Containment Building will be closed in accordance with the requirements for a landfill as indicated in LAC 33:V.Chapter 18.

2. apply during the post-closure care period under LAC 33:V.Chapter 35, Subchapter B post-closure requirements if the owner or operator is conducting a detection monitoring program under LAC 33:V.3317;

Response
Exide acknowledges the requirements of this citation and will comply. Facility-wide groundwater monitoring is not required for facility operations in accordance with the RCRA Part B Hazardous Waste Permit.

The closed hazardous waste piles are maintained in accordance with the Hazardous Waste Permit and the Closure/Post-Closure Permit for the waste piles. The facility's detection monitoring program includes semi-annual monitoring for one upgradient (MW-1R) and six downgradient monitoring wells (MW-4R, MW-12R, MW-16, MW-13R, MW-17, MW-18). Each well is screened in the first permeable zone, ranging from 38 to 45 feet below ground surface. The wells are monitored for pH, specific conductivity, dissolved lead, dissolved cadmium, iron, manganese, sodium, chloride and sulfate. The vertical limit of compliance is the shallow zone intercepted by the six downgradient wells. The horizontal limit of compliance for Waste Pile #1 is a line connecting wells MW-12R, MW-4R and MW-16. The horizontal limit of compliance for Waste Pile #2 is a line connecting wells MW-13R, MW-17 and MW-18. The Groundwater Sampling and Analysis Plan is provided in Appendix 7. The Plan includes a description of the monitoring well network, groundwater sampling procedures, documentation, decontamination and cross-contamination control, analytical procedures, field and laboratory quality assurance/quality control, monitoring well maintenance and reporting.

Monitoring is also conducted semi-annually at six monitoring wells located at the solid waste landfills in accordance with the Solid Waste Permits. However, this monitoring program is not addressed in this Hazardous Waste Permit Renewal.

3. **apply during the compliance period under LAC 33:V.3313 if the owner or operator is conducting a compliance monitoring program under LAC 33:V.3319 or a corrective action program under LAC 33:V.3321.**

Response
Exide conducts a detection monitoring program for the two closed hazardous waste piles in accordance with LAC 33:V.3317; therefore this citation does not apply. Exide will comply with the requirements of this section if a compliance monitoring program or corrective action program are required.

38. *LAC 33:V.Chapter 35, The Permittee must respond to all the regulatory requirements of this chapter.*

Responses have been provided to the regulatory requirements of Chapter 35, Closure and Post-Closure:

Chapter 35. Closure and Post-Closure

§3501. Applicability

A. **Closure and post-closure procedures ensure protection of the public and ecology against leakage of hazardous wastes to the environment from closed facilities which formerly stored, treated, and/or disposed of such wastes.**

Response
Exide acknowledges the requirements of this section and will comply. Exide's Closure and Post-Closure Plan (Appendix 9) addresses closure of the hazardous waste units including the Slag Stabilization Unit, the Truck/Trailer Storage Area, the

Whole Battery Storage Area, the K069/D008 Storage Area, and the Containment Building. The two Hazardous Waste Piles were closed in-place in 1985 and 1986 and are maintained in accordance with the Post-Closure Permit.

B. **Except as LAC 33:V.1501 provides otherwise, LAC 33:V.3503-3517 (which concern closure) apply to all hazardous waste facilities in operation or under construction as of the effective date of LAC 33:V.Subpart 1 and to all hazardous waste facilities permitted under LAC 33:V.Subpart 1, as applicable.**

Response
Exide acknowledges the requirements of this section and will comply.

C. **LAC 33:V.3519, 3521, 3523, 3525 and 3527 (post-closure care) apply to the owners and operators of:**

1. **all hazardous waste disposal facilities;**

Response
Exide is not a hazardous waste disposal facility; however, Exide maintains a Post-Closure Permit for two closed hazardous waste piles. Exide acknowledges the requirements of this section and will comply.

2. **waste piles, surface impoundments, or any facility from which the owner or operator intends to remove waste at closure, to the extent that these sections are made applicable to such facilities in LAC 33:V.2315 and 2911;**

Response
Exide does not have waste piles, surface impoundments or any facility from which the waste will be removed at closure; therefore this section does not apply.

3. **tank systems that are required under LAC 33:V.1915 to meet the requirements for landfills; and**

Response
Exide does not store hazardous waste in tanks; therefore this section does not apply.

4. **containment buildings that are required under LAC 33:V.1803 to meet the requirements for landfills.**

Response
Exide operates a containment building. If it is determined during closure that the containment building must meet the requirements for landfills, then Exide will comply with the requirements of this section.

D. **The administrative authority may replace all or part of the requirements of this Chapter (and the unit-specific standards referenced in LAC 33:V.3507.A.3 applying to a regulated unit), with alternative requirements set out in a permit**

or in an enforceable document (as defined in LAC 33:V.305.H), where the administrative authority determines that:

1. **the regulated unit is situated among solid waste management units (or areas of concern), a release has occurred, and both the regulated unit and one or more solid waste management unit(s) (or areas of concern) are likely to have contributed to the release; and**

2. **it is not necessary to apply the closure requirements of this Chapter (and those referenced herein) because the alternative requirements will protect human health and the environment and will satisfy the closure performance standard of LAC 33:V.3507.A.1 and 2.**

Response
Exide acknowledges the requirements of this citation and will comply.

§3503. Notification of Intention to Close a Facility

A. **At least 180 days prior to closure, the operator must notify the Office of Environmental Services, Permits Division of intention to close and supply the following information:**

1. **date of planned closure;**

2. **requested changes, if any, in the closure plan submitted with the permit application, which take advantage of new technology, unforeseen situations, and other requests which improve the safety of the closed facility;**

3. **closure schedule and estimated costs of each phase of the closure plan; and**

4. **request for release of closure funds in amounts and times as required by the closure schedules.**

Response
Exide acknowledges the requirements of this subchapter and will comply.

Subchapter A. Closure Requirements

§3505. Closure Procedures

A. **If closure methods are unchanged from the plan approved with the permit, the administrative authority will acknowledge receipt of the notification to close and prepare appropriate documents which will be executed upon completion and acceptance of each phase of the closure plan so that funds can be released.**

Response
Exide acknowledges the requirements of this section and will comply.

B. If the request is made to change the closure plan, the operator will submit revisions to the plan to the Office of Environmental Services, Permits Division, supported by necessary scientific and engineering data to permit evaluation by the department, and the procedures established in permit process will be followed in evaluating and approving the requested changes.

Response
Exide acknowledges the requirements of this section and will comply. No changes to the closure plan are anticipated at this time. Revisions were made to the closure plan in July 2002 in response to LDEQ's comments on the Permit Modification Request dated October 17, 2001. Revisions included adding the proposed containment building upgrades and increasing costs associated with sampling through the proposed acid brick floor at the containment building.

§3507. Closure Performance Standards

A. In accordance with LAC 33:V.3509, the owner or operator must close his facility in a manner that:

1. minimizes the need for further maintenance; and

Response
Exide acknowledges this provision and will comply. By clean closing the hazardous waste units, no hazardous waste or waste residual will be left at the units and further maintenance will not be required.

Exide has already closed the two Hazardous Waste Piles in a manner that minimized the need for further maintenance while allowing closure in-place. Exide implements a Post-Closure Plan for the waste piles including scheduled inspections, cap maintenance and groundwater monitoring. Post-Closure care activities are detailed in the Post-Closure Permit and the Closure and Post-Closure Plan in Appendix 9.

2. controls, minimizes, or eliminates, to the extent necessary to prevent threats to human health and the environment, post-closure escape of hazardous waste, hazardous waste constituents, leachate, contaminated rainfall, or waste decomposition products to the groundwater, surface waters, or to the atmosphere; and

Response
Clean closure of the hazardous waste units will eliminate the threat to human health and environment as hazardous waste will not remain. The closed hazardous waste piles have clay caps and liners which minimize the threat to human health and the environment by enclosing the waste.

3. complies with closure requirements of this Chapter, including, but not limited to, the requirements of LAC 33:V.1803, 1911, 1915, 2117, 2315, 2521, 2719, 2911, 3121, and 3203-3207.

Response
Exide acknowledges the requirement of this citation and will comply.

B. **As a means of satisfying the closure requirements of Paragraph A.2 of this Section, the owner or operator may demonstrate an alternative risk-assessment-based closure in accordance with LAC 33:I.Chapter 13.**

Response
Exide has not requested an alternative risk-assessment-based closure in accordance with LAB 33:I.Chapter 13; therefore, this citation does not apply.

§3509. Closure Financial Responsibility

A. **The operator shall submit, with the permit application, a closure plan which provides the estimated cost of closure, and post-closure monitoring including long-term monitoring devices, and the number of years of estimated operation before closure, and which is designed to minimize the need for future maintenance and to ensure against leakage or escape of hazardous waste.**

Response
Exide's Closure and Post Closure Plan is provided in Appendix 9. The plan includes closure procedures and cost estimates for the hazardous waste units (i.e., K069/D008 storage area, Truck/Trailer storage area, Whole Battery Storage area, Slag Stabilization area and Containment Building), and post-closure monitoring procedures and cost estimates for the closed hazardous waste piles. Closure costs were developed assuming a third party contractor or consultant would conduct the closure. The facility was opened in 1969. The final closure date of the facility has not yet been determined. For permitting purposes, the approximate timeframe that the facility is expected to continue operation is until the year 2021.

Post-closure activities will not be required for the hazardous waste units as they will be clean closed. Post-closure activities for the hazardous waste piles include scheduled inspections, cap maintenance and groundwater monitoring.

Closure procedures for the hazardous waste units includes shipment of remaining wastes (slag, batteries, battery components, and drums of waste) off-site for disposal at a permitted facility or recycling at a lead smelter. The units will be decontaminated with steam cleaners. Wash water will be collected and transported for off-site disposal. Samples of wash water will be collected and analyzed for lead to determine if the decontamination process was complete. Confirmatory samples will be collected for total lead analysis by drilling through the floor systems. A certification report stating that the unit was closed in accordance with the approved closure plan will be prepared for each unit and certified by an independent registered professional engineer.

B. **The operator shall create a "closure fund" under the requirements in LAC 33:V.Chapters 35 and 37.**

Response
Exide acknowledges the requirements of this section and will comply.

§3511. Closure Plan; Amendment of Plan

A. Written Plan

1. **The owner or operator of a hazardous waste management facility must have a written closure plan. In addition, certain surface impoundments and waste piles from which the owner or operator intends to remove or decontaminate the hazardous waste at partial or final closure are required by LAC 33:V.2911.D and 2315.C to have contingent closure plans. The plan must be submitted with the permit application, in accordance with LAC 33:V.517.M and approved by the administrative authority as part of the permit issuance procedures under LAC 33:V.Chapters 3 and 7. In accordance with LAC 33:V.311, the approved closure plan will become a condition of any hazardous waste permit.**

   Response
   Exide's Closure and Post-Closure Plan is provided in Appendix 9. The plan includes general facility closure procedures; specific clean-closure procedures for the Slag Stabilization Area, the Containment Building, the K069/D009 Storage Area, the Truck Trailer Storage Area and the Whole Battery Storage Area; a closure cost estimate; and post-closure care procedures and costs for the closed hazardous waste piles. Exide does not plan to conduct any partial closures. The approved plan is a condition of Exide's existing Hazardous Waste Permit for which a renewal is requested.

2. **The administrative authority's approval of the plan must ensure that the approved closure plan is consistent with LAC 33:V.3507, 3511-3517, and the applicable requirements of LAC 33:V.Chapter 33, 1803, 1911, 1915, 2117, 2315, 2521, 2719, 2911, 3121, and 3203. Until final closure is completed and certified in accordance with LAC 33:V.3517, a copy of the approved plan and all approved revisions must be furnished to the administrative authority upon request, including request by mail.**

   Response
   Exide acknowledges this requirement and will comply.

B. Content of Plan. The plan must identify steps necessary to perform partial and/or final closure of the facility at any point during its active life. The closure plan must include, at least:

1. **a description of how each hazardous waste management unit at the facility will be closed in accordance with LAC 33:V.3507;**

   Response
   Exide does not anticipate partial closure of any units. Each unit will be clean-closed after termination of facility operations. The Closure and Post Closure Plan is provided in Appendix 9. Closure procedures for the hazardous waste units include shipment of remaining wastes off-site for disposal at a permitted facility or recycling at a lead smelter. Slag will be sent off-site for disposal. Batteries, battery components, lead-bearing materials, and drums stored at the K069/D008 area will be transported to another lead smelter for recycling.

The units will be decontaminated with steam cleaners. Wash water will be collected and transported for off-site disposal. Samples of wash water will be collected and analyzed for lead to determine if the decontamination process was complete. Confirmatory samples will be collected for total lead analysis by drilling through the floor systems. A certification report stating that the unit was closed in accordance with the approved closure plan will be prepared for each unit and certified by an independent registered professional engineer.

2. **a description of how final closure of the facility will be conducted in accordance with LAC 33:V.3507. The description must identify the maximum extent of the operations which will be unclosed during the active life of the facility; and**

Response

Final clean-closure of the facility's hazardous waste units will minimize the need for further maintenance and eliminate threat to human health and the environment as no hazardous wastes or residues will remain at the facility. It is anticipated that the hazardous waste units (Slag Stabilization Unit, storage areas and Containment Building) will continue to operate for the lifetime of the facility.

The clay cap and liner of the closed hazardous waste piles minimizes post-closure escape of hazardous waste by enclosing the waste materials. The groundwater detection monitoring program also monitors the area for escape of hazardous waste into the groundwater.

3. **an estimate of the maximum inventory of hazardous wastes ever on-site over the active life of the facility and a detailed description of the methods to be used during partial closures and final closure, including, but not limited to, methods for removing, transporting, treating, storing, or disposing of all hazardous wastes, and identification of the type(s) of the off-site hazardous waste management units to be used, if applicable; and**

Response

The maximum inventory of hazardous wastes over the active facility life is:

Slag Stabilization Unit	144.4 tons
Containment Building - slag	3,333 tons
Containment Building – other materials	12,080 tons
K069/D008 Storage Area	29,920 gallons
Truck/Trailer Storage Area	85,000 gallons
Whole Battery Storage Area	81,000 gallons

Closure procedures for the hazardous waste units include shipment of remaining wastes off-site for disposal at a permitted facility or recycling at a lead smelter. Slag will be sent off-site for disposal. Slag will be removed with a front-end loader and placed into lined end-dump trailers. Battery components and lead-bearing materials will be removed with a front-end loader and placed into lined end-dump trailers for transport to another lead smelter for recycling. Batteries and drums stored at the K069/D008 area will

be loaded into vehicles with a fork lift and transported to another lead smelter for recycling. The Closure and Post Closure Plan is provided in Appendix 9.

4. **a detailed description of the steps needed to remove or decontaminate all hazardous waste residues and contaminated containment system components, equipment, structures, and soils during partial and final closure, including, but not limited to, procedures for cleaning equipment and removing contaminated soils, methods for sampling and testing surrounding soils, and criteria for determining the extent of decontamination required to satisfy the closure performance standard;**

   Response
   The units will be decontaminated with steam cleaners to remove residues. Front end loaders used to load wastes will also be decontaminated. The wash water will be collected in trailers and transported for off-site disposal. Samples of the wash water will be collected and analyzed for lead to determine if the decontamination process is complete. Personnel will wear appropriate personal protective equipment including respirators with particle cartridges, tyvek suits, gloves and hard hats with splashguards.

   Soil samples will be collected by drilling through the floor systems at each unit. A total of 120 soil samples will be collected for lead analysis. A certification report will be prepared for each unit and certified by an independent registered professional engineer, stating the facility was closed in accordance with the approved closure plan. The Closure and Post-Closure Plan is provided in Appendix 9.

5. **a detailed description of other activities necessary during the closure period to ensure that all partial closures and final closure satisfy the closure performance standards, including, but not limited to, ground water monitoring, leachate collection, and run-on and run-off control;**

   Response
   During the closure period, groundwater monitoring and leachate collection will not be conducted as clean-closure will occur and the units do not have leachate collection systems. Run-on and run-off control will be provided at each unit by the perimeter berms and floor slopes.

6. **a schedule for closure of each hazardous waste management unit and for final closure of the facility. The schedule must include, at a minimum, the total time required to close each hazardous waste management unit and the time required for intervening closure activities which will allow tracking of the progress of partial and final closure (for example, in the case of a landfill, unit estimates of the time required to treat or dispose of all hazardous waste inventory and of the time required to place a final cover must be included); and**

   Response
   Exide anticipates that the hazardous waste management units will operate for the lifetime of the facility. Waste removal will occur within 90 days after

receiving the final volume of hazardous waste. The closure plan will be completed within 6 months of receiving the final volume of hazardous waste.

7. **for facilities that use trust funds to establish financial assurance LAC 33:V.3707 and 3711 and that are expected to close prior to the expiration of the permit, an estimate of the expected year of final closure; and**

   Response
   Exide is not anticipated to close prior to the expiration of the renewed permit; therefore this section does not apply.

8. **for facilities where the administrative authority has applied alternative requirements at a regulated unit under LAC 33:V.3301.G, 3501.D, and/or 3701.D, either the alternative requirements applying to the regulated unit or a reference to the enforceable document containing those alternative requirements.**

   Response
   Exide does not have alternative requirements for the regulated units; therefore, this section does not apply.

C. **Amendment of Plan. The owner or operator must submit to the Office of Environmental Services, Permits Division a written notification of or request for a permit modification to authorize a change in operating plans, facility design, or the approved closure plan in accordance with the applicable procedures in LAC 33:V.Chapters 3 and 7. The written notification or request must include a copy of the amended closure plan for review or approval by the administrative authority.**

Response
Exide acknowledges this citation and will comply. Exide submitted a permit modification in October 2001 to propose upgrades to the Containment Building floor system and include the containment building in the permit. This document addresses comments on the modification document. The modification included a amended closure plan.

1. **The owner or operator may submit a written notification or request to the to the Office of Environmental Services, Permits Division for a permit modification to amend the closure plan at any time prior to the notification of partial or final closure of the facility.**

   Response
   Exide acknowledges this citation and will comply.

2. **The owner or operator must submit a written notification of or request for a permit modification to authorize a change in the approved closure plan whenever:**

a. **changes in operating plans or facility design affect the closure plan; or**

b. **there is a change in the expected year of closure, if applicable; or**

c. **in conducting partial or final closure activities, unexpected events require a modification of the approved closure plan.**

Response
Exide acknowledges this citation and will comply.

3. **The owner or operator must submit to the Office of Environmental Services, Permits Division a written request for a permit modification including a copy of the amended closure plan for approval at least 60 days prior to the proposed change in facility design or operation, or no later than 60 days after an unexpected event has occurred which has affected the closure plan. If an unexpected event occurs during the partial or final closure period, the owner or operator must request a permit modification no later than 30 days after the unexpected event. An owner or operator of a surface impoundment or waste pile that intends to remove all hazardous waste at closure and is not otherwise required to prepare a contingent closure plan under LAC 33:V.2911.D or 2315.D must submit an amended closure plan to the Office of Environmental Services, Permits Division no later than 60 days from the date that the owner or operator or administrative authority determines that the hazardous waste management unit must be closed as a landfill, subject to the requirements of LAC 33:V.2521, or no later than 30 days from that date if the determination is made during partial closure or final closure. The administrative authority will approve, disapprove, or modify this amended plan in accordance with the procedures in LAC 33:V.Chapters 3 and 7. In accordance with LAC 33:V.311, the approved closure plan will become a condition of any hazardous waste permit issued.**

Response
Exide acknowledges this citation and will comply.

4. **The administrative authority may request modifications to the plan under the conditions described in LAC 33:V.3511.A.2. The owner or operator must submit the modified plan within 60 days of the administrative authority's request, or within 30 days if the change in facility conditions occurs during partial or final closure. Any modifications requested by the administrative authority will be approved in LAC 33:V.Chapters 3 and 7.**

Response
Exide acknowledges this citation and will comply.

5. **The owner or operator requests the administrative authority to apply alternative requirements to a regulated unit under LAC 33:V.3301.G, 3501.D, and/or 3701.D.**

Response
Exide acknowledges this citation; however Exide does not request alternative requirements.

D. **Notification of Partial Closure and Final Closure**

1. **The owner or operator must notify the Office of Environmental Services, Permits Division in writing at least 60 days prior to the date on which he expects to begin closure of a surface impoundment, waste pile, land treatment or landfill unit, or final closure of a facility with such a unit. The owner or operator must notify the Office of Environmental Services, Permits Division in writing at least 45 days prior to the date on which he expects to begin final closure of a facility with only treatment or storage tanks, container storage, or incinerator units to be closed. The owner or operator must notify the Office of Environmental Services, Permits Division in writing at least 45 days prior to the date on which he expects to begin partial or final closure of a boiler or industrial furnace, whichever is earlier.**

Response
Exide acknowledges this citation and will comply.

2. **The date when he or she "expects to begin closure" must be one of the following:**

   a. **No later than 30 days after the date on which any hazardous waste management unit receives the known final volume of hazardous wastes or, if there is a reasonable possibility that the hazardous waste management unit will receive additional hazardous wastes, no later than one year after the date on which the unit received the most recent volume of hazardous waste. If the owner or operator of a hazardous waste management unit can demonstrate to the administrative authority that the hazardous waste management unit or facility has the capacity to receive additional hazardous wastes and he or she has taken, and will continue to take, all steps to prevent threats to human health and the environment, including compliance with all applicable permit requirements, the administrative authority may approve an extension to this one-year limit.**

   b. **For units meeting the requirements of LAC 33:V.3513.D, no later than 30 days after the date on which the hazardous waste management unit receives the known final volume of non-hazardous wastes, or if there is a reasonable possibility that the hazardous waste management unit will receive additional non-hazardous wastes, no later than one year after the date on which**

the unit received the most recent volume of non-hazardous wastes. If the owner or operator can demonstrate to the administrative authority that the hazardous waste management unit has the capacity to receive additional non-hazardous wastes and he or she has taken, and will continue to take, all steps to prevent threats to human health and the environment, including compliance with all applicable permit requirements, the administrative authority may approve an extension to this one-year limit.

Response
Exide acknowledges this citation and will comply.

3. **If the facility's permit is terminated, or if the facility is otherwise ordered, by judicial decree or final order under R.S. 30:2025, to cease receiving hazardous wastes or to close, then the requirements of this Paragraph do not apply. However, the owner or operator must close the facility in accordance with the deadlines established in LAC 33:V.3513.**

Response
Exide acknowledges this citation and will comply.

E. **Removal of Wastes and Decontamination or Dismantling of Equipment. Nothing in this Section shall preclude the owner or operator from removing hazardous wastes and decontaminating or dismantling equipment in accordance with the approved partial or final closure plan at any time before or after notification of partial or final closure.**

Response
Exide acknowledges this citation and will comply.

§3513. Closure; Time Allowed for Closure

A. **Within 90 days after receiving the final volume of hazardous wastes, or the final volume of non-hazardous wastes if the owner or operator receives administrative authority allowance pursuant to LAC 33:V.3513.D and complies with all applicable requirements in LAC 33:V.3513.D and E, at a hazardous waste management unit or facility, the owner or operator must treat, remove from the facility or unit, or dispose of on-site, all hazardous wastes in accordance with the approved closure plan. The administrative authority may approve a longer period if the owner or operator complies with all applicable requirements for requesting a modification to the permit and demonstrates that:**

1. **the activities required to comply with this Paragraph will, of necessity, take longer than 90 days to complete, or**

2. **the hazardous waste management unit or facility has the capacity to receive additional hazardous wastes, or has the capacity to receive**

non-hazardous wastes if the owner or operator receives administrative authority allowance pursuant to LAC 33:V.3513.D and complies with LAC 33:V.3513.D and E, and there is a reasonable likelihood that he or another person will recommence operation of the site, as provided in LAC 33:V.321; and

4. **closure of the facility would be incompatible with continued operation of the site; and**

5. **the owner or operator has taken and will continue to take all steps to prevent threats to human health and the environment.**

Response
Exide acknowledges this section and will comply.

B. **The owner or operator must complete partial and final closure activities in accordance with the approved closure plan and within 180 days after receiving the final volume of hazardous wastes, or the final volume of non-hazardous wastes if the owner or operator complies with all applicable requirements in LAC 33:V.3513.D and E, at the hazardous waste management unit or facility. The administrative authority may approve an extension to the closure period if the owner or operator complies with all applicable requirements for requesting a permit modification and demonstrates that:**

1. **the partial or final closure activities will, of necessity, take longer than 180 days to complete; or**

2. **the hazardous waste management unit or facility has the capacity to receive additional hazardous wastes or has the capacity to receive non-hazardous wastes if the owner or operator complies with LAC 33:V.3513.D and E; and**

3. **there is a reasonable likelihood that he or another person will recommence operation of the hazardous waste management unit within one year, as provided in LAC 33:V.321; and**

4. **closure of the facility would be incompatible with continued operation of the site; and**

5. **he has taken and will continue to take all steps to prevent threats to human health and the environment from the unclosed, but inactive hazardous waste management unit including compliance with all applicable permit conditions.**

Response
Exide acknowledges this section and will comply.

C. **The demonstrations referred to in LAC 33:V.3513.A and B must be made as follows:**

1. **the demonstrations in Subsection A must be made at least 30 days prior to the expiration of the 90-day period in Subsection A; and**

2. **the demonstration in LAC 33:V.3513.B must be made at least 30 days prior to the expiration of the 180-day period in LAC 33:V.3513.B, unless the owner or operator is otherwise subject to the deadlines in LAC 33:V.3513.D.**

<u>Response</u>
Exide acknowledges this section and will comply.

D. **The administrative authority may allow an owner or operator to receive only non-hazardous wastes in a landfill, land treatment, or surface impoundment unit after the final receipt of hazardous wastes at that unit if the following conditions are met.**

<u>Response</u>
Exide does not operate hazardous waste landfills, land treatment units or surface impoundments; therefore, this section does not apply.

1. **The owner or operator requests a permit modification in compliance with all applicable requirements in LAC 33:V.Chapters 1, 3, 5, 7, 27, 31, and 43, and in the permit modification request demonstrates that:**

   a. **the unit has the existing design capacity as indicated on the Part I application to receive non-hazardous wastes;**

   b. **there is a reasonable likelihood that the owner or operator or another person will receive non-hazardous wastes in the unit within one year after the final receipt of hazardous wastes;**

   c. **the nonhazardous wastes will not be incompatible with any remaining wastes in the unit, or with the facility design and operating requirements of the unit or facility under LAC 33:V.Chapters 9, 15, 17, 19, 21, 23, 25, 27, 28, 29, 31, 32, 33, 35, and 37;**

   d. **closure of the hazardous waste management unit would be incompatible with continued operation of the unit or facility; and**

   e. **the owner or operator is operating and will continue to operate in compliance with all applicable permit requirements.**

2. **The request to modify the permit includes an amended waste analysis plan, groundwater monitoring and response program, human exposure assessment required under LAC 33:V.503.A, and closure and post-closure plans, and updated cost estimates and demonstrations of financial assurance for closure and post-closure care as necessary and appropriate to reflect any changes due to the presence of hazardous constituents in the non-hazardous wastes and changes in closure**

activities, including the expected year of closure if applicable under LAC 33:V.3511.B.7, as a result of the receipt of non-hazardous wastes following the final receipt of hazardous wastes.

3. The request to modify the permit includes revisions, as necessary and appropriate, to affected conditions of the permit to account for the receipt of non-hazardous wastes following receipt of the final volume of hazardous wastes.

4. The request to modify the permit and the demonstrations referred to in LAC 33:V.3513.D.1 and 2 are submitted to the administrative authority no later than 120 days prior to the date on which the owner or operator of the facility receives the known final volume of hazardous wastes at the unit, or no later than 90 days after the effective date of this rule, whichever is later.

F. In addition to the requirements in LAC 33:V.3513.D, an owner or operator of a hazardous waste surface impoundment that is not in compliance with the liner and leachate collection system requirements in LAC 33:V.Chapter 29 must do the following.

Response

Exide does not operate a hazardous waste surface impoundment; therefore, this section does not apply.

1. Submit to the Office of Environmental Services, Permits Division with the request to modify the permit:

   a. a contingent corrective measures plan, unless a corrective action plan has already been submitted under LAC 33:V.3319; and

   b. a plan for removing hazardous wastes in compliance with LAC 33:V.3513.E.2.

2. Remove all hazardous wastes from the unit by removing all hazardous liquids and removing all hazardous sludges to the extent practicable without impairing the integrity of the liner(s), if any.

3. Removal of hazardous wastes must be completed no later than 90 days after the final receipt of hazardous wastes. The administrative authority may approve an extension to this deadline if the owner or operator demonstrates that the removal of hazardous wastes will, of necessity, take longer than the allotted period to complete and that an extension will not pose a threat to human health and the environment.

4. If a release that is a statistically significant increase (or decrease in the case of pH) over background values for detection monitoring parameters or constituents specified in the permit or that exceeds the facility's groundwater protection standard at the point of compliance, if

applicable, is detected in accordance with the requirements in LAC 33:V.Chapter 33, the owner or operator of the unit:

a. must implement corrective measures in accordance with the approved contingent corrective measures plan required by LAC 33:V.3513.E.1 no later than one year after detection of the release or approval of the contingent corrective measures plan, whichever is later;

b. may continue to receive wastes at the unit following detection of the release only if the approved corrective measures plan includes a demonstration that continued receipt of wastes will not impede corrective action; and

c. may be required by the administrative authority to implement corrective measures in less than one year or to cease the receipt of wastes until corrective measures have been implemented if necessary to protect human health and the environment.

5. During the period of corrective action, the owner or operator shall provide semiannual reports to the administrative authority that describe the progress of the corrective action program, compile all groundwater monitoring data, and evaluate the effect of the continued receipt of non-hazardous wastes on the effectiveness of the corrective action.

6. The administrative authority may require the owner or operator to commence closure of the unit if the owner or operator fails to implement corrective action measures in accordance with the approved contingent corrective measures plan within one year as required in LAC 33:V.3513.E.4, or fails to make substantial progress in implementing corrective action and achieving the facility's groundwater protection standard or background levels if the facility has not yet established a groundwater protection standard.

7. If the owner or operator fails to implement corrective measures as required in LAC 33:V.3513.E.4, or if the administrative authority determines that substantial progress has not been made pursuant to LAC 33:V.3513.E.6, he or she shall do the following.

a. The administrative authority will notify the owner or operator in writing that the owner or operator must begin closure in accordance with the deadlines in LAC 33:V.3513.A and B, and provide a detailed statement of reasons for this determination.

b. The administrative authority will provide the owner or operator and the public, through a newspaper notice, the opportunity to submit written comments on the decision no later than 20 days after the date of the notice.

c. If the administrative authority receives no written comments, the decision will become final five days after the close of the comment period. The administrative authority will notify the owner or operator that the decision is final, and that a revised closure plan, if necessary, must be submitted within 15 days of the final notice, and that closure must begin in accordance with the deadlines in LAC 33:V.3513.A and B.

d. If the administrative authority receives written comments on the decision, he or she shall make a final decision within 30 days after the end of the comment period, and provide the owner or operator in writing and the public through a newspaper notice with a detailed statement of reasons for the final decision. If the administrative authority determines that substantial progress has not been made, closure must be initiated in accordance with the deadlines in LAC 33:V.3513.A and B.

e. The final determinations made by the administrative authority under LAC 33:V.3513.E.7.c and d are not subject to administrative appeal.

§3515. Disposal or Decontamination of Equipment, Structures and Soils

A. During the partial and final closure periods, all contaminated equipment, structures, and soils must be properly disposed of or decontaminated, unless otherwise specified in LAC 33:V.1803, 1915, 2315, 2521, 2719, 2809, and 2911, or under the authority of LAC 33:V.3203 and 3207. By removing any hazardous waste or hazardous constituents during partial and final closure, the owner or operator may become a generator of hazardous waste and must handle that waste in accordance with all applicable requirements of LAC 33:V.Chapter 11.

Response
Exide acknowledges the requirements of this section and will comply. All equipment, structures and soils will be properly disposed of or decontaminated. The waste will be managed as hazardous waste if necessary.

§3517. Certification of Closure

A. Within 60 days of completion of closure of each hazardous waste surface impoundment, waste pile, land treatment, and landfill unit, and within 60 days of the completion of final closure, the owner or operator must submit to the Office of Environmental Services, Permits Division, by registered mail, a certification that the hazardous waste management unit or facility, as applicable, has been closed in accordance with the specifications in the approved closure plan. The certification must be signed by the owner or operator and by an independent registered professional engineer. Documentation supporting the independent registered professional engineer's certification must be furnished to the administrative authority upon request until he releases the owner or operator from the financial assurance requirements for closure under LAC 33:V.3707.

Response
Exide acknowledges this citation and will comply. Exide does not have active hazardous waste surface impoundments, waste piles, land treatment units or landfill units. Exide will submit certification reports for the hazardous waste units (Slag Stabilization Area, Containment Building, Truck/Trailer Storage Area, Whole Battery Storage Area, and K069/D008 Storage Area) within 60 days of completion of final closure.

Exide has closed the two hazardous waste piles and a certification report was submitted on July 8, 1988.

B. **Survey Plat. No later than the submission of the certification of closure of each hazardous waste disposal unit, the owner or operator must submit to the local zoning authority, or the authority with jurisdiction over local land use, and to the Office of Environmental Services, Permits Division, a survey plat indicating the location and dimensions of landfills cells or other hazardous waste disposal units with respect to permanently surveyed benchmarks. This plat must be prepared and certified by a professional land surveyor. The plat filed with the local zoning authority, or the authority with jurisdiction over local land use, must contain a note, prominently displayed, which states the owner's or operator's obligation to restrict disturbance of the hazardous waste disposal unit in accordance with the applicable Chapter 35 regulations.**

Response
Exide does not have any hazardous waste disposal units in addition to those already closed; therefore, this requirement does not apply.

Subchapter B. Post-Closure Requirements

§3519. Post-Closure Procedures

A. **Any proposed transfer of ownership of the property shall be reported to the administrative authority at least 60 days prior to execution of such sale.**

Response
Exide acknowledges this requirement and will comply.

B. **The administrative authority must approve any new owner. Criteria for approval includes agreement to land use restrictions necessary to protect public health and financial responsibility covering liability due to change in land use.**

Response
Exide acknowledges this requirement and will comply.

C. **The administrative authority will conduct an annual evaluation of the site for the period of post-closure.**

Response
Exide acknowledges this requirement and will comply.

§3521. Post-Closure Care and Use of Property

A. Length of Post-Closure

1. **Post-closure care for each hazardous waste management unit subject to the requirements of LAC 33:V.3519-3527 must continue for at least 30 years after the date of completing closure of that unit and must consist of at least the following:**

   Response
   Exide intends to clean-close the permitted hazardous waste units; therefore post-closure care does not apply. Exide currently maintains a Post-Closure Permit for the two hazardous waste piles closed in 1985 and 1986. Post-closure care for the waste piles will continue for 30 years after issuance of the Post-Closure Permit in May 2001.

   a. **monitoring and reporting in accordance with the requirements of LAC 33:V.Chapters 23, 25, 27, 29, 32 and 33; and**

      Response
      Exide conducts a detection monitoring program for groundwater associated with the two closed hazardous waste piles. The program is conducted in accordance with LAC 33:V.Chapter 33. Exide's Groundwater Sampling and Analysis Plan detailing the program is included as Appendix 7.

   b. **maintenance and monitoring of waste containment systems in accordance with the requirements of LAC 33:V.Chapters 23, 25, 27, 29, 32 and 33.**

      Response
      Exide conducts scheduled inspections and regular maintenance of the cap systems at the waste piles. Maintenance includes mowing, fertilization and integrity inspections. Details are provided in the Closure and Post-Closure Plan in Appendix 9 and the Post-Closure Permit for the waste piles.

2. **Any time preceding partial closure of a hazardous waste management unit subject to post-closure care requirements or final closure, or any time during the post-closure period for a particular unit, the administrative authority may, in accordance with the permit modification procedures in LAC 33:V.321:**

   a. **shorten the post-closure care period applicable to the hazardous waste management unit, or facility, if all disposal units have been closed, if he finds that the reduced period is sufficient to protect human health and the environment (e.g., leachate or groundwater monitoring results, characteristics of the hazardous wastes, application of advanced technology, or alternative disposal, treatment, or re-use techniques indicate**

that the hazardous waste management unit or facility is secure); or

b. extend the post-closure care period applicable to the hazardous waste management unit or facility if he finds that the extended period is necessary to protect human health and the environment (e.g., leachate or groundwater monitoring results indicate a potential for migration of hazardous wastes at levels which may be harmful to human health and the environment).

Response
Exide acknowledges the requirements of this section and will comply.

3. The owner or operator may elect to demonstrate a shortened post-closure care period meets the requirements of Subparagraph A.2.a of this Section by using risk assessment methodology. The risk assessment must demonstrate that the shortened post-closure care period is protective of human health and the environment in accordance with LAC 33:I.Chapter 13.

Response
Exide acknowledges the requirements of this section and will comply.

B. The administrative authority may require, at partial and final closure, continuation of any of the security requirements of LAC 33:V.1507 during part or all of the post-closure period when:

1. hazardous wastes may remain exposed after completion of partial or final closure; or

Response
Exide does not expect that hazardous wastes will remain exposed after completion of closure as the hazardous waste piles have already been capped. Therefore, this citation does not apply.

2. access by the public or domestic livestock may pose a hazard to human health.

Response
Exide anticipates that the perimeter fencing will remain in-place at closure; therefore eliminating access by public or domestic livestock and the requirements of this section do not apply. The clay cap system will also minimize hazards to human health.

C. Post-closure use of property on or in which hazardous wastes remain after partial or final closure must never be allowed to disturb the integrity of the final cover, liner(s), or any other components of the containment system, or the function of the facility's monitoring systems, unless the administrative authority finds that the disturbance:

1. **is necessary to the proposed use of the property, and will not increase the potential hazard to human health or the environment; or**

2. **is necessary to reduce a threat to human health or the environment.**

Response
Exide acknowledges the requirements of this section and will comply.

D. **All post-closure care activities must be in accordance with the provisions of the approved post-closure plan as specified in LAC 33:V.3525.**

Response
Exide acknowledges the requirements of this citation and will comply.

§3523. Post-Closure Plan, Amendment of Plan

A. **Written Plan. The owner or operator of a hazardous waste disposal unit must have a written post-closure plan. In addition, certain surface impoundments and waste piles from which the owner or operator intends to remove or decontaminate the hazardous wastes at partial or final closure are required by LAC 33:V.2911.D and 2315.C to have contingent post-closure plans. Owners or operators of surface impoundments and waste piles not otherwise required to prepare contingent post-closure plans under LAC 33:V.2315.C and 2911.D must submit a post-closure plan to the Office of Environmental Services, Permits Division within 90 days from the date that the owner or operator or administrative authority determines that the hazardous waste management unit must be closed as a landfill, subject to the requirements of LAC 33:V.3519-3527. The plan must be submitted with the permit application, in accordance with LAC 33:V.517.P, and approved by the administrative authority as part of the permit issuance procedures under these regulations. In accordance with LAC 33:V.311 the approved post-closure plan will become a condition of any hazardous waste permit issued.**

Response
Exide will clean-close the hazardous waste storage and treatment units; therefore this section does not apply. Exide does maintain a post-closure care plan for the two closed hazardous waste impoundments in accordance with their Post-Closure Permit.

B. **For each hazardous waste management unit subject to the requirements of this Section, the post-closure plan must identify the activities that will be carried on after closure of each disposal unit and the frequency of these activities, and include at least:**

1. **a description of the planned monitoring activities and frequencies at which they will be performed to comply with LAC 33:V.Chapters 23, 25, 27, 29, 32 and 33 during the post-closure care period; and**

2. **a description of the planned maintenance activities, and frequencies at which they will be performed, to ensure:**

a. **the integrity of the cap and final cover or other containment systems in accordance with the requirements of LAC 33:V.Chapters 23, 25, 27, 29, 32 and 33; and**

b. **the functioning of the monitoring equipment in accordance with the requirements of LAC 33:V.Chapters 23, 25, 27, 29, 32, and 33;**

3. **the name, address, and phone number of the person or office to contact about the hazardous waste disposal unit or facility during the post-closure care period ; and**

4. **for facilities where the administrative authority has applied alternative requirements at a regulated unit under LAC 33:V.3301.G, 3501.D, and/or 3701.D, either the alternative requirements that apply to the regulated unit or a reference to the enforceable document containing t hose requirements.**

Response
Exide will clean-close the hazardous waste storage and treatment units; therefore this section does not apply. Exide does maintain a post-closure care plan for the two closed hazardous waste impoundments in accordance with their Post-Closure Permit.

C. **Until final closure of the facility, a copy of the approved post-closure plan must be furnished to the administrative authority upon request, including request by mail. After final closure has been certified, the person or office specified in LAC 33:V.3525 must keep the approved post-closure plan during the remainder of the post-closure period.**

Response
Exide acknowledges this requirement and will comply.

D. **Amendment of Plan. The owner or operator must submit to the Office of Environmental Services, Permits Division a written notification of or request for a permit modification to authorize a change in the approved post-closure plan in accordance with the applicable requirements of LAC 33:V.Chapters 3 and 7. The written notification or request must include a copy of the amended post-closure plan for review or approval by the administrative authority.**

Response
Exide acknowledges this requirement and will comply.

1. **The owner or operator may submit a written notification or request to the Office of Environmental Services, Permits Division for a permit modification to amend the post-closure plan at any time during the active life of the facility or during the post-closure care period.**

2. **The owner or operator must submit a written notification of or request for a permit modification to authorize a change in the approved post-closure plan whenever:**

a. changes in operating plans or facility design affect the approved post-closure plan; or

b. there is a change in the expected year of final closure, if applicable; or

c. events which occur during the active life of the facility, including partial and final closures, affect the approved post-closure plan; or

d. the owner or operator requests the administrative authority to apply alternative requirements to a regulated unit under LAC 33:V.3301.G, 3501.D, and/or 3701.D.

3. The owner or operator must submit a written request for a permit modification at least 60 days prior to the proposed change in facility design or operation, or no later than 60 days after an unexpected event has occurred which has affected the post-closure plan. An owner or operator of a surface impoundment or waste pile that intends to remove all hazardous waste at a closure and is not otherwise required to submit a contingent post-closure plan under LAC 33:V.2911.D and 2315.C must submit a post-closure plan to the Office of Environmental Services, Permits Division no later than 90 days after the date that the owner or operator or administrative authority determines that the hazardous waste management unit must be closed as a landfill, subject to the requirements of LAC 33:V.2521. The administrative authority will approve, disapprove or modify this plan in accordance with the procedures in LAC 33:V.Chapters 3 and 7. In accordance with LAC 33:V.311, the approved post-closure plan will become a permit condition.

4. The administrative authority may request modifications to the plan under the conditions described in LAC 33:V.3523.D.2. The owner or operator must submit the modified plan no later than 60 days after the administrative authority's request or no later than 90 days if the unit is a surface impoundment or waste pile not previously required to prepare a contingent post-closure plan. Any modifications requested by the administrative authority will be approved, disapproved, or modified in accordance with the procedures in LAC 33:V.Chapters 3 and 7.

E. Certification of Completion of Post-closure Care. No later than 60 days after completion of the established post-closure care period for each hazardous waste disposal unit, the owner or operator must submit to the Office of Environmental Services, Permits Division, by registered mail, a certification that the post-closure care period for the hazardous waste disposal unit was performed in accordance with the specifications in the approved post-closure plan. The certification must be signed by the owner or operator and an independent engineer. Documentation supporting the independent registered professional engineer's certification must be furnished to the administrative

authority u pon r equest u ntil h e r eleases t he o wner o r o perator f rom t he financial assurance requirements for post-closure care under LAC 33:V.3711.I.

Response
Exide acknowledges this requirement and will comply.

§3525. Post-Closure Notices

A. No later than 60 days after certification of closure of each hazardous waste disposal unit, the owner or operator must submit to the local zoning authority, or the authority with jurisdiction over local land use, and to the Office of Environmental Services, Permits Division a record of the type, location, and quantity of hazardous wastes disposed of within each cell or other disposal unit of the facility. For hazardous wastes disposed of before January 12, 1981, the owner or operator must identify the type, location, and quantity of the hazardous wastes to the best of his knowledge and in accordance with any records he has kept.

Response
Exide acknowledges this requirement and will comply.

B. Within 60 days of certification of closure of the first hazardous waste disposal unit and within 60 days of certification of closure of the last hazardous waste disposal unit, the owner or operator must:

1. record, in accordance with state law, a notation on the deed to the facility property or on some other instrument which is normally examined during the title search—that will in perpetuity notify any potential purchaser of the property that:

a. the land has been used to manage hazardous wastes; and

b. its use is restricted under LAC 33:V.Chapter 35; and

c. the survey plat and record of the type, location, and quantity of hazardous wastes disposed of within each cell or other hazardous waste disposal unit of the facility required by LAC 33:V.3517 and this Section have been filed with the local zoning authority or the authority with jurisdiction over local land use and with the administrative authority; and

2. submit a certification, signed by the owner or operator, that he has recorded the notation specified in Paragraph B.1 of this Section, including a copy of the document in which the notation has been placed, to the administrative authority.

Response
Exide acknowledges this requirement and will comply.

C. **If the owner or operator or any subsequent owner or operator of the land upon which a hazardous waste disposal unit is located wishes to remove hazardous wastes and hazardous waste residues, the liner, if any, or contaminated soils, he must request a modification to the post-closure permit in accordance with the applicable requirements in LAC 33:V.Chapters 3 and 7. The owner or operator must demonstrate that the removal of hazardous wastes will satisfy the criteria of LAC 33:V.3521. By removing hazardous waste, the owner or operator may become a generator of hazardous waste and must manage it in accordance with all applicable requirements of this Chapter. If he is granted a permit modification or otherwise granted approval to conduct such removal activities, the owner or operator may request that the administrative authority approve either:**

1. **the removal of the notation on the deed to the facility property or other instrument normally examined during title search; or**

2. **the addition of a notation to the deed or instrument indicating the removal of the hazardous waste.**

Response
Exide acknowledges this requirement and will comply.

§3527. Certification of Completion of Post-Closure Care

A. **No later than 60 days after completion of the established post-closure care period for each hazardous waste disposal unit, the owner or operator must submit to the Office of Environmental Services, Permits Division, by registered mail, a certification that the post-closure care period for the hazardous waste disposal unit was performed in accordance with the specifications in the approved post-closure plan. The certification must be signed by the owner or operator and an independent registered professional engineer. Documentation supporting the independent registered professional engineer's certification must be furnished to the administrative authority upon request until he releases the owner or operator from the financial assurance requirements for post-closure care under LAC 33:V.3711.I.**

Response
Exide acknowledges this requirement and will comply.

39. *LAC 33:V.Chapter 37, The Permittee must respond to all the regulatory requirements of this chapter.*

Responses have been provided to the regulatory requirements of Chapter 37, Financial Requirements as follows:

Chapter 37. Financial Requirements

3701. Applicability

A. **The requirements of this Chapter apply to owners and operators of all hazardous waste facilities, except as provided otherwise in this Part.**

Response
Exide acknowledges this citation and will comply.

B. **The requirements of LAC 33:V.3709 and 3711 apply only to owners and operators of:**

1. **disposal facilities;**

   Response
   Exide has two closed hazardous waste piles; therefore this requirement applies to the waste piles.

2. **piles and surface impoundments from which the owner or operator intends to remove the wastes at closure, to the extent that these sections are made applicable to such facilities in LAC 33:V.Chapters 23 and 29;**

   Response
   Exide does not have piles or surface impoundments from which the wastes will be removed at closure; therefore this requirement does not apply.

3. **tank systems that are required under LAC 33:V.1915 to meet the requirements for landfills; and**

   Response
   Exide does not use tanks for storage of hazardous wastes; therefore this requirement does not apply.

4. **containment buildings that are required under LAC 33:V.1803 to meet the requirements for landfills.**

   Response
   Exide anticipates clean closure of the Containment Building. However, if all contaminated subsoils cannot be practicably removed or decontaminated, then the Containment Building will be closed in accordance with the requirements for landfills as indicated in LAC 33:V.1803.

C. **States and the federal government are exempt from the requirements of this Chapter.**

[Comment: The permit application should include a description of the financial structure of the operating unit including capital structure, principal ownership, and insurance coverage for personal injury and property damage.]

Response
This section does not apply as Exide is not a state or federal government.

D. **The administrative authority may replace all or part of the requirements of this Chapter applying to a regulated unit with alternative requirements for financial assurance set out in the permit or in an enforceable document (as defined in LAC 33:V.305.H), where the administrative authority:**

1. **prescribes alternative requirements for the regulated unit under LAC 33:V.3301.G and/or 3501.D; and**

   Response
   Exide acknowledges this citation and will comply.

2. **determines that it is not necessary to apply the requirements of this Chapter because the alternative financial assurance requirements will protect human health and the environment.**

   Response
   Exide acknowledges this citation and will comply.

§3703. Definitions of Terms as Used in This Chapter]

A. General Terms

Response
Exide acknowledges the definitions in this chapter and will comply.

1. ***Closure Plan*-the plan for closure prepared in accordance with the requirements of LAC 33:V.Chapter 35.**

2. ***Current Closure Cost Estimate*-the most recent of the estimates prepared in accordance with LAC 33:V.3705.A-C.**

3. ***Current Post-Closure Cost Estimate*-the most recent of the estimates prepared in accordance with LAC 33:V.3709.A-C.**

4. ***Parent Corporation*-a corporation which directly owns at least 50 percent of the voting stock of the corporation which is the facility owner or operator; the latter corporation is deemed a subsidiary of the parent corporation.**

5. ***Post-Closure Plan*-the plan for the post-closure care prepared in accordance with the requirements of LAC 33:V.Chapter 35.**

6. **The following terms are used in the specifications for the financial tests for closure, post-closure care, and liability coverage. The definitions are intended to assist in the understanding of these regulations and are not intended to limit the meanings of terms in a way that conflicts with generally accepted accounting practices.**

   a. ***Assets*-all existing and all probable future economic benefits obtained or controlled by a particular entity.**

   b. ***Current Assets*-cash or other assets, or resources commonly identified as those which are reasonably expected to be realized in cash, or sold, or consumed during the normal operating cycle of the business.**

c. *Current Liabilities*-obligations whose liquidation is reasonably expected to require the use of existing resources properly classifiable as current assets or the creation of other current liabilities.

d. *Independently Audited*-refers to an audit performed by an independent certified public accountant in accordance with generally accepted auditing standards.

e. *Liabilities*-probable future sacrifices of economic benefits arising from present obligations to transfer assets or provide services to other entities in the future as a result of past transactions or events.

f. *Net Working Capital*-current assets minus current liabilities.

g. *Net Worth*-total assets minus total liabilities and is equivalent to owner's equity.

h. *Tangible Net Worth*-the tangible assets that remain after deducting liabilities; such assets would not include intangibles such as goodwill and rights to patents or royalties.

7. *Current Plugging and Abandonment Cost Estimates*-most recent cost estimates prepared in accordance with 40 CFR 144.62a, b, and c, required by the Office of Conservation, or any other substantially equivalent state program.

8. *Substantial Business Relationship*-the extent of a business relationship necessary under applicable state law to make a guarantee contract issued incident to that relationship valid and enforceable. A "substantial business relationship" must arise from a pattern of recent or ongoing business transactions, in addition to the guarantee itself, such that a currently existing business relationship between the guarantor and the owner or operator is demonstrated to the satisfaction of the applicable administrative authority.

B. Insurance-related Terms. In the liability insurance requirements the terms bodily injury and property damage shall have the meanings given these terms by applicable state law. However, these terms do not include those liabilities which, consistent with standard industry practices, are excluded from coverage in liability policies for bodily injury and property damage. The meanings of other terms used in the liability insurance requirements are to be consistent with their common meanings within the insurance industry. The definitions of several of the terms given below are intended to assist in the understanding of these regulations and are not intended to limit their meaning in a way that conflicts with general insurance industry usage.

Response
Exide acknowledges the definitions in this chapter and will comply.

1. *Accidental Occurrence*-an accident, including continuous or repeated exposure to conditions, which results in bodily injury or property damage neither expected nor intended from the standpoint of the insured.

2. *Legal Defense Costs*-any expenses that an insurer incurs in defending against claims of third parties brought under the terms and conditions of an insurance policy.

3. *Nonsudden Accidental Occurrence*-an occurrence which takes place over time and involves continuous or repeated exposure.

4. *Sudden Accidental Occurrence*-an occurrence which is not continuous or repeated in nature.

Subchapter A. Closure Requirements

§3705. Cost Estimate for Closure

A. The owner or operator must have a detailed written estimate, in current dollars, of the cost of closing the facility in accordance with the requirements in LAC 33:V.3503-3517 and applicable closure requirements in LAC 33:V.1803, 1915, 2117, 2315, 2521, 2719, 2911, 3121, and 3203-3207.

1. The estimate must equal the cost of final closure at the point in the facility's active life when the extent and manner of its operation would make closure the most expensive, as indicated by its closure plan (see LAC 33:V.3511.B); and

Response
The closure cost estimate is presented in the Closure and Post-Closure Plan in Appendix 9. Closure costs are based on final closure when the facility is at maximum inventory. Costs for slag and wash water loading, transportation and disposal are included as the materials are waste with no value for recycling. Costs loading and transportation of batteries, battery components and K069/D008 drummed materials have been included. Costs for disposal of these materials has not been included as they have value and will be sent to another smelter for recycling. The value of these materials has been assumed as zero for the cost estimate.

2. The closure cost estimate must be based on the costs to the owner or operator of hiring a third party to close the facility. A third party is a party who is neither a parent nor a subsidiary of owner or operator in LAC 33:V.3703.A. The owner or operator may use costs for on-site disposal if he can demonstrate that on-site disposal capacity will exist at all times over the life of the facility.

Response
Closure costs presented in the Closure and Post Closure Plan (Appendix 9) are based on hiring a third party contractor or consultant to perform the

activities. Personnel, equipment or resources from the Baton Rouge smelter will not be used in any manner as part of closure procedures. Exide will not use on-site disposal during closure.

3. **The closure cost estimate may not incorporate any salvage value that may be realized with the sale of hazardous wastes or non-hazardous wastes if applicable under LAC 33:V.3513.D, facility structures or equipment, land, or other assets associated with the facility at the time of partial or final closure.**

   Response
   While batteries, battery components, and K069/D008 drummed materials may have value for recycling at another smelter, the cost estimate conservatively assumes no salvage value for these materials. These materials were assumed to have zero disposal cost, but costs were included for loading and transportation.

4. **The owner or operator may not incorporate a zero cost for hazardous wastes or non-hazardous wastes if applicable under LAC 33:V.3513.D, that might have economic value.**

   Response
   While batteries, battery components, and K069/D008 drummed materials may have value for recycling at another smelter, the cost estimate conservatively assumes no salvage value for these materials. These materials were assumed to have zero disposal cost, but costs were included for loading and transportation.

B. **During the active life of the facility, the owner or operator must adjust the closure cost estimate for inflation within 60 days prior to the anniversary date of the establishment of the financial instrument(s) used to comply with LAC 33:V.3707. For owners and operators using the financial test or corporate guarantee, the closure cost estimate must be updated for inflation within 30 days after the close of the firm's fiscal year and before submission of updated information to the administrative authority as specified in LAC 33:V.3707.F. The adjustment may be made by recalculating the maximum costs of closure in current dollars, or by using an inflation factor derived from the most recent Implicit Price Deflator for Gross National Product published by the U.S. Department of Commerce in its Survey of Current Business, as specified in LAC 33:V.3705.B.1 and 2. The inflation factor is the result of dividing the latest published annual deflator by the deflator for the previous year.**

1. **The first adjustment is made by multiplying the closure cost estimate by the inflation factor. The result is the adjusted closure cost estimate.**

   Response
   Exide acknowledges this requirement and will comply.

2. **Subsequent adjustments are made by multiplying the latest adjusted closure cost estimate by the latest inflation factor.**

Response
Exide acknowledges this requirement and will comply. The closure cost estimate provided in the Closure and Post Closure Plan in Appendix 9 has been adjusted to 2003 costs.

C. **During the active life of the facility, the owner or operator must revise the closure cost estimate no later than 30 days after the administrative authority has approved the request to modify the closure plan, if the change in the closure plan increases the cost of closure. The revised closure cost estimate must be adjusted for inflation as specified in LAC 33:V.3705.B.**

Response
Exide acknowledges this requirement and will comply.

D. **The owner or operator must keep, at the facility during the operating life of the facility, the latest closure cost estimate prepared as specified in LAC 33:V.3705.A and C and, when this estimate has been adjusted as specified in LAC 33:V.3705.B, the latest adjusted closure cost estimate. The cost estimate must be available to the administrative authority by mail request also.**
Response
Exide acknowledges this requirement and will comply. A copy of the latest closure cost estimate is maintained at the facility.

§3707. Financial Assurance for Closure
[NOTE: An owner or operator of each facility must establish financial assurance for closure of the facility. Under this Part, the owner or operator must choose from the options as specified in LAC 33:V.3707.A-F, which choice the administrative authority must find acceptable based on the application and the circumstances.]

A. **Closure Trust Fund**

1. **An owner or operator may satisfy the requirements of this Part by establishing a closure trust fund which conforms to the requirements of this Subpart, and submitting an originally signed duplicate of the trust agreement to the Office of Management and Finance, Financial Services Division. An owner or operator of a new facility must submit the originally signed duplicate of the trust agreement to the administrative authority at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal. The trustee must be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a federal or state agency.**

Response
Exide maintains financial assurances in the form of a Surety Bond guaranteeing closure; therefore, this section regarding closure trusts does not apply. Information regarding the surety bond is provided in Appendix 10.

2. **The wording of the trust agreement must be identical to the wording specified in LAC 33:V.3719.A.1, and the trust agreement must be**

accompanied by a formal certification of acknowledgment (for example, see LAC 33:V.3719.A.2). Schedule A of the trust agreement must be updated within 60 days after a change in the amount of the current closure cost estimate covered by the agreement.

3. Payments into the trust fund must be made annually by the owner or operator over the term of the initial permit, or over the remaining operating life of the facility as estimated in the closure plan, whichever period is shorter; this period is hereafter referred to as the "pay-in period." The payments into the closure trust fund must be made as follows:

   a. For a new facility, the first payment must be made before the initial receipt of hazardous waste for treatment, storage, or disposal. A receipt from the trustee for this payment must be submitted by the owner or operator to the administrative authority before this initial receipt of hazardous waste. The first payment must be at least equal to the current closure cost estimate, except as provided in LAC 33:V.3707.G divided by the number of years in the pay-in period. Subsequent payments must be made no later than 30 days after each anniversary date of the first payment. The amount of each subsequent payment must be determined by this formula:

      where:
      CE = current closure cost estimate,
      CV = current value of the trust fund, and
      Y = number of years remaining in the pay-in period.

   b. If an owner or operator has previously established a trust fund as specified in LAC 33:V.4403.A and the value of that trust fund is less than the current closure cost estimate when a permit under these regulations is awarded for the facility, then the amount of the current closure cost estimate still to be paid into the trust fund must be paid in over the pay-in period as defined in LAC 33:V.3707.A.3. Payments must continue to be made no later than 30 days after each anniversary date of the first payment made. The amount of each payment must be determined by this formula:

      where:
      CE = current closure cost estimate,
      CV = current value of the trust fund, and
      Y = number of years remaining in the pay-in period.

4. The owner or operator may accelerate payments into the trust fund or he may deposit the full amount of the current closure cost estimate at the time the fund is established. However, he must maintain the value of the fund at no less than the value that the fund would have if annual payments were made as specified in LAC 33:V.3707.A.3.

5. If the owner or operator establishes a closure trust fund after having used one or more alternate mechanisms specified in this Section or in LAC 33:V.4403, his first payment must be in at least the amount that the fund would contain if the trust fund were established initially and annual payments made according to specifications of this Section and LAC 33:V.4403.A, as applicable.

6. After the pay-in period is completed, whenever the current closure cost estimate changes, the owner or operator must compare the new estimate with the trustee's most recent annual valuation of the trust fund. If the value of the fund is less than the amount of the new estimate, the owner or operator, within 60 days after the change in the cost estimate, must either deposit an amount into the fund so that its value after this deposit at least equals the amount of the current closure cost estimate, or obtain other financial assurance as specified in this Section to cover the difference.

7. If the value of the trust fund is greater than the total amount of the current closure cost estimate, the owner or operator may submit a written request to the Office of Management and Finance, Financial Services Division for release of the amount in excess of the current closure cost estimate.

8. If an owner or operator substitutes other financial assurance as specified in this Part for all or part of the trust fund, he may submit a written request to the Office of Management and Finance, Financial Services Division for release of the amount in excess of the current closure cost estimate covered by the trust fund.

9. Within 60 days after receiving a request from the owner or operator for release of funds as specified in LAC 33:V.3707.A.7 and A.8, the administrative authority will instruct the trustee to release to the owner or operator such funds as the administrative authority specifies in writing.

10. After beginning partial or final closure, an owner or operator, or any other person authorized to conduct partial or final closure may request reimbursements for partial or final closure expenditures by submitting itemized bills to the administrative authority. The owner or operator may request reimbursement for partial closure only if sufficient funds are remaining in the trust fund to cover the maximum costs of closing the facility over its operating life. Within 60 days after receiving bills for partial or final closure activities, the administrative authority will instruct the trustee to make reimbursements in those amounts as the administrative authority specifies in writing, if the administrative authority determines that the partial or final closure expenditures are in accordance with the approved closure plan, or otherwise justified. If the administrative authority has reason to believe that the maximum cost of closure over the remaining life of the facility will be significantly greater than the value of the trust fund, he may withhold

reimbursements of such amounts as he deems prudent until he determines, in accordance with this Section, that the owner or operator is no longer required to maintain financial assurance for final closure of the facility. If the administrative authority does not instruct the trustee to make such reimbursements, he will provide the owner or operator with a detailed written statement of reasons.

11. The administrative authority will agree to termination of the trust when:

    a. an owner or operator substitutes alternate financial assurance as specified in this Part; or

    b. the administrative authority releases the owner or operator from the requirements of this Part in accordance with LAC 33:V.3707.I.

B. Surety Bond Guaranteeing Payment Into a Closure Trust Fund

1. An owner or operator may satisfy the requirements of this Part by obtaining a surety bond which conforms to the requirements of this Paragraph and submitting the bond to the Office of Management and Finance, Financial Services Division. An owner or operator of a new facility must submit the bond to the administrative authority at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal. The bond must be effective before this initial receipt of hazardous waste. The surety company issuing the bond must, at a minimum, be among those listed as acceptable sureties on federal bonds in Circular 570 of the U.S. Department of the Treasury, and approved by the administrative authority.

   Response
   Exide maintains financial assurances in the form of a Surety Bond guaranteeing performance of closure; therefore this section regarding surety bonds guaranteeing payment into a closure trust fund does not apply. Information regarding the surety bond is provided in Appendix 10.

2. The wording of the surety bond must be identical to the wording specified in LAC 33:V.3719.B.

3. The owner or operator who uses a surety bond to satisfy the requirements of this Part must also establish a standby trust fund. Under the terms of the bond, all payments made thereunder will be deposited by the surety directly into the standby trust fund in accordance with instructions from the administrative authority. This standby trust fund must meet the requirements specified in LAC 33:V.3707.A except that:

    a. an originally signed duplicate of the trust agreement must be submitted to the administrative authority with the surety bond; and

b. until the standby trust fund is funded pursuant to the requirements of this Part, the following are not required by these regulations:

i. payments into the trust fund as specified in LAC 33:V.3707.A;

ii. updating of Schedule A of the trust agreement to show current closure cost estimates;

iii. annual valuations as required by the trust agreement; and

iv. notices of nonpayment as required by the trust agreement.

4. The bond must guarantee that the owner or operator will:

a. fund the standby trust fund in an amount equal to the penal sum of the bond before the beginning of final closure of the facility; or

b. fund the standby trust fund in an amount equal to the penal sum within 15 days after an order to begin final closure is issued by the administrative authority, or court of competent jurisdiction; or

c. provide alternate financial assurance as specified in this Part and obtain the administrative authority's written approval of the assurance provided, within 90 days after receipt by both the owner or operator and the administrative authority of a notice of cancellation of the bond from the surety.

5. Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond.

6. The penal sum of the bond must be in an amount at least equal to the current closure cost estimate, except as provided in LAC 33:V.3707.G.

7. Whenever the current closure cost estimate increases to an amount greater than the penal sum, the owner or operator, within 60 days after the increase, must either cause the penal sum to be increased to an amount at least equal to the current closure cost estimate and submit evidence of such increase to the Office of Management and Finance, Financial Services Division, or obtain other financial assurance as specified in this Part to cover the increase. Whenever the current closure cost estimate decreases, the penal sum may be reduced to the amount of the current closure cost estimate following written approval by the administrative authority.

8. **Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner or operator, and to the administrative authority. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the administrative authority, as evidenced by the return receipts.**

9. **The owner or operator may cancel the bond if the administrative authority has given prior written consent based on his receipt of evidence of alternate financial assurance as specified in this Part.**

C. **Surety Bond Guaranteeing Performance of Closure**

1. **An owner or operator may satisfy the requirements of this Section by obtaining a surety bond which conforms to the requirements of this Subsection and submitting the bond to the Office of Management and Finance, Financial Services Division. An owner or operator of a new facility must submit the bond to the administrative authority at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal. The bond must be effective before this initial receipt of hazardous waste. The surety company issuing the bond must, at a minimum, be among those listed as acceptable sureties on federal bonds in Circular 570 of the U.S. Department of the Treasury, and approved by the administrative authority.**

   Response
   Exide maintains financial assurances in the form of a Surety Bond guaranteeing performance of closure. Information on the surety bond is provided in Appendix 10.

2. **The wording of the surety bond must be identical to the wording specified in LAC 33:V.3719.C.**

   Response
   Exide acknowledges this requirement and will comply.

3. **The owner or operator who uses a surety bond to satisfy the requirements of this Section must also establish a standby trust fund. Under the terms of the bond, all payments made thereunder will be deposited by the surety directly into the standby trust fund in accordance with instructions from the administrative authority. This standby trust must meet the requirements specified in Subsection A of this Section except that:**

   a. **an originally signed duplicate of the trust agreement must be submitted to the administrative authority with the surety bond; and**

      Response
      Exide acknowledges this requirement and will comply.

b. **unless the standby trust fund is funded pursuant to the requirements of this Section, the following are not required by these regulations:**

i. **payments into the trust fund as specified in LAC 33:V.3707.A;**

ii. **updating of Schedule A of the trust agreement (for example, see LAC 33:V.Chapter 37) to show current closure cost estimates;**

iii. **annual valuations as required by the trust agreement; and**

iv. **notices of nonpayment as required by the trust agreement.**

Response
Exide acknowledges this requirement and will comply.

4. **The bond must guarantee that the owner or operator will:**

a. **perform final closure in accordance with the closure plan and other requirements of the permit for the facility whenever required to do so; or**

Response
Exide acknowledges this requirement and will comply.

b. **provide alternate financial assurance as specified in this Part, and obtain the administrative authority's written approval of the assurance provided, within 90 days after receipt of both the owner or operator, and the administrative authority of a notice of cancellation of the bond from the surety.**

Response
Exide acknowledges this requirement and will comply.

5. **Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond. Following a final administrative determination by the administrative authority pursuant to R.S. 30:2025 that the owner or operator has failed to perform final closure in accordance with the approved closure plan and other permit requirements when required to do so, under the terms of the bond the surety will perform final closure as guaranteed by the bond or will deposit the amount of the penal sum into the standby trust fund.**

Response
Exide acknowledges this requirement and will comply.

6. **The penal sum of the bond must be in an amount at least equal to the current closure cost estimate.**

   Response
   Exide acknowledges this requirement and will comply.

7. **Whenever the current closure cost estimate increases to an amount greater than the penal sum, the owner or operator, within 60 days after the increase, must either cause the penal sum to be increased to an amount at least equal to the current closure cost estimate and submit evidence of such increase to the Office of Management and Finance, Financial Services Division, or obtain other financial assurance as specified in this Part. Whenever the current closure cost estimate decreases, the penal sum may be reduced to the amount of the current closure cost estimate following written approval by the administrative authority.**

   Response
   Exide acknowledges this requirement and will comply.

8. **Under the terms of the bond, the surety may cancel the b ond b y sending notice of cancellation by certified mail to the owner or operator and to the administrative authority. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the administrative authority, as evidenced by the return receipts.**

   Response
   Exide acknowledges this requirement and will comply.

9. **The owner or operator may cancel the bond if the administrative authority has given prior written consent. The administrative authority will provide such written consent when:**

   a. **an owner or operator substitutes alternate financial assurance as specified in this Part; or**

      Response
      Exide acknowledges this requirement and will comply.

   b. **the administrative authority releases the owner or operator from the requirements of this Part in accordance with LAC 33:V.3707.I.**

      Response
      Exide acknowledges this requirement and will comply.

10. **The surety will not be liable for deficiencies in the performance of closure by the owner or operator after the administrative authority**

releases the owner or operator from the requirements of this Part in accordance with LAC 33:V.3707.I.

D. Closure Letter of Credit

1. An owner or operator may satisfy the requirements of this Section by obtaining an irrevocable standby letter of credit which conforms to the requirements of this Subsection and submitting the letter to the Office of Management and Finance, Financial Services Division. An owner or operator of a new facility must submit the letter of credit to the administrative authority at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal. The letter of credit must be effective before the initial receipt of hazardous waste. The issuing institution must be an entity which has the authority to issue letters of credit and whose letter-of-credit operations are regulated and examined by a federal or state agency.

Response
Exide maintains financial assurances in the form of a Surety Bond guaranteeing closure; therefore, this section regarding letter of credit does not apply. Information regarding the surety bond is provided in Appendix 10.

2. The wording of the letter of credit must be identical to the wording specified in LAC 33:V.3719.D.

3. An owner or operator who uses a letter of credit to satisfy the requirements of this Section must also establish a standby trust fund. Under the terms of the letter of credit, all amounts paid pursuant to a draft by the administrative authority will be deposited by the issuing institution directly into the standby trust fund in accordance with instructions from the administrative authority. This standby trust fund must meet the requirements of the trust fund specified in LAC 33:V.3707.A, except that:

a. an originally signed duplicate of the trust agreement must be submitted to the administrative authority with the letter of credit; and

b. unless the standby trust fund is funded pursuant to the requirements of this Section, the following are not required by these regulations:

i. payments into the trust fund as specified in LAC 33:V.3707.A;

ii. updating of Schedule A of the trust agreement (see LAC 33:V.3719.A) to show current closure cost estimates;

iii. annual valuations as required by the trust agreement; and

iv. notices of nonpayment as required by the trust agreement.

4. The letter of credit must be accompanied by a letter from the owner or operator referring to the letter of credit by number, issuing institution, and date, and providing the following information: the EPA identification number, name, address, and the amount of funds assured for closure of the facility by the letter of credit.

5. The letter of credit must be irrevocable and issued for a period of at least one year. The letter of credit must provide that the expiration date will be automatically extended for a period of at least one year unless, at least 120 days before the current expiration date, the issuing institution notifies both the owner or operator and the administrative authority by certified mail of a decision not to extend the expiration date. Under the terms of the letter of credit, the 120 days will begin on the date when both the owner or operator and the administrative authority have received the notice, as evidenced by the return receipts.

6. The letter of credit must be issued in an amount at least equal to the current closure cost estimate, except as provided in Subsection G of this Section.

7. Whenever the current closure cost estimate increases to an amount greater than the amount of the credit, the owner or operator, within 60 days after the increase, must either cause the amount of the credit to be increased so that it at least equals the current closure cost estimate and submit evidence of such increase to the Office of Management and Finance, Financial Services Division, or obtain other financial assurance as specified in this Part to cover the increase. Whenever the current closure cost estimate decreases, the amount of the credit may be reduced to the amount of the current closure cost estimate following written approval by the administrative authority.

8. Following a final administrative determination by the administrative authority pursuant to R.S. 30:2025 that the owner or operator has failed to perform final closure in accordance with the closure plan and other permit requirements when required to do so, the administrative authority may draw on the letter of credit.

9. If the owner or operator does not establish alternate financial assurance as specified in this Part, and obtain written approval of such alternate assurance from the administrative authority within 90 days after receipt by both the owner or operator and the administrative authority of a notice from the issuing institution that it has decided not to extend the letter of credit beyond the current expiration date, the administrative authority will draw on the letter of credit. The administrative authority may delay the drawing if the issuing institution grants an extension of the term of the credit. During the last 30 days of

any such extension the administrative authority will draw on the letter of credit if the owner or operator has failed to provide alternate financial assurance as specified in this Part and obtain written approval of such assurance from the administrative authority.

10. The administrative authority will return the letter of credit to the issuing institution for termination when:

    a. an owner or operator substitutes alternate financial assurance as specified in this Part; or

    b. the administrative authority releases the owner or operator from the requirements of this Part in accordance with LAC 33:V.3707.I.

E. Closure Insurance

1. An owner or operator may satisfy the requirements of this Part by obtaining closure insurance which conforms to the requirements of this Paragraph and submitting a certificate of such insurance to the Office of Management and Finance, Financial Services Division. An owner or operator of a new facility must submit the certificate of insurance to the administrative authority at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal. The insurance must be effective before this initial receipt of hazardous waste. At a minimum, the insurer must be licensed to transact the business of insurance, or be eligible to provide insurance as an excess or surplus lines insurer, in one or more states, and authorized to transact business in Louisiana.

   Response
   Exide maintains financial assurances in the form of a Surety Bond guaranteeing closure; therefore this section regarding closure insurance does not apply.

2. The wording of the certificate of insurance must be identical to the wording specified in LAC 33:V.3719.E.

3. The closure insurance policy must be issued for a face amount at least equal to the current closure cost estimate, except as provided in LAC 33:V.3707.G. The term "face amount" means the total amount the insurer is obligated to pay under the policy. Actual payments by the insurer will not change the face amount, although the insurer's future liability will be lowered by the amount of the payments.

4. The closure insurance policy must guarantee that funds will be available to close the facility whenever final closure occurs. The policy must also guarantee that once final closure begins, the insurer will be responsible for paying out funds, up to an amount equal to the face

amount of the policy, upon the direction of the administrative authority to such party or parties as the administrative authority specifies.

5. After beginning partial or final closure, an owner or operator, or any other person authorized to perform closure may request reimbursement for closure expenditures by submitting itemized bills to the administrative authority. The owner or operator may request reimbursements for partial closure only if the remaining value of the policy is sufficient to cover the maximum costs of closing the facility over its remaining operating life. Within 60 days after receiving bills for closure activities, the administrative authority will instruct the insurer to make reimbursements in such amounts as the administrative authority specifies in writing, if the administrative authority determines that the partial or final closure expenditures are in accordance with the approved closure plan or otherwise justified. If the administrative authority has reason to believe that the maximum cost of closure over the remaining life of the facility will be significantly greater than the face amount of the policy, he may withhold reimbursements of such amounts as he deems prudent until he determines, in accordance with LAC 33:V.3707.I, that the owner or operator is no longer required to maintain financial assurance for final closure of the facility. If the administrative authority does not instruct the insurer to make such reimbursements, he will provide the owner or operator with a detailed written statement of reasons.

6. The owner or operator must maintain the policy in full force and effect until the administrative authority consents to termination of the policy by the owner or operator as specified in LAC 33:V.3707.E.10. Failure to pay the premium, without substitution of alternate financial assurance as specified in this Part, will constitute a significant violation of these regulations, warranting such remedy as the administrative authority deems necessary. Such violation will be deemed to begin upon receipt by the administrative authority of a notice of future cancellation, termination, or failure to renew, due to nonpayment of the premium, rather than upon the date of expiration.

7. Each policy must contain a provision allowing assignment of the policy to a successor owner or operator. Such assignment may be conditional upon consent of the insurer, provided such consent is not unreasonably refused.

8. The policy must provide that the insurer may not cancel, terminate, or fail to renew the policy except for failure to pay the premium. The automatic renewal of the policy must, at a minimum, provide the insured with the option of renewal at the face amount of the expiring policy. If there is a failure to pay the premium, the insurer may elect to cancel, terminate, or fail to renew the policy by sending notice by certified mail to the owner or operator and the administrative authority. Cancellation, termination, or failure to renew may not occur, however, during the 120 days beginning with the date of receipt of the notice by

both the administrative authority and the owner or operator, as evidenced by the return receipts. Cancellation, termination, or failure to renew may not occur and the policy will remain in full force and effect in the event that on or before the date of expiration:

a. the administrative authority deems the facility abandoned; or

b. the permit is terminated or revoked, or a new permit is denied; or

c. closure is ordered by the administrative authority or a U.S. District Court or other court of competent jurisdiction; or

d. the owner or operator is named as debtor in a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code; or

e. the premium due is paid.

9. Whenever the current closure cost estimate increases to an amount greater than the face amount of the policy, the owner or operator, within 60 days after the increase, must either cause the face amount to be increased to an amount at least equal to the current closure cost estimate, and submit evidence of such increase to the Office of Management and Finance, Financial Services Division, or obtain other financial assurance as specified in this Part to cover the increase. Whenever the current closure cost estimate decreases, the face amount may be reduced to the amount of the current closure cost estimate following written approval by the administrative authority.

10. The administrative authority will give written consent to the owner or operator that he may terminate the insurance policy when:

a. an owner or operator substitutes alternate financial assurance as specified in this Part; or

i. the administrative authority releases the owner or operator from the requirements of this Part in accordance with LAC 33:V.3707.I.

F. Financial Test and Corporate Guarantee for Closure

1. An owner or operator may satisfy the requirements of this Section by demonstrating that he passes a financial test as specified in this Section. To pass this test the owner or operator must meet the criteria of either of the following.

Response
Exide maintains financial assurances in the form of a Surety Bond guaranteeing closure; therefore, this section does not apply. Information on the Surety Bond is presented in Appendix 10.

a. **The owner or operator must have:**

   i. **two of the following three ratios: a ratio of total liabilities to net worth less than 2.0; a ratio of the sum of net income plus depreciation, depletion, and amortization to total liabilities greater than 0.1; and a ratio of current assets to current liabilities greater than 1.5; and**

   ii. **net working capital and tangible net worth each at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates; and**

   iii. **tangible net worth of at least $10 million; and**

   iv. **assets located in the United States amounting to at least 90 percent of his total assets or at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates.**

b. **The owner or operator must have:**

   i. **a current rating for his most recent bond issuance of AAA, AA, A, or BBB as issued by Standard and Poor's or Aaa, Aa, A, or Baa as issued by Moody's; and**

   ii. **tangible net worth at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates; and**

   iii. **tangible net worth of at least $10 million; and**

   iv. **assets located in the United States amounting to at least 90 percent of his total assets or at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates.**

2. **The phrase "current closure and post-closure cost estimates" as used in Paragraph F.1 of this Section refers to the cost estimates required to be shown in Paragraphs 1-4 of the letter from the owner's or operator's chief financial officer (see LAC 33:V.3719.F). T he p hrase " current plugging and abandonment cost estimates" used in Paragraph F.1 of this Section refers to the cost estimates required t o b e s hown i n**

Paragraphs 1-4 of the letter from the owner's or operator's chief financial officer (40 CFR 144.70.f)

3. To demonstrate that he meets this test, the owner or operator must submit the following items to the Office of Management and Finance, Financial Services Division:

   a. a letter signed by the owner's or operator's chief financial officer and worded as specified in LAC 33:V.3719.F; and

   b. a copy of the independent certified public accountant's report on examination of the owner's or operator's financial statements for the latest completed fiscal year; and

   c. a special report from the owner's or operator's independent certified public accountant to the owner or operator stating that:

      i. he has compared the data with the letter from the chief financial officer specified as having been derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in such financial statements; and

      ii. in connection with that procedure, no matters came to his attention which caused him to believe that the specified data should be adjusted.

4. An owner or operator of a new facility must submit the items specified in LAC 33:V.3707.F.3 to the Office of Management and Finance, Financial Services Division at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal.

5. After the initial submission of items specified in LAC 33:V.3707.F.3, the owner or operator must send updated information to the Office of Management and Finance, Financial Services Division within 90 days after the close of each succeeding fiscal year. This information must consist of all three items specified in LAC 33:V.3707.F.3.

6. If the owner or operator no longer meets the requirements of LAC 33:V.3707.F.1, he must send notice to the Office of Management and Finance, Financial Services Division of intent to establish alternate financial assurance as specified in this Part. The notice must be sent by certified mail within 90 days after the end of the fiscal year for which the year-end financial data show that the owner or operator no longer meets the requirements. The owner or operator must provide the alternate financial assurance within 120 days after the end of such fiscal year.

7. The administrative authority may, based on a reasonable belief that the owner or operator may no longer meet the requirements of LAC

33:V.3707.F.1, require reports of financial condition at any time from the owner or operator in addition to those specified in LAC 33:V.3707.F.3. If the administrative authority finds, on the basis of such reports or other information, that the owner or operator no longer meets the requirements of LAC 33:V.3707.F.1, the owner or operator must provide alternate financial assurance as specified in this Part within 30 days after notification of such a finding.

8. The administrative authority may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant in his report on examination of the owner's or operator's financial statements (see LAC 33:V.3707.F.3). An adverse opinion or a disclaimer of opinion will be cause for disallowance. The administrative authority will evaluate other qualifications on an individual basis. Based on the application, the circumstances and the accessibility of the applicant's assets, the administrative authority may disallow the use of this test. The owner or operator must provide alternate financial assurance as specified in this Part within 30 days after notification of the disallowance.

9. The owner or operator is no longer required to submit the items specified in LAC 33:V.3707.F.3 when:

   a. an owner or operator substitutes alternate financial assurance as specified in this Part; or

   b. the administrative authority releases the owner or operator from the requirements of this Part in accordance with LAC 33:V.3707.I.

10. An owner or operator may meet the requirements of this Section by obtaining a written guarantee. The guarantor must be the direct or higher tier parent corporation of the owner or operator, a firm whose parent corporation is also the parent corporation of the owner or operator, or a firm with a "substantial business relationship" with the owner or operator. The guarantor must meet the requirements of LAC 33:V.3707.F.1-8 for owners or operators, and must comply with the terms of the guarantee. The wording of the guarantee must be identical to the wording specified in LAC 33:V.3719.H. A certified copy of the guarantee must accompany the items sent to the administrative authority as specified in LAC 33:V.3707.F.3. One of these items must be the letter from the guarantor's chief financial officer. If the guarantor's parent corporation is also the parent corporation of the owner or operator, the letter must describe the value received in consideration of the guarantee. If the guarantor is a firm with a "substantial business relationship" with the owner or operator, this letter must describe this "substantial business relationship" and the value received in consideration of the guarantee. The terms of the corporate guarantee must provide that:

a. If the owner or operator fails to perform final closure of a facility covered by the guarantee in accordance with the closure plan and other permit requirements whenever required to do so, the guarantor will do so or establish a trust fund as specified in LAC 33:V.3707.A in the name of the owner or operator.

b. The guarantee will remain in force unless the guarantor sends notice of cancellation by certified mail to the owner or operator, and to the administrative authority. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the administrative authority, as evidenced by the return receipts.

c. If the owner or operator fails to provide alternate financial assurance as specified in this Section and obtain the written approval of such alternate assurance from the administrative authority within 90 days after receipt by the owner or operator and the administrative authority of a notice of cancellation of the corporate guarantee from the guarantor, the guarantor will provide such alternative financial assurance in the name of the owner or operator.

G. Use of Multiple Financial Mechanisms. An owner or operator may satisfy the requirements of this Section by establishing more than one financial mechanism per facility. These mechanisms are limited to trust funds, surety bonds guaranteeing payment into a trust fund, letters of credit, and insurance. The mechanisms must be as specified in Subsections A, B, D, and E of this Section, respectively, except that it is the combination of mechanisms, rather than the single mechanism, that must provide financial assurance for an amount at least equal to the current closure cost estimate. If an owner or operator uses a trust fund in combination with a surety bond or a letter of credit, he may use the trust fund as the standby trust fund for the other mechanism. A single trust fund may be established for two or more mechanisms. The administrative authority may use any or all of the mechanisms to provide for closure of the facility.

Response

Exide acknowledges the requirements of this section and will comply if multiple mechanisms are used. At this time, Exide only maintains a surety bond guaranteeing closure and this section does not apply.

H. Use of a Financial Mechanism for Multiple Facilities. An owner or operator may use a financial assurance mechanism specified in this Section to meet the requirements of this Section for more than one facility. Evidence of financial assurance submitted to the administrative authority must include a list showing, for each facility, the EPA identification number, name, address, and the amount of funds for closure assured by the mechanism. The amount of funds available through the mechanism must be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for each facility. In directing the funds available through the

mechanism for closure of any of the facilities covered by the mechanism, the administrative authority may direct only the amount of funds designated for that facility, unless the owner or operator agrees to the use of additional funds available under the mechanism.

Response
Exide acknowledges the requirements of this section; however the surety bond is maintained for the Baton Rouge Smelter only and this section does not apply.

I. **Release of the Owner or Operator from the Requirements of this Section. Within 60 days after receiving certifications from the owner or operator and an independent registered professional engineer that final closure has been completed in accordance with the approved closure plan, and for facilities subject to LAC 33:V.3525, after receiving the certification required under LAC 33:V.3525.B.2, the administrative authority will notify the owner or operator in writing that he is no longer required by this Section to maintain financial assurance for final closure of the particular facility, unless the administrative authority has reason to believe that final closure has not been in accordance with the approved closure plan or that the owner or operator has failed to comply with the applicable requirements of LAC 33:V.3525. The administrative authority shall provide the owner or operator a detailed written statement of any such reason to believe that closure has not been in accordance with the approved closure plan or that the owner or operator has failed to comply with the applicable requirements of LAC 33:V.3525.**

Response
Exide acknowledges the requirements of this section and will comply.

Subchapter B. Post-Closure Requirements

§3709. Cost Estimate for Post-Closure Care

A. **The owner or operator of a disposal surface impoundment, disposal miscellaneous unit, land treatment unit, or landfill unit, or of a surface impoundment or waste pile required under LAC 33:V.2315 and 2911 to prepare a contingent closure and post-closure plan, must have a detailed written estimate, in current dollars, of the annual cost of post-closure monitoring and maintenance of the facility in accordance with the applicable post-closure regulations in LAC 33:V.3519, 3527, 2315, 2521, 2719, 2911, and 3207.**

1. **The post-closure cost estimate must be based on the costs to the owner or operator of hiring a third party to conduct post-closure care activities. A third party is a party who is neither a parent nor a subsidiary of the owner or operator. (See definition of parent corporation in LAC 33:V.3703.)**

Response
Exide maintains a post-closure permit and post-closure cost estimate for the two closed hazardous waste piles. The cost estimate is included in the

Closure and Post Closure Plan in Appendix 9 and was based on hiring third party contractors or consultants to perform the activities.

2. **The post-closure cost estimate is calculated by multiplying the annual post-closure cost estimate by the number of years of post-closure care required under LAC 33:V.3523.**

   Response
   Exide acknowledges this requirement and will comply.

B. **During the active life of the facility, the owner or operator must adjust the post-closure cost estimate for inflation within 60 days prior to the anniversary date of the establishment of the financial instrument(s) used to comply with LAC 33:V.3711. For owners or operators using the financial test or corporate guarantee, the post-closure cost estimate must be updated for inflation within 30 days after the close of the firm's fiscal year and before the submission of updated information to the administrative authority as specified in LAC 33:V.3711.F.5. The adjustment may be made by recalculating the post-closure cost estimate in current dollars or by using an inflation factor derived from the most recent Implicit Price Deflator for Gross National Product published by the U.S. Department of Commerce in its *Survey of Current Business* as specified in LAC 33:V.3709.B.1 and B.2. The inflation factor is the result of dividing the latest published annual deflator by the deflator for the previous year.**

1. **The first adjustment is made by multiplying the p ost-closure c ost estimate by the inflation factor. The result is the adjusted post-closure cost estimate.**

   Response
   Exide acknowledges this requirement and will comply.

2. **Subsequent adjustments are made by multiplying the latest adjusted post-closure cost estimate by the latest inflation factor.**

   Response
   Exide acknowledges this requirement and will comply. The post-closure cost estimate provided in the Closure and Post Closure Plan in Appendix 9 has been adjusted to 2003 costs.

C. **During the active life of the facility, the owner or operator must revise the post-closure cost estimate within 30 days after the administrative authority has approved the request to modify the post-closure plan, if the change in the post-closure plan increases the cost of post-closure care. The revised post-closure c ost e stimate m ust b e adjusted for inflation as specified in LAC 33:V.3709.B.**

Response
Exide acknowledges this requirement and will comply.

D. **The owner or operator must keep the following at the facility during the operating life of the facility: the latest post-closure cost estimate prepared in accordance with LAC 33:V.3709.A and C and, when this estimate has been adjusted, the latest adjusted post-closure cost estimate.**

Response
Exide acknowledges this requirement and will comply. Exide maintains a copy of the latest post-closure cost estimate at the facility.

§3711. Financial Assurance for Post-Closure Care

The owner or operator of a hazardous waste management unit subject to the requirements of LAC 33:V.3709 must establish financial assurance for post-closure care in accordance with the approved post-closure plan for the facility 60 days prior to the initial receipt of hazardous waste or the effective date of the regulation, whichever is later. Under this Section, the owner or operator must choose from the options as specified in Subsections A-F of this Section, which choice the administrative authority must find acceptable based on the application and the circumstances.

A. **Post-Closure Trust Fund**

1. **An owner or operator may satisfy the requirements of this Part by establishing a post-closure trust fund which conforms to the requirements of this Paragraph and submitting an originally signed duplicate of the trust agreement to the Office of Management and Finance, Financial Services Division. An owner or operator of a new facility must submit the originally signed duplicate of the trust agreement to the administrative authority at least 60 days before the date on which hazardous waste is first received for disposal. The trustee must be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a federal or state agency.**

   Response
   Exide maintains financial assurances in the form of a Surety Bond guaranteeing post-closure; therefore this section regarding post-closure trusts does not apply. Information regarding the surety bond is provided in Appendix 10.

2. **The wording of the trust agreement must be identical to the wording specified in LAC 33:V.3719.A.1, and the trust agreement must be accompanied by a formal certification of acknowledgment (for example, see LAC 33:V.3719.A.2). Schedule A of the trust agreement must be updated within 60 days after a change in the amount of the current post-closure cost estimate covered by the agreement.**

3. **Payments into the trust fund must be made annually by the owner or operator over the term of the initial permit, or over the remaining operating life of the facility as estimated in the closure plan, whichever period is shorter; this period is hereafter referred to as the "pay-in**

period." The payments into the post-closure trust fund must be made as follows.

a. For a new facility, the first payment must be made before the initial receipt of hazardous waste for disposal. A receipt from the trustee for this payment must be submitted by the owner or operator to the administrative authority before this initial receipt of hazardous waste. The first payment must be at least equal to the current post-closure cost estimate, except as provided in LAC 33:V.3711.G, divided by the number of years in the pay-in period. Subsequent payments must be made no later than 30 days a fter e ach a nniversary d ate o f t he f irst p ayment. T he amount of each subsequent payment must be determined by this formula:

$$\text{Next Payment} = \frac{CE-CV}{Y}$$

where:
CE = current post-closure cost estimate,
CV = current value of the trust fund, and
Y = number of years remaining in the pay-in period.

b. If an owner or operator has previously established a trust fund as specified in LAC 33:V.4407.A, and the value of that trust fund is less than the current post-closure cost estimate when a permit under these regulations is awarded for the facility, the amount of the current post-closure cost estimate still to be paid into the fund must be paid in over the pay-in period as defined in LAC 33:V.3711.A.3. Payments must continue to be made no later than 30 days after each anniversary date of the first payment made. The amount of each payment must be determined by this formula:

$$\text{Next Payment} = \frac{CE-CV}{Y}$$

where:
CE= current post-closure cost estimate,
CV = current value of the trust fund, and
Y = the number of years remaining in the pay-in period.

4. The owner or operator may accelerate payments into the trust fund or he may deposit the full amount of the current post-closure cost estimate at the time the fund is established. However, he must maintain the value of the fund at no less than the value that the fund would have if annual payments were made as specified in LAC 33:V.3711.A.3.

5. If the owner or operator establishes a post-closure trust fund after having used one or more alternate mechanisms specified in this Section or in LAC 33:V.4407, his first payment must be in at least the amount that the fund would contain if the trust fund were established

initially and if annual payments were made according to specifications of this Subsection and LAC 33:V.4407, as applicable.

6. After the pay-in period is completed, whenever the current post-closure cost estimate changes during the operating life of the facility, the owner or operator must compare the new estimate with the trustee's most recent annual valuation of the trust fund. If the value of the fund is less than the amount of the new estimate, the owner or operator, within 60 days after the change in the cost estimate, must either deposit an amount into the fund so that the fund at least equals the amount of the current post-closure cost estimate, or obtain other financial assurance as specified in this Part to cover the difference.

7. During the operating life of the facility, if the value of the trust fund is greater than the total amount of the current post-closure cost estimate, the owner or operator may submit a written request to the Office of Management and Finance, Financial Services Division for release of the amount in excess of the current post-closure cost estimate.

8. If an owner or operator substitutes other financial assurance as specified in this Part for all or part of the trust fund, he may submit a written request to the Office of Management and Finance, Financial Services Division for release of the amount in excess of the current post-closure cost estimate covered by the trust fund.

9. Within 60 days after receiving a request from the owner or operator for release of funds as specified in LAC 33:V.3711.A.7 or 8, the administrative authority will instruct the trustee to release to the owner or operator such funds as the administrative authority specifies in writing.

10. During the period of post-closure care, the administrative authority may approve a release of funds if the owner or operator demonstrates to the administrative authority that the value of the trust fund exceeds the remaining cost of post-closure care.

11. An owner or operator, or any other person authorized to perform post-closure care, may request reimbursement for the post-closure expenditures by submitting itemized bills to the administrative authority. Within 60 days after receiving bills for post-closure activities, the administrative authority will instruct the trustee to make reimbursements in those amounts as the administrative authority specifies in writing, if the administrative authority determines that the post-closure care expenditures are in accordance with the approved post-closure plan or otherwise justified. If the administrative authority does not instruct the trustee to make such reimbursements, he will provide the owner or operator with a detailed written statement of reasons.

12. **The administrative authority will agree to termination of the trust when:**

    a. **an owner or operator substitutes alternate financial assurance as specified in this Part; or**

    b. **the administrative authority releases the owner or operator from the requirements of this Section in accordance with Subsection I of this Section.**

B. **Surety Bond Guaranteeing Payment into a Post-closure Trust Fund**

1. **An owner or operator may satisfy the requirements of this Section by obtaining a surety bond which conforms to the requirements of this Subsection and submitting the bond to the Office of Management and Finance, Financial Services Division. An owner or operator of a new facility must submit the bond to the administrative authority at least 60 days before the date on which hazardous waste is first received for disposal. The bond must be effective before this initial receipt of hazardous waste. The surety company issuing the bond must, at a minimum, be among those listed as acceptable sureties on federal bonds in Circular 570 of the U.S. Department of the Treasury, and approved by the administrative authority.**

   Response
   Exide maintains financial assurances in the form of a Surety Bond guaranteeing post-closure; therefore this section regarding surety bond guaranteeing payment into a post-closure trust does not apply. Information regarding the surety bond is provided in Appendix 10.

2. **The wording of the surety bond must be identical to the wording specified in LAC 33:V.3719.B.**

3. **The owner or operator who uses a surety bond to satisfy the requirements of this Part must also establish a standby trust fund. Under the terms of the bond, all payments made thereunder will be deposited by the surety directly into the standby trust fund in accordance with instructions from the administrative authority. This standby trust fund must meet the requirements specified in LAC 33:V.3711.A except that:**

    a. **an originally signed duplicate of the trust agreement must be submitted to the administrative authority with the surety bond; and**

    b. **until the standby trust fund is funded pursuant to the requirements of this Part, the following are not required by these regulations:**

        i. **payments into the trust fund as specified in LAC 33:V.3711.A.3;**

ii. updating of Schedule A of the trust agreement to show current post-closure cost estimates;

iii. annual valuations as required by the trust agreement; and

iv. notices of nonpayment as required by the trust agreement.

4. The bond must guarantee that the owner or operator will:

a. fund the standby trust fund in an amount equal to the penal sum of the bond before the beginning of final closure of the facility; or

b. fund the standby trust fund in an amount equal to the penal sum within 15 days after an order to begin final closure issued by the administrative authority becomes final, or within 15 days after an order to begin final closure is issued by a U.S. district court or other court of competent jurisdiction; or

c. provide alternate financial assurance as specified in this Part, and obtain the administrative authority's written approval of the assurance provided within 90 days after receipt by both the owner or operator and the administrative authority of a notice of cancellation of the bond from the surety.

5. Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond.

6. The penal sum of the bond must be in an amount at least equal to the current post-closure cost estimate, except as provided in LAC 33:V.3711.G.

7. Whenever the current post-closure cost estimate increases to an amount greater than the penal sum, the owner or operator, within 60 days after the increase, must either cause the penal sum to be increased to an amount at least equal to the current post-closure cost estimate and submit evidence of such increase to the Office of Management and Finance, Financial Services Division, or obtain other financial assurance as specified in this Part to cover the increase. Whenever the current post-closure cost estimate decreases, the penal sum may be reduced to the amount of the current post-closure cost estimate following written approval by the administrative authority.

8. Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner or operator, and to the Office of Management and Finance, Financial Services Division. Cancellation may not occur, however, during the 120

days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the administrative authority, as evidenced by the return receipts.

9. The owner or operator may cancel the bond if the administrative authority has given prior written consent based on his receipt of evidence of alternate financial assurance as specified in this Part.

C. Surety Bond Guaranteeing Performance of Post-Closure Care

1. An owner or operator of a facility which has been issued a standard permit may satisfy the requirements of this Section by obtaining a surety bond which conforms to the requirements of this Subsection and by submitting the bond to the Office of Management and Finance, Financial Services Division. An owner or operator of a new facility must submit the bond to the administrative authority at least 60 days before the date on which hazardous waste is first received for disposal. The bond must be effective before this initial receipt of hazardous waste. The surety company issuing the bond must, at a minimum, be among those listed as acceptable sureties on federal bonds in Circular 570 of the U.S. Department of the Treasury, and approved by the administrative authority.

Response
Exide maintains financial assurances in the form of a Surety Bond guaranteeing post-closure. Information regarding the surety bond is provided in Appendix 10.

2. The wording of the surety bond must be identical to the wording specified in LAC 33:V.3719.C.

Response
Exide acknowledges this requirement and will comply.

3. The owner or operator who uses a surety bond to satisfy the requirements of this Part must also establish a standby trust fund. Under the terms of the bond, all payments made thereunder will be deposited by the surety directly into the standby trust fund in accordance with instructions from the administrative authority. This standby trust fund must meet the requirements specified in LAC 33:V.3711.A except that:

a. an originally signed duplicate of the trust agreement must be submitted to the administrative authority with the surety bond; and

Response
Exide acknowledges this requirement and will comply.

b. **unless the standby trust fund is funded pursuant to the requirements of this Part, the following are not required by these regulations:**

i. **payments into the trust fund as specified in LAC 33:V.3711.A.3;**

Response
Exide acknowledges this requirement and will comply.

ii. **updating of Schedule A of the trust agreement to show current post-closure cost estimates;**

Response
Exide acknowledges this requirement and will comply.

iii. **annual valuations as required by the trust agreement; and**

Response
Exide acknowledges this requirement and will comply.

iv. **notices of nonpayment as required by the trust agreement.**

Response
Exide acknowledges this requirement and will comply.

4. **The bond must guarantee that the owner or operator will:**

a. **perform post-closure care in accordance with the post-closure plan and other requirements of the permit for the facility; or**

Response
Exide acknowledges this requirement and will comply.

b. **provide alternate financial assurance as specified in this Part, and obtain the administrative authority's written approval of the assurance provided, within 90 days of receipt by both the owner or operator, and the administrative authority of a notice of cancellation of the bond from the surety.**

Response
Exide acknowledges this requirement and will comply.

5. **Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond. Following a final administrative determination by the administrative authority pursuant to R.S. 30:2025 that the owner or operator has failed to perform post-closure care in accordance with the**

post-closure plan and other permit requirements, under the terms of the bond the surety will perform post-closure care in accordance with the post-closure plan and other permit requirements, or will deposit the amount of the penal sum into the standby trust fund.

Response
Exide acknowledges this requirement and will comply.

6. **The penal sum of the bond must be in an amount at least equal to the current post-closure cost estimate.**

Response
Exide acknowledges this requirement and will comply.

7. **Whenever the current post-closure cost estimate increases to an amount greater than the penal sum during the operating life of the facility, the owner or operator, within 60 days after the increase, must either cause the penal sum to be increased to an amount at least equal to the current post-closure cost estimate and submit evidence of such increase to the Office of Management and Finance, Financial Services Division, or obtain other financial assurance as specified in this Part. Whenever the current post-closure cost estimate decreases during the operating life of the facility, the penal sum may be reduced to the amount of the current post-closure cost estimate following written approval by the administrative authority.**

Response
Exide acknowledges this requirement and will comply.

8. **During the period of post-closure care, the administrative authority may approve a decrease in the penal sum if the owner or operator demonstrates to the administrative authority that the amount exceeds the remaining cost of post-closure care.**

Response
Exide acknowledges this requirement and will comply.

9. **Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner or operator, and to the Office of Management and Finance, Financial Services Division. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the administrative authority, as evidenced by the return receipts.**

Response
Exide acknowledges this requirement and will comply.

10. **The owner or operator may cancel the bond if the administrative authority has given prior written consent. The administrative authority will provide such written consent when:**

    a. **an owner or operator substitutes alternate financial assurance as specified in this Part; or**

    Response
    Exide acknowledges this requirement and will comply.

    b. **the administrative authority releases the owner or operator from the requirements of this Part in accordance with LAC 33:V.3711.I.**

    Response
    Exide acknowledges this requirement and will comply.

11. **The surety will not be liable for deficiencies in the performance of post-closure care by the owner or operator after the administrative authority releases the owner or operator from the requirements of this Part in accordance with LAC 33:V.3711.I.**

    Response
    Exide acknowledges this requirement and will comply.

D. **Post-Closure Letter of Credit**

1. **An owner or operator may satisfy the requirements of this Part by obtaining an irrevocable standby letter of credit which conforms to the requirements of this Paragraph and by submitting the letter to the Office of Management and Finance, Financial Services Division. An owner or operator of a new facility must submit the letter of credit to the administrative authority at least 60 days before the date on which hazardous waste is first received for disposal. The letter of credit must be effective before this initial receipt of hazardous waste. The issuing institution must be an entity which has the authority to issue letters of credit and whose letter-of-credit operations are regulated and examined by a federal or state agency.**

   Response
   Exide maintains financial assurances in the form of a Surety Bond guaranteeing post-closure; therefore this section regarding post-closure letter of credit does not apply. Information on the Surety Bond is presented in Appendix 10.

2. **The wording of the letter of credit must be identical to the wording specified in LAC 33:V.3719.D.**

3. **An owner or operator who uses a letter of credit to satisfy the requirements of this Part must also establish a standby trust fund.**

Under the terms of the letter of credit, all amounts paid pursuant to a draft by the administrative authority will be deposited by the issuing institution directly into the standby trust fund in accordance with instructions from the administrative authority. This standby trust fund must meet the requirements of the trust fund specified in LAC 33:V.3711.A, except that:

a. an originally signed duplicate of the trust agreement must be submitted to the administrative authority with the letter of credit; and

b. unless the standby trust fund is funded pursuant to the requirements of this Part, the following are not required by these regulations:

   i. payments into the trust fund as specified in LAC 33:V.3711.A.3;

   ii. updating of Schedule A of the trust agreement to show current post-closure cost estimates;

   iii. annual valuations as required by the trust agreement; and

   iv. notices of nonpayment as required by the trust agreement.

4. The letter of credit must be accompanied by a letter from the owner or operator referring to the letter of credit by number, issuing institution, and date, and providing the following information: the EPA identification number, name, address, and the amount of funds assured for post-closure care of the facility by the letter of credit.

5. The letter of credit must be irrevocable and issued for a period of at least one year. The letter of credit must provide that the expiration date will be automatically extended for a period of at least one year unless, at least 120 days before the current expiration date, the issuing institution notifies both the owner or operator, and the administrative authority by certified mail of a decision not to extend the expiration date. Under the terms of the letter of credit, the 120 days will begin on the d ate w hen b oth the owner or operator, and the administrative authority have received the notice, as evidenced by the return receipts.

6. The letter of credit must be issued in an amount at least equal to the current post-closure cost estimate, except as provided in LAC 33:V.3711.G.

7. Whenever the current post-closure cost estimate increases to an amount greater than the amount of the credit during the operating life of the facility, the owner or operator, within 60 days after the increase,

must either cause the amount of the credit to be increased so that it at least equals the current post-closure cost estimate and submit evidence of such increase to the Office of Management and Finance, Financial Services Division, or obtain other financial assurance as specified in this Part to cover the increase. Whenever the current post-closure cost estimate decreases during the operating life of the facility, the amount of the credit may be reduced to the amount of the current post-closure cost estimate following written approval by the administrative authority.

8. During the period of post-closure care, the administrative authority may approve a decrease in the amount of the letter of credit if the owner or operator demonstrates to the administrative authority that the amount exceeds the remaining cost of post-closure care.

9. Following a final administrative determination by the administrative authority pursuant to R.S. 30:2025 that the owner or operator has failed to perform post-closure care in accordance with the post-closure plan and other permit requirements, the administrative authority may draw on the letter of credit.

10. If the owner or operator does not establish alternate financial assurance as specified in this Part and obtain written approval of such alternate assurance from the administrative authority within 90 days after receipt by both the owner or operator and the Office of Management and Finance, Financial Services Division of a notice from the issuing institution that it has decided not to extend the letter of credit beyond the current expiration date, the administrative authority will draw on the letter of credit. The administrative authority may delay the drawing if the issuing institution grants an extension of the term of the credit. During the last 30 days of any such extension the administrative authority will draw on the letter of credit if the owner or operator has failed to provide alternate financial assurance as specified in this Part and obtain written approval of such assurance from the administrative authority.

11. The administrative authority will return the letter of credit to the issuing institution for termination when:

    a. an owner or operator substitutes alternate financial assurance as specified in this Part; or

    b. the administrative authority releases the owner or operator from the requirements of this Part in accordance with LAC 33:V.3711.I.

E. Post-Closure Insurance

1. An owner or operator may satisfy the requirements of this Part by obtaining post-closure insurance which conforms to the requirements

of this Paragraph and submitting a certificate of such insurance to the Office of Management and Finance, Financial Services Division. An owner or operator of a new facility must submit the certificate of insurance to the administrative authority at least 60 days before the date on which hazardous waste is first received for disposal. The insurance must be effective before this initial receipt of hazardous waste. At a minimum, the insurer must be licensed to transact the business of insurance, or be eligible to provide insurance as an excess or surplus lines insurer in one or more states, and authorized to transact business in Louisiana.

Response
Exide maintains financial assurances in the form of a Surety Bond guaranteeing post-closure; therefore this section regarding post-closure insurance does not apply. Information on the Surety Bond is presented in Appendix 10.

2. **The wording of the certificate of insurance must be identical to the wording specified in LAC 33:V.3719.E.**

3. **The post-closure insurance policy must be issued for a face amount at least equal to the current post-closure cost estimate, except as provided in LAC 33:V.3711.G. The term "face amount" means the total amount the insurer is obligated to pay under the policy. Actual payments by the insurer will not change the face amount, although the insurer's future liability will be lowered by the amount of the payments.**

4. **The post-closure insurance policy must guarantee that funds will be available to provide post-closure care of the facility whenever the post-closure period begins. The policy must also guarantee that once post-closure care begins, the insurer will be responsible for paying out funds, up to an amount equal to the face amount of the policy, upon the direction of the administrative authority, to such party or parties as the administrative authority specifies.**

5. **An owner or operator or any other person authorized to perform post-closure care may request reimbursement for post-closure expenditures by submitting itemized bills to the administrative authority. Within 60 days after receiving bills for post-closure activities, the administrative authority will instruct the insurer to make reimbursements in those amounts as the administrative authority specifies in writing, if the administrative authority determines that the post-closure expenditures are in accordance with the post-closure plan or otherwise justified. If the administrative authority does not instruct the insurer to make such reimbursements he will provide the owner or operator with a detailed written statement of reasons.**

6. **The owner or operator must maintain the policy in full force and effect until the administrative authority consents to termination of the policy by the owner or operator as specified in LAC 33:V.3711.E.11. Failure to**

pay the premium, without substitution of alternate financial assurance as specified in this Part, will constitute a significant violation of these regulations, warranting such remedy as the administrative authority deems necessary. Such violation will be deemed to begin upon receipt by the administrative authority of a notice of future cancellation, termination, or failure to renew due to nonpayment of the premium, rather than upon the date of expiration.

7. Each policy must contain a provision allowing assignment of the policy to a successor owner or operator. Such assignment may be conditional upon consent of the insurer, provided such consent is not unreasonably refused.

8. The policy must provide that the insurer may not cancel, terminate, or fail to renew the policy except for failure to pay the premium. The automatic renewal of the policy must, at a minimum, provide the insured with the option of renewal at the face amount of the expiring policy. If there is a failure to pay the premium, the insurer may elect to cancel, terminate, or fail to renew the policy by sending notice by certified mail to the owner or operator and the Office of Management and Finance, Financial Services Division. Cancellation, termination, or failure to renew may not occur, however, during the 120 days beginning with the date of receipt of the notice by both the administrative authority and the owner or operator, as evidenced by the return receipts. Cancellation, termination, or failure to renew may not occur and the policy will remain in full force and effect in the event that on or before the date of expiration:

   a. the administrative authority deems the facility abandoned; or

   b. the permit is terminated or revoked or a new permit is denied; or

   c. closure is ordered by the administrative authority or a U.S. District Court or other court that can exercise jurisdiction; or

   d. the owner or operator is named as debtor in a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code; or

   e. the premium due is paid.

9. Whenever the current post-closure cost estimate increases to an amount greater than the face amount of the policy during the operating life of the facility, the owner or operator, within 60 days after the increase, must either cause the face amount to be increased to an amount at least equal to the current post-closure cost estimate and submit evidence of such increase to the Office of Management and Finance, Financial Services Division, or obtain other financial assurance as specified in this Part to cover the increase. Whenever the current post-closure cost estimate decreases during the operating life

of the facility, the face amount may be reduced to the amount of the current post-closure cost estimate following written approval by the administrative authority.

10. Commencing on the date that liability to make payments pursuant to the policy accrues, the insurer will thereafter annually increase the face amount of the policy. Such increase must be equivalent to the face amount of the policy, less any payments made, multiplied by an amount equivalent to 85 percent of the most recent investment rates or of the equivalent coupon-issue yield announced by the U.S. Treasury for 26 week Treasury securities.

11. The administrative authority will give written consent to the owner or operator that he may terminate the insurance policy when:

    a. an owner or operator substitutes alternate financial assurance as specified in this Part; or

    b. the administrative authority releases the owner or operator from the requirements of this Part in accordance with LAC 33:V.3711.I.

F. Financial Test and Corporate Guarantee for Post-Closure Care

1. An owner or operator may satisfy the requirements of this Section by demonstrating that he passes a financial test as specified in this Subsection. To pass this test the owner or operator must meet the criteria of either of the following.

Response
Exide maintains financial assurances in the form of a Surety Bond guaranteeing post-closure; therefore this section does not apply. Information on the Surety Bond is presented in Appendix 10.

    a. The owner or operator must have:

        i. two of the following three ratios: a ratio of total liabilities to net worth less than 2.0; a ratio of the sum of net income plus depreciation, depletion, and amortization to total liabilities greater than 0.1; and a ratio of current assets to current liabilities greater than 1.5; and

        ii. net working capital and tangible net worth each at least six times the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates; and

        iii. tangible net worth of at least $10 million; and

iv. assets located in the United States amounting to at least 90 percent of his total assets or at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates.

b. The owner or operator must have:

i. a current rating for his most recent bond issuance of AAA, AA, A, or BBB as issued by *Standard and Poor's* or Aaa, Aa, A, or Baa as issued by *Moody's*; and

ii. tangible net worth at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates; and

iii. tangible net worth of at least $10 million; and

iv. assets located in the United States amounting to at least 90 percent of his total assets or at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates.

2. The phrase *current closure and post-closure cost estimates* as used in LAC 33:V.3711.F.1 refers to the cost estimates required to be shown in Paragraphs 1-4 of the letter from the owner's or operator's chief financial officer (see LAC 33:V.3719.F). The phrase *current plugging and abandonment cost estimates* used in LAC 33:V.3711.F.1 refers to the cost estimates required to be shown in Paragraphs 1-4 of the letter from the owner's or operator's chief financial officer (40 CFR 144.70.f).

3. To demonstrate that he meets this test, the owner or operator must submit the following items to the Office of Management and Finance, Financial Services Division:

a. a letter signed by the owner's or operator's chief financial officer and worded as specified in LAC 33:V.3719.F; and

b. a copy of the independent certified public accountant's report on examination of the owner's or operator's financial statements for the latest completed fiscal year; and

c. a special report from the owner's or operator's independent certified public accountant to the owner or operator stating that:

i. he has compared the data which the letter from the chief financial officer specifies as having been derived from the independently audited, year-end financial statements

for the latest fiscal year with the amounts in such financial statements; and

ii. in connection with that procedure, no matters came to his attention which caused him to believe that the specified data should be adjusted.

4. An owner or operator of a new facility must submit the items specified in LAC 33:V.3711.F.3 to the Office of Management and Finance, Financial Services Division at least 60 days before the date on which hazardous waste is first received for disposal.

5. After the initial submission of items specified in LAC 33:V.3711.F.3, the owner or operator must send updated information to the Office of Management and Finance, Financial Services Division within 90 days after the close of each succeeding fiscal year. This information must consist of all three items specified in LAC 33:V.3711.F.3.

6. If the owner or operator no longer meets the requirements of LAC 33:V.3711.F.1 of this Part, he must send notice to the Office of Management and Finance, Financial Services Division of intent to establish alternate financial assurance as specified in this Part. The notice must be sent by certified mail within 90 days after the end of the fiscal year for which the year-end financial data show that the owner or operator no longer meets the requirements. The owner or operator must provide the alternate financial assurance within 120 days after the end of such fiscal year.

7. The administrative authority may, based on a reasonable belief that the owner or operator may no longer meet the requirements of LAC 33:V.3711.F.1, require reports of financial condition at any time from the owner or operator in addition to those specified in LAC 33:V.3711.F.3. If the administrative authority finds, on the basis of such reports or other information, that the owner or operator no longer meets the requirements of LAC 33:V.3711.F.1, the owner or operator must provide alternate financial assurance as specified in this Part within 30 days after notification of such a finding.

8. The administrative authority may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant in his report on examination of the owner's or operator's financial statements (see LAC 33:V.3711.F.3). An adverse opinion or a disclaimer of opinion will be cause for disallowance. The administrative authority will evaluate other qualifications on an individual basis. Based on the application, the circumstances, and the accessibility of the applicant's assets, the administrative authority may disallow the use of this test. The owner or operator must provide alternate financial assurance as specified in this Part within 30 days after notification of the disallowance.

9. During the period of post-closure care, the administrative authority may approve a decrease in the current post-closure cost estimate for which this test demonstrates financial assurance if the owner or operator demonstrates to the administrative authority that the amount of the cost estimate exceeds the remaining cost of post-closure care.

10. The owner or operator is no longer required to submit the items specified in LAC 33:V.3711.F.3 when:

    a. an owner or operator substitutes alternate financial assurance as specified in this Part; or

    b. the administrative authority releases the owner or operator from the requirements of this Part in accordance with LAC 33:V.3711.I.

11. An owner or operator may meet the requirements of this Section by obtaining a written guarantee. The guarantor must be the direct or higher-tier parent corporation of the owner or operator, a firm whose parent corporation is also the parent corporation of the owner or operator, or a firm with a "substantial business relationship" with the owner or operator. The guarantor must meet the requirements for owners or operators of LAC 33:V.3711.F.1-F.9 and must comply with the terms of the guarantee. The wording of the guarantee must be identical to the wording specified in LAC 33:V.3719.H. A certified copy of the guarantee must accompany the items sent to the administrative authority specified in LAC 33:V.3711.F.3. One of these items must be the letter from the guarantor's chief financial officer. If the guarantor's parent corporation is also the parent corporation of the owner or operator, the letter must describe the value received in consideration of the guarantee. If the guarantor is a firm with a "substantial business relationship" with the owner or operator, this letter must describe this "substantial business relationship" and the value received in consideration of the guarantee. The terms of the corporate guarantee must provide that:

    a. if the owner or operator fails to perform post-closure care of a facility covered by the corporate guarantee in accordance with the post-closure plan and other permit requirements whenever required to do so, the guarantor will do so or establish a trust fund as specified in LAC 33:V.3711.A in the name of the owner or operator;

    b. the corporate guarantee will remain in force unless the guarantor sends notice of cancellation by certified mail to the owner or operator and to the administrative authority. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the administrative authority, as evidenced by the return receipts;

c. **if the owner or operator fails to provide alternate financial assurance as specified in this Part and obtain the written approval of such alternate assurance from the administrative authority within 90 days after receipt by both the owner or operator and the administrative authority of a notice of cancellation of the corporate guarantee from the guarantor, the guarantor will provide such alternate financial assurance in the name of the owner or operator.**

G. **Use of Multiple Financial Mechanisms. An owner or operator may satisfy the requirements of this Section by establishing more than one financial mechanism per facility. These mechanisms are limited to trust funds, surety bonds guaranteeing payment into a trust fund, letters of credit, and insurance. The mechanisms must be as specified in Subsections A, B, D, and E of this Section, respectively, except that it is the combination of mechanisms, rather than the single mechanism, that must provide financial assurance for an amount at least equal to the cost estimate. If an owner or operator uses a trust fund in combination with a surety bond or a letter of credit, he may use the trust fund as the standby trust fund for the other mechanisms. A single standby trust fund may be established for two or more mechanisms. The administrative authority may use any or all of the mechanisms to provide for post-closure care of the facility.**

<u>Response</u>
Exide acknowledges the requirements of this section and will comply if multiple mechanisms are used. At this time, Exide only maintains a surety bond guaranteeing post-closure and this section does not apply.

H. **Use of a Financial Mechanism for Multiple Facilities. An owner or operator may use a financial assurance mechanism specified in this Section to meet the requirements of this Section for more than one facility. Evidence of financial assurance submitted to the administrative authority must include a list showing, for each facility, the EPA identification number, name, address, and the amount of funds for post-closure assured by the mechanism. The amount of funds available through the mechanism must be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for each facility. In directing funds available through the mechanism for post-closure care of any of the facilities covered by the mechanism, the administrative authority may direct only the amount of funds designated for that facility, unless the owner or operator agrees to the use of additional funds available under the mechanism.**

<u>Response</u>
Exide acknowledges the requirements of this section; however the surety bond is maintained for the Baton Rouge Smelter only and this section does not apply.

I. **Release of the Owner or Operator from the Requirements of this Part. Within 60 days after receiving certifications from the owner or operator and an independent registered professional engineer that the post-closure care period**

has been completed for a hazardous waste disposal unit in accordance with the approved plan, the administrative authority will notify the owner or operator that he is no longer required to maintain financial assurance for post-closure care of that unit, unless the administrative authority has reason to believe that post-closure care has not been in accordance with the approved post-closure plan. The administrative authority shall provide the owner or operator with a detailed written statement of any such reason to believe that post-closure care has not been in accordance with the approved post-closure plan.

Response
Exide acknowledges the requirements of this section and will comply.

Subchapter C. Common Closure and Post-Closure Requirements

§3713. Use of a Mechanism for Financial Assurance of Both Closure and Post-Closure Care

A. An owner or operator may satisfy the requirements for financial assurance for both closure and post-closure care for one or more facilities by using a trust fund, surety bond, letter of credit, insurance, financial test, or c orporate guarantee that meets the specifications for the mechanism in both LAC 33:V.3707 and 3711. The amount of funds available through the mechanism must be no less than the sum of funds that would be available if a separate mechanism has been established and maintained for financial assurance of closure and post-closure care.

Response
Exide acknowledges these requirements and will comply. Exide maintains one surety bond for completion of closure and post-closure at the Baton Rouge Smelter.

Subchapter D. Insurance Requirements

§3715. Liability Requirements

A. Coverage for Sudden Accidental Occurrences. An owner or operator of a hazardous waste treatment, storage, or disposal facility, or a group of such facilities, must demonstrate financial responsibility for bodily injury and property damage to third parties caused by sudden accidental occurrences arising from operations of the facility or group of facilities. The owner or operator must have and maintain liability coverage for sudden accidental occurrences in the amount of at least $1 million per occurrence, with an annual aggregate of at least $2 million, exclusive of legal defense costs. This liability coverage may be demonstrated as specified in LAC 33:V.3715.A.1, 2, 3, 4, 5, or 6. For any facility that treats, stores, or disposes by land treatment (i.e., surface impoundment, waste pile, landfarm, or landfill) any acute hazardous waste (see Table 3 of LAC 33:V.Chapter 49), or any toxic waste listed because of t oxicity o r r eactivity (see T able 4 of LAC 33:V.Chapter 49) the liability coverage must be at least $5 million per occurrence, with an annual aggregate of at least $5 million exclusive of legal defense costs.

Response
Exide acknowledges the requirements of this section and will comply.

1. **An owner or operator may demonstrate the required liability coverage by having liability insurance as specified in this Paragraph.**

   a. **Each insurance policy must be amended by attachment of the Hazardous Waste Facility Liability Endorsement or evidenced by a certificate of liability insurance. The wording of the endorsement must be identical to the wording specified in LAC 33:V.3719.I. The wording of the certificate of insurance must be identical to the wording specified in LAC 33:V.3719.J. The owner or operator must submit a signed duplicate original of the endorsement or the certificate of insurance to the Office of Management and Finance, Financial Services Division. If requested by the administrative authority, the owner or operator must provide a signed duplicate original of the insurance policy. An owner or operator of a new facility must submit the signed duplicate original of the Hazardous Waste Facility Liability Endorsement or the certificate of liability insurance to the administrative authority at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal. The insurance must be effective before this initial receipt of hazardous waste.**

      Response
      Exide submitted signed duplicate originals of the certificate of insurance to the Office of Management and Finance, Financial Services Division in conjunction with previous permit submissions. A copy of Exide's current certificate of insurance is provided in Appendix 22.

   b. **Each insurance policy must be issued by an insurer which, at a minimum, is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more states, and authorized to transact business in Louisiana.**

      Response
      Exide acknowledges this requirement and will comply.

2. **An owner or operator may meet the requirements of this Section by passing a financial test or using the corporate guarantee for liability coverage as specified in Subsections F and G of this Section.**

   Response
   Exide acknowledges this requirement; however, this section is not applicable as Exide maintains a certificate of insurance.

3. **An owner or operator may meet the requirements of this Section by obtaining a letter of credit for liability coverage as specified in LAC 33:V.3715.H.**

   Response
   Exide acknowledges this requirement; however this section is not applicable as Exide maintains a certificate of insurance.

4. **An owner or operator may meet the requirements of this Section by obtaining a surety bond for liability coverage as specified in LAC 33:V.3715.I.**

   Response
   Exide acknowledges this requirement; however, this section is not applicable as Exide maintains a certificate of insurance.

5. **An owner or operator may meet the requirements of this Section by obtaining a trust fund for liability coverage as specified in LAC 33:V.3715.J.**

   Response
   Exide acknowledges this requirement; however, this section is not applicable as Exide maintains a certificate of insurance.

6. **An owner or operator may demonstrate the required liability coverage through use of combinations of financial test, insurance, guarantee, letter of credit, surety bond, and trust fund, except that the owner or operator may not combine a financial test covering part of the liability coverage requirement with a guarantee unless the financial statement of the owner or operator is not consolidated with the financial statement of the guarantor. The amounts of coverage demonstrated must total at least the minimum amounts required by this Section. If the owner or operator demonstrates the required coverage through the use of a combination of financial assurances under this Paragraph, the owner or operator shall specify at least one such assurance as "primary" coverage and shall specify other assurances as "excess" coverage.**

   Response
   Exide acknowledges this requirement and will comply if multiple methods of liability coverage are used.

7. **An owner or operator shall notify the Office of Management and Finance, Financial Services Division in writing within 30 days whenever:**

   a. **a claim results in a reduction in the amount of financial assurance for liability coverage provided by a financial instrument authorized in LAC 33:V.3715.A.1-6; or**

Response
Exide acknowledges this requirement and will comply.

b. **a Certification of Valid Claim for bodily injury or property damages caused by a sudden or non-sudden accidental occurrence arising from the operation of a hazardous waste treatment, storage, or disposal facility is entered between the owner or operator and third-party claimant for liability coverage under LAC 33:V.3715.A.1-6; or**

Response
Exide acknowledges this requirement and will comply.

c. **a final court order establishing a judgement for bodily injury or property damage caused by a sudden or non-sudden accidental occurrence arising from the operation of a hazardous waste treatment, storage, or disposal facility is issued against the owner or operator or an instrument that is providing financial assurance for liability coverage under LAC 33:V.3715.A.1-6.**

Response
Exide acknowledges this requirement and will comply.

B. **Coverage for Non-sudden Accidental Occurrences. An owner or operator of a surface impoundment, landfill, land treatment facility, or miscellaneous disposal unit that is used to manage hazardous waste, or a group of such facilities, must demonstrate financial responsibility for bodily injury and property damage to third parties caused by non-sudden accidental occurrences arising from operations of the facility or group of facilities. The owner or operator must have and maintain liability coverage for non-sudden accidental occurrences in the amount of at least $3 million per occurrence with an annual aggregate of at least $6 million, exclusive of legal defense costs. An owner or operator who must meet the requirements of this Section may combine the required per-occurrence coverage levels for sudden and non-sudden accidental occurrence into a single per-occurrence level, and combine the required annual aggregate coverage levels for sudden and non-sudden accidental occurrences into a single annual aggregate level. Owners or operators who combine coverage levels for sudden and non-sudden accidental occurrences must maintain liability coverage in the amount of at least $5 million per occurrence and $10 million annual aggregate. This liability coverage may be demonstrated as specified in LAC 33:V.3715.B.1, 2, 3, 4, 5, or 6.**

1. **An owner or operator may demonstrate the required liability coverage by having liability insurance as specified in this Paragraph.**

   a. **Each insurance policy must be amended by attachment of the Hazardous Waste Facility Liability Endorsement or evidenced by a certificate of liability insurance. The wording of the endorsement must be identical to the wording specified in LAC**

33:V.3719.I. The wording of the certificate of insurance must be identical to the wording specified in LAC 33:V.3719.J. The owner or operator must submit a signed duplicate original of the endorsement or the certificate of insurance to the administrative authority. If requested by the Office of Management and Finance, Financial Services Division, the owner or operator must provide a signed duplicate original of the insurance policy. An owner or operator of a new facility must submit the signed duplicate original of the Hazardous Waste Facility Liability Endorsement or the certificate of liability insurance to the administrative authority at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal. The insurance must be effective before this initial receipt of hazardous waste.

Response
Exide submitted signed duplicate originals of the certificate of insurance to the Office of Management and Finance, Financial Services Division in conjunction with previous permit submissions. A copy of Exide's current certificate of insurance is provided in Appendix 22.

b. **Each insurance policy must be issued by an insurer which, at a minimum, is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer in one or more states and authorized to transact business in Louisiana.**

Response
Exide acknowledges this requirement and will comply.

2. **An owner or operator may meet the requirements of this Section by passing a financial test or using the guarantee for liability coverage as specified in LAC 33:V.3715.F and G.**

Response
Exide acknowledges this requirement; however this section is not applicable as Exide maintains a certificate of insurance.

3. **An owner or operator may meet the requirements of this Section by obtaining a letter of credit for liability coverage as specified in LAC 33:V.3715.H.**

Response
Exide acknowledges this requirement; however, this section is not applicable as Exide maintains a certificate of insurance.

4. **An owner or operator may meet the requirements of this Section by obtaining a surety bond for liability coverage as specified in LAC 33:V.3715.I.**

Response
Exide acknowledges this requirement; however, this section is not applicable as Exide maintains a certificate of insurance.

5. **An owner or operator may meet the requirements of this Section by obtaining a trust fund for liability coverage as specified in LAC 33:V.3715.J.**

Response
Exide acknowledges this requirement; however, this section is not applicable as Exide maintains a certificate of insurance.

6. **An owner or operator may demonstrate the required liability coverage through use of combinations of financial test, insurance, guarantee, letter of credit, surety bond, and trust fund, except that the owner or operator may not combine a financial test covering part of the liability coverage requirement with a guarantee unless the financial statement of the owner or operator is not consolidated with the financial statement of the guarantor. The amounts of coverage demonstrated must total at least the minimum amounts required by this Section. If the owner or operator demonstrates the required coverage through the use of a combination of financial assurances under this Paragraph, the owner or operator shall specify at least one such assurance as "primary" coverage and shall specify other assurance as "excess" coverage.**

Response
Exide acknowledges this requirement and will comply if multiple methods of liability coverage are used.

7. **An owner or operator shall notify the Office of Management and Finance, Financial Services Division in writing within 30 days whenever:**

   a. **a claim results in a reduction in the amount of financial assurance for liability coverage provided by a financial instrument authorized in LAC 33:V.3715.B.1-6; or**

      Response
      Exide acknowledges this requirement and will comply.

   b. **a Certification of Valid Claim for bodily injury or property damages caused by a sudden or non-sudden accidental occurrence arising from the operation of a hazardous waste treatment, storage, or disposal facility is entered between the owner or operator and third-party claimant for liability coverage under LAC 33:V.3715.B.1-6; or**

Response
Exide acknowledges this requirement and will comply.

c. **a final court order establishing a judgment for bodily injury or property damage caused by a sudden or non-sudden accidental occurrence arising from the operation of a hazardous waste treatment, storage, or disposal facility is issued against the owner or operator or an instrument that is providing financial assurance for liability coverage under LAC 33:V.3715.B.1-6.**

Response
Exide acknowledges this requirement and will comply.

C. **Request for Variance. If an owner or operator can demonstrate to the satisfaction of the administrative authority that the levels of financial responsibility required by Subsections A and B of this Section are not consistent with the degree and duration of risk associated with treatment, storage, or disposal at the facility or group of facilities, the owner or operator may obtain a variance from the administrative authority. The request for a variance must be submitted to the administrative authority as part of the application under LAC 33:V.Chapter 5 for a facility that does not have a permit, or pursuant to the procedures for permit modification under LAC 33:V.Chapter 3 for a facility that has a permit. If granted, the variance will take the form of an adjusted level of required liability coverage, such level to be based on the administrative authority's assessment of the degree and duration of risk associated with the ownership or operation of the facility or group of facilities. The administrative authority may require an owner or operator who requests a variance to provide such technical and engineering information as is deemed necessary by the administrative authority to determine a level of financial responsibility other than that required by Subsections A and B of this Section. Any request for a variance for a permitted facility will be treated as a request for a permit modification under LAC 33:V.321.**

Response
This section does not apply as Exide is not requesting a variance.

D. **Adjustments by the Administrative Authority. If the administrative authority determines that the levels of financial responsibility required by LAC 33:V.3715.A or B are not consistent with the degree and duration of risk associated with treatment, storage, or disposal at the facility or group of facilities, the administrative authority may adjust the level of financial responsibility required by LAC 33:V.3715.A and B as may be necessary to protect human health and the environment. This adjusted level will be based on the administrative authority's assessment of the degree and duration of risk associated with the ownership or operation of the facility or group of facilities. In addition, if the administrative authority determines that there is a significant risk to human health and the environment from non-sudden accidental occurrences resulting from the operations of a facility that is not a surface impoundment, landfill, or land treatment facility, he may require that an owner or operator of the facility comply with LAC 33:V.3715.B. An owner or operator**

must furnish to the Office of Management and Finance, Financial Services Division, within a reasonable time, any information which the administrative authority requests to determine whether cause exists for such adjustments of level or type of coverage. Any adjustment of the level or type of coverage for a facility that has a permit will be treated as a permit modification under LAC 33:V.321.

Response
Exide acknowledges this requirement and will comply.

E. **Period of Coverage. Within 60 days after receiving certifications from the owner or operator and an independent registered professional engineer that final closure has been completed in accordance with the approved closure plan, the administrative authority will notify the owner or operator in writing that he is no longer required by this Section to maintain liability coverage for that facility, unless the administrative authority has reason to believe that closure has not been in accordance with the approved closure plan.**

Response
Exide acknowledges this requirement and will comply.

F. **Financial Test for Liability Coverage**

1. **An owner or operator may satisfy the requirements of this Section by demonstrating that he passes a financial test as specified in this Subsection. To pass this test the owner or operator must meet the criteria of either LAC 33:V.3715.F.1.a or b below.**

Response
Exide acknowledges this requirement; however this section is not applicable as Exide maintains a certificate of insurance.

a. **The owner or operator must have:**

i. **net working capital and tangible net worth each at least six times the amount of liability coverage to be demonstrated by the test; and**

ii. **tangible net worth of at least $10 million; and**

iii. **assets located in the United States amounting to either at least 90 percent of his total assets or at least six times the amount of liability coverage to be demonstrated by this test.**

b. **The owner or operator must have:**

i. **a current rating for his most recent bond issuance of AAA, AA, A, or BBB as issued by *Standard and Poor's* or Aaa, Aa, A, or Baa as issued by *Moody's*; and**

ii. tangible net worth of at least $10 million; and

iii. tangible net worth at least six times the amount of liability coverage to be demonstrated by this test; and

iv. assets located in the United States amounting to either at least 90 percent of total assets or at least six times the amount of liability coverage to be demonstrated by this test.

2. The phrase amount of liability coverage as used in LAC 33:V.3715.F.1 refers to the annual aggregate amounts for which coverage is required under LAC 33:V.3715.A and B.

3. To demonstrate that he meets this test, the owner or operator must submit the following three items to the Office of Management and Finance, Financial Services Division:

a. a letter signed by the owner's or operator's chief financial officer and worded as specified in LAC 33:V.3719.G. If an owner or operator is using the financial test to demonstrate both assurance for closure or post-closure care, as specified by LAC 33:V.3707.F, 3711.F, 4403.E, and 4407.E, and liability coverage, he must submit the letter specified in LAC 33:V.3719.G to cover both forms of financial responsibility; a separate letter as specified in LAC 33:V.3719.F is not required;

b. a copy of the independent certified public accountant's report on examination of the owner's or operator's financial statements for the latest completed fiscal year;

c. a special report from the owner's or operator's independent certified public accountant to the owner or operator stating that:

i. he has compared the data which the letter from the chief financial officer specifies as having been derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in such financial statements; and

ii. in connection with that procedure, no matters came to his attention which caused him to believe that the specified data should be adjusted.

4. An owner or operator of a new facility must submit the items specified in LAC 33:V.3715.F.3 to the Office of Management and Finance, Financial Services Division at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal.

5. After the initial submission of items specified in LAC 33:V.3715.F.3, the owner or operator must send updated information to the administrative authority within 90 days after the close of each succeeding fiscal year. This information must consist of all three items specified in LAC 33:V.3715.F.3.

6. If the owner or operator no longer meets the requirements of LAC 33:V.3715.F.1, he must obtain insurance, a letter of credit, a surety bond, a trust fund, or a guarantee for the entire amount of required liability coverage as specified in this Section. Evidence of liability coverage must be submitted to the Office of Management and Finance, Financial Services Division within 90 days after the end of the fiscal year for which the year-end financial data show that the owner or operator no longer meets the test requirements.

7. The administrative authority may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant in his report on examination of the owner's or operator's financial statements (see LAC 33:V.3715.F.3). An adverse opinion or a disclaimer of opinion will be cause for disallowance. The administrative authority will evaluate other qualifications on an individual basis. Based on the application, the circumstances and the accessibility of the applicant's assets, the administrative authority may disallow the use of this test. The owner or operator must provide evidence of insurance for the entire amount of required liability coverage as specified in this Part within 30 days after notification of disallowance.

8. The corporate guarantee authorized for use to demonstrate financial assurance for closure and/or post-closure may not be used to demonstrate financial assurance for liability coverage.

G. Guarantee for Liability Coverage. Subject to LAC 33:V.3715.G.2, an owner or operator may meet the requirements of this Section by obtaining a written guarantee, hereinafter referred to as "guarantee." The guarantor must be the direct or higher-tier parent corporation of the owner or operator, a firm whose parent corporation is also the parent corporation of the owner or operator, or a firm with a "substantial business relationship" with the owner or operator. The guarantor must meet the requirements for owners or operators in LAC 33:V.3715.F.1-7. The wording of the guarantee must be identical to the wording specified in LAC 33:V.3719. A certified copy of the guarantee must accompany the items sent to the administrative authority as specified in LAC 33:V.3715.F.3. One of these items must be the letter from the guarantor's chief financial o fficer. If the guarantor's parent corporation is also the parent corporation of the owner or operator, this letter must describe the value received in consideration of the guarantee. If the guarantor is a firm with a "substantial business relationship" with the owner or operator, this letter must describe this "substantial business relationship" and the value received in consideration of the guarantee.

Response
Exide acknowledges this requirement; however this section is not applicable as Exide maintains a certificate of insurance.

1. **If the owner or operator fails to satisfy a judgement based on a determination of liability for bodily injury or property damage to third parties caused by sudden or non-sudden accidental occurrences (or both as the case may be), arising from the operation of facilities covered by this guarantee, or fails to pay an amount agreed to in settlement of claims arising from or alleged to arise from such injury or damage, the guarantor will do so up to the limits of coverage.**

2. **In the case of corporations incorporated in the United States, a guarantee may be used to satisfy the requirements of this Section only if the attorney general or insurance commissioner of the state in which the guarantor is incorporated and the attorney general or insurance commissioner of Louisiana have submitted written statements to the department that a guarantee executed as described in this Section and LAC 33:V.3719.H.2 is a legally valid and enforceable obligation in that state.**

3. **In the case of corporations incorporated outside the United States, a guarantee may be used to satisfy the requirements of this Section only if the non-U.S. corporation has identified a registered agent for service of process in Louisiana and in the state in which it has its principal place of business, and the attorney general or insurance commissioner of Louisiana and the state in which the guarantor corporation has its principal place of business have submitted written statements to the department that a corporate guarantee executed as described in this Section and LAC 33:V.3719.H.2 is a legally valid and enforceable obligation in that state.**

H. **Letter of Credit for Liability Coverage**

1. **An owner or operator may satisfy the requirements of this Section by obtaining an irrevocable standby letter of credit that conforms to the requirements of this Subsection and submitting a copy of the letter of credit to the Office of Management and Finance, Financial Services Division.**

   Response
   Exide acknowledges this requirement; however, this section is not applicable as Exide maintains a certificate of insurance.

2. **The financial institution issuing the letter of credit must be an entity that has the authority to issue letters of credit and whose letter of credit operations are regulated and examined by a federal or state agency.**

3. **The wording of the letter of credit must be identical to the wording specified in LAC 33:V.3719.K.**

4. **An owner or operator who uses a letter of credit to satisfy the requirements of this Section may also establish a standby trust fund. Under the terms of such a letter of credit, all amounts paid pursuant to a draft by the trustee of the standby trust will be deposited by the issuing institution into the standby trust in accordance with instructions from the trustee. The trustee of the standby trust fund must be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a federal or state agency.**

5. **The wording of the standby trust fund must be identical to the wording specified in LAC 33:V.3719.N.**

I. **Surety Bond for Liability Coverage**

1. **An owner or operator may satisfy the requirements of this Section by obtaining a surety bond that conforms to the requirements of this Subsection and submitting a copy of the bond to the Office of Management and Finance, Financial Services Division.**

   Response
   Exide acknowledges this requirement; however, this section is not applicable as Exide maintains a certificate of insurance.

2. **The surety company issuing the bond must be among those listed as acceptable sureties on federal bonds in the most recent Circular 570 of the U.S. Department of the Treasury.**

3. **The wording of the surety bond must be identical to the wording specified in LAC 33:V.3719.L.**

4. **A surety bond may be used to satisfy the requirements of this Section only if the attorney general or insurance commissioner of the state in which the surety is incorporated and the attorney general or insurance commissioner of Louisiana have submitted a written statement to EPA that a surety bond executed as described in this Section and LAC 33:V.3719.L is a legally valid and enforceable obligation in that state.**

J. **Trust Fund for Liability Coverage**

1. **An owner or operator may satisfy the requirements of this Section by establishing a trust fund that conforms to the requirements of this Paragraph and submitting an originally signed duplicate of the trust agreement to the Office of Management and Finance, Financial Services Division.**

   Response
   Exide acknowledges this requirement; however, this section is not applicable as Exide maintains a certificate of insurance.

2. **The trustee must be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a federal or state agency.**

3. **The trust fund for liability coverage must be funded for the full amount of the liability coverage to be provided by the trust fund before it may be relied upon to satisfy the requirements of this Section. If at any time after the trust fund is created the amount of funds in the trust fund is reduced below the full amount of the liability coverage to be provided, the owner or operator, by the anniversary date of the establishment of the fund, must either add sufficient funds to the trust fund to cause its value to equal the full amount of liability coverage to be provided, or obtain other financial assurance as specified in this Section to cover the difference. For purposes of this Paragraph, "the full amount of the liability coverage to be provided" means the amount of coverage for sudden and/or non-sudden occurrences required to be provided by the owner or operator by this Section, less the amount of financial assurance for liability coverage that is being provided by other financial assurance mechanisms being used to demonstrate financial assurance by the owner or operator.**

4. **The wording of the trust fund must be identical to the wording specified in LAC 33:V.3719.M.**

K. **Notwithstanding any other provision of LAC 33:V.Subpart 1, an owner or operator using liability insurance to satisfy the requirements of this Section may use, until October 16, 1982, a Hazardous Waste Facility Liability Endorsement or Certificate of Liability Insurance that does not certify that the insurer is licensed to transact the business of insurance, or eligible as an excess or surplus lines insurer, in one or more states.**

Response
Exide acknowledges this requirement and will comply.

Subchapter E. Incapacity Regulations

§3717. Incapacity of Owners or Operators, Guarantors, or Financial Institutions

A. **An owner or operator must notify the Office of Management and Finance, Financial Services Division by certified mail of the commencement of a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code, naming the owner or operator as debtor, within 10 days after commencement of the proceeding. A guarantor of a corporate guarantee as specified in LAC 33:V.3707.F and 3711.F must make such a notification if he is named as debtor, as required under the terms of the corporate guarantee (see LAC 33:V.3719.H).**

Response
During regular correspondence with LDEQ, Exide previously provided verbal notice that Exide had filed for relief under Chapter 11 of Title 11 of the US Code effective

April 15, 2002. While LDEQ has been verbally notified, Exide will also submit written notice per this requirement.

B. **An owner or operator who fulfills the requirements of LAC 33:V.3707, 3711 or 3715 by obtaining a trust fund, surety bond, letter of credit, or insurance policy will be deemed to be without the required financial assurance or liability coverage in the event of bankruptcy of the trustee or issuing institution, or a suspension or revocation of the authority of the trustee institution to act as trustee or of the institution issuing the surety bond, letter of credit, or insurance policy to issue such instruments. The owner or operator must establish other financial assurance or liability coverage within 60 days after such an event.**

Response
Exide acknowledges this requirement and will comply.

Subchapter F. Financial and Insurance Instruments

3719. Wording of the Instruments

A. **A trust agreement for a trust fund as specified in LAC 33:V.3707.A or 3711.A or 4403.A or 4407.A must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:**

Response
Exide acknowledges this requirement; however, this section regarding trust funds does not apply as Exide maintains a surety bond.

1.

TRUST AGREEMENT

Trust Agreement, the "Agreement," entered into as of [date] by and between [name of the owner or operator], a [name of state] [insert "corporation," "partnership," "association," or "proprietorship"], the "Grantor," and [name of corporate trustee], [insert "incorporated in the State of _____ " or "a national bank" or "a state bank"], the "Trustee."

WHEREAS, the Department of Environmental Quality of the State of Louisiana, an agency of the State of Louisiana, has established certain regulations applicable to the grantor, requiring that an owner or operator of a hazardous waste management facility shall provide assurance that funds will be available when needed for closure and/or post-closure care of the facility;

WHEREAS, the Grantor has elected to establish a trust to provide all or part of such financial assurance for the facility identified herein;

WHEREAS, the Grantor, acting through its duly authorized officers, has selected the Trustee to be the trustee under this agreement, and the Trustee is willing to act as trustee.

NOW, THEREFORE, the Grantor and the Trustee agree as follows:

Section 1. Definitions

As used in this agreement:

(a) The term "Grantor" means the owner or operator who enters into this Agreement and any successors or assigns of the Grantor.

(b) The term "Trustee" means the Trustee who enters into this Agreement and any successor Trustee.

(c) The term "Secretary" means the Secretary, Louisiana Department of Environmental Quality and any successor agency.

(d) The term "administrative authority" means the Secretary, or a person designated by him or her to act therefore.

Section 2. Identification of Facilities and Cost Estimates

This Agreement pertains to the facilities and cost estimates identified on attached Schedule A [on Schedule A, for each facility list the EPA Identification Number, name, address, and the current closure and/or post-closure cost estimates, or portions thereof, for which financial assurance is demonstrated by this Agreement].

Section 3. Establishment of Fund

The Grantor and the Trustee hereby establish a trust fund, the "Fund," for the benefit of the Louisiana Department of Environmental Quality. The Grantor and the Trustee intend that no third party have access to the Fund except as herein provided. The Fund is established initially as consisting of the property, which is acceptable to the Trustee, described in Schedule B attached hereto. [Note: Standby Trust Agreements need not be funded at the time of execution. In the case of Standby Trust Agreements, Schedule B should be blank but for a statement that the Agreement is not presently funded, but shall be funded by the financial assurance document used by the Grantor in accordance with the terms of that document.] Such property and any other property subsequently transferred to the Trustee is referred to as the Fund, together with all earnings and profits thereon, less any payments or distributions made by the Trustee pursuant to this Agreement. The Fund shall be held by the Trustee, IN TRUST, as hereinafter provided. The Trustee shall not be responsible nor shall it undertake any responsibility for the amount or adequacy of, nor any duty to collect from the Grantor, any payments necessary to discharge any liabilities of the Grantor established by the administrative authority.

Section 4. Payment for Closure and Post-Closure Care

The Trustee shall make payments from the Fund as the administrative authority shall direct, in writing, to provide for the payment of the costs of closure and/or post-closure care of the facility covered by this Agreement. The Trustee shall reimburse the Grantor or other persons as specified by the administrative authority from the Fund for closure and post-closure expenditures in such amounts as the administrative authority shall direct in writing. In addition, the Trustee shall refund to the Grantor such amounts as the administrative authority specifies in writing. Upon refund, such funds shall no longer constitute part of the Fund as defined herein.

Section 5. Payments Comprising the Fund

Payments made to the Trustee for the Fund shall consist of cash or securities acceptable to the Trustee.

Section 6. Trustee Management

The Trustee shall invest and reinvest the principal and income of the Fund and keep the Fund invested as a single fund, without distinction between principal and income, in accordance with general investment policies and guidelines which the Grantor may communicate in writing to the Trustee from time to time, subject, however, to the provisions of this part. In investing, reinvesting, exchanging, selling, and managing the Fund, the trustee shall discharge his duties with respect to the trust fund solely in the interest of the beneficiary and with the care, skill, prudence, and diligence under the circumstances then prevailing which persons of prudence, acting in a like capacity and familiar with such matters, would use in the conduct of an enterprise of a like character and with like aims, except that:

A. securities or other obligations of the Grantor, or any other owner or operator of the facilities, or any of their affiliates as defined in the Investment Company Act of 1940, as amended, 15 U.S.C. 80a-2.(a), shall not be acquired or held, unless they are securities or other obligations of the federal or a state government;

B. the Trustee is authorized to invest the Fund in time or demand deposits of the Trustee, to the extent insured by an agency of the Federal or State government; and

C. the Trustee is authorized to hold cash awaiting investment or distribution uninvested for a reasonable time and without liability for the payment of interest thereon.

Section 7. Commingling and Investment

The Trustee is expressly authorized in its discretion:

A. to transfer from time to time any or all of the assets of the Fund to any common, commingled, or collective trust fund created by the Trustee in which the Fund is eligible to participate, subject to all of the provisions thereof, to be commingled with the assets of other trusts participating therein; and

B. to purchase shares in any investment company registered under the Investment Company Act of 1940, 15 U.S.C. 80a-1 et seq., including one which may be created, managed, underwritten, or to which investment advice is rendered or the shares of which are sold by the Trustee. The Trustee may vote such shares in its discretion.

Section 8. Express Powers of Trustee

Without in any way limiting the powers and discretion conferred upon the Trustee by the other provisions of this Agreement or by law, the Trustee is expressly authorized and empowered:

A. to sell, exchange, convey, transfer, or otherwise dispose of any property held by it, by public or private sale. No person dealing with the Trustee shall be bound to see to the application of the purchase money or to inquire into the validity or expediency of any such sale or other disposition;

B. to make, execute, acknowledge, and deliver any and all documents of transfer and conveyance and any and all other instruments that may be necessary or appropriate to carry out the powers herein granted;

C. to register any securities held in the Fund in its own name or in the name of a nominee and to hold any security in bearer form or in book entry, or to combine certificates representing such securities with certificates of the same issue held by the Trustee in other fiduciary capacities, or to deposit or arrange for the deposit of such securities in a qualified central depositary even though, when so deposited, such securities may be merged and held in bulk in the name of the nominee of such depositary with other securities deposited therein by another person, or to deposit or arrange for the deposit of any securities issued by the United States Government, or any agency or instrumentality thereof, with a Federal Reserve bank, but the books and records of the Trustee shall at all times show that all such securities are part of the Fund;

D. to deposit any cash in the Fund in interest-bearing accounts maintained or savings certificates issued by the Trustee, in its separate corporate capacity, or in any other banking institution affiliated with the Trustee, to the extent insured by an agency of the Federal or State government; and

E. to compromise or otherwise adjust all claims in favor of or against the Fund.

Section 9. Taxes and Expenses

All taxes of any kind that may be assessed or levied against or in respect of the Fund and all brokerage commissions incurred by the Fund shall be paid from the Fund. All other expenses incurred by the Trustee in connection with the administration of this Trust, including fees for legal services rendered to the Trustee, the compensation of the Trustee to the extent not paid directly by the Grantor, and all other proper charges and disbursements of the Trustee shall be paid from the Fund.

Section 10. Annual Valuation

The Trustee shall annually, at least 30 days prior to the anniversary date of establishment of the Fund, furnish to the Grantor and to the administrative authority a statement confirming the value of the Trust. Any securities in the Fund shall be valued at market value as of no more than 60 days prior to the anniversary date of establishment of the Fund. The failure of the Grantor to object in writing to the Trustee within 90 days after the statement has been furnished to the Grantor and the administrative authority shall constitute a conclusively binding assent by the Grantor, barring the Grantor from asserting any claim or liability against the Trustee with respect to matters disclosed in the statement.

Section 11. Advice of Counsel

The Trustee may from time to time consult with counsel, who may be counsel to the Grantor, with respect to any question arising as to the construction of this Agreement or any action to be taken hereunder. The Trustee shall be fully protected, to the extent permitted by law, in acting upon the advice of counsel.

Section 12. Trustee Compensation

The Trustee shall be entitled to reasonable compensation for its services as agreed upon in writing from time to time with the Grantor.

Section 13. Successor Trustee

The Trustee may resign or the Grantor may replace the Trustee, but such resignation or replacement shall not be effective until the Grantor has appointed a successor trustee and this successor accepts the appointment. The successor trustee shall have the same powers and duties as those conferred upon the Trustee hereunder. Upon the successor trustee's acceptance of the appointment, the Trustee shall assign, transfer, and pay over to the successor trustee the funds and properties then constituting the Fund. If for any reason the Grantor cannot or does not act in the event of the resignation of the Trustee, the Trustee may apply to a court of competent jurisdiction for the appointment of a successor trustee or for instructions. The successor trustee shall specify the date on which it assumes administration of the trust in a writing sent to the Grantor, the administrative authority, and the present Trustee by certified mail 10 days before such change becomes effective. Any expenses incurred by the Trustee as a result of any of the acts contemplated by this Part shall be paid as provided in Section 9.

Section 14. Instructions to the Trustee

All orders, requests, and instructions by the Grantor to the Trustee shall be in writing, signed by such persons as are designated in the attached Exhibit A or such other designees as the Grantor may designate by amendment to Exhibit A. The Trustee shall be fully protected in acting without inquiry in accordance with the Grantor's orders, requests and instructions. All orders, requests, and instructions by the administrative authority to the Trustee shall be in writing, signed by the administrative authority, and the Trustee shall act and shall be fully protected in acting in accordance with such orders, requests, and instructions. The Trustee shall have the right to assume, in the absence of written notice to the contrary, that no event constituting a change or a termination of the authority of any person to act on behalf of the Grantor or administrative authority hereunder has occurred. The Trustee shall have no duty to act in the absence of such orders, requests, and instructions from the Grantor and/or administrative authority, except as provided for herein.

Section 15. Notice of Nonpayment

The Trustee shall notify the Grantor and the administrative authority, by certified mail, within ten days following the expiration of the thirty-day period after the anniversary of the establishment of the Trust, if no payment is received from the Grantor during that period. After the pay-in period is completed, the Trustee shall not be required to send a notice of nonpayment.

Section 16. Amendment of Agreement

This Agreement may be amended by an instrument in writing executed by the Grantor, the Trustee, and the administrative authority, or by the Trustee and the administrative authority, if the Grantor ceases to exist.

Section 17. Irrevocability and Termination

Subject to the right of the parties to amend this Agreement as provided in Section 16, this Trust shall be irrevocable and shall continue until terminated at the written agreement of the Grantor, the Trustee, and the administrative authority, or by the Trustee and the administrative authority, if the Grantor ceases to exist. Upon termination of the Trust, all remaining trust property, less final trust administration expenses, shall be delivered to Grantor.

Section 18. Immunity and Indemnification

The Trustee shall not incur personal liability of any nature in connection with any act or omission, made in good faith, in the administration of this Trust, or in carrying out any directions by the Grantor or the administrative authority issued in accordance with this Agreement. The Trustee shall be indemnified and saved harmless by the Grantor or from the Trust fund, or both, from and against any personal liability to which the Trustee may be subjected by reason of any act or conduct in its official capacity, including all expenses reasonably incurred in its defense in the event the Grantor fails to provide such defense.

Section 19. Choice of Law

This Agreement shall be administered, construed, and enforced according to the laws of the State of Louisiana.

Section 20. Interpretation

As used in this Agreement, words in the singular include the plural and words in the plural include the singular. The descriptive headings for each Section of this Agreement shall not affect the interpretation or the legal efficacy of this Agreement.

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed by their respective officers duly authorized and their corporate seals to be hereunto affixed and attested as of the date first above written. The parties below certify that the wording of this Agreement is identical to the wording specified in LAC 33:V.3719.A.1 as such regulations were constituted on the date first above written.

WITNESSES: GRANTOR:
By:
Its:_____
(SEAL)
TRUSTEE:
By:_____
Its:_____
(SEAL)
THUS DONE AND PASSED in my office in _____, on the _____ day of ___, 20__, in the presence of _____ and _____competent witnesses, who hereunto sign their names with the said appearers and me, Notary, after reading the whole.
NOTARY PUBLIC

2. The following is an example of the certification of acknowledgement which must accompany the trust agreement for a trust fund as specified in LAC 33:V.3707.A.2 or 4403.A.2 or 4407.A.2.

STATE OF LOUISIANA

PARISH OF _____

BE IT KNOWN, that on this _____ day of _____, 20__, before me, the undersigned Notary Public, duly commissioned and qualified within the State and Parish aforesaid, and in the presence of the witnesses hereinafter named and undersigned, personally came and appeared ___, to me well known, who declared and acknowledged that he had signed and executed the foregoing instrument as his act and deed, and as the act and deed of the _____, a corporation, for the consideration, uses and purposes and on terms and conditions therein set forth.

And the said appearer, being by me first duly sworn, did depose and say that he is the _____ of said corporation and that he signed and executed said instrument in his said capacity, and under authority of the Board of Directors of said corporation.

Thus done and passed in the State and Parish aforesaid, on the day and date first hereinabove written, and in the presence of and _____, competent witnesses, who have hereunto subscribed their names as such, together with said appearer and me, said authority, after due reading of the whole.

WITNESSES:

_____

_____ _____ NOTARY PUBLIC

B. Payment Bond. A surety bond guaranteeing payment into a trust fund, as specified in LAC 33:V.3707.B or 3711.B or 4403.B or 4407.B, must be worded

as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted.

Response
Exide acknowledges this requirement and will comply.

FINANCIAL GUARANTEE BOND

Date bond executed: _____

Effective date: _____

Principal: [legal name and business address of owner or operator]

Type of organization: [insert "individual," "joint venture," "partnership," or "corporation"]

State of incorporation: _____

Surety(ies): [name(s) and business address(es)]

EPA Identification Number, name, address, and closure and/or post-closure amount(s) for each facility guaranteed by this bond [indicate closure and post-closure amounts separately]: _____

Total penal sum of bond: $_____

Surety's bond number: _____

Know All Persons By These Presents, That we, the Principal and Surety(ies) hereto are firmly bound to the Louisiana Department of Environmental Quality in the above penal sum for the payment of which we bind ourselves, our heirs, executors, a dministrators, s uccessors, a nd assigns jointly and severally; provided that, where the Surety(ies) are corporations acting as co-sureties, we the Sureties, bind ourselves in such sum "jointly and severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as is set forth opposite the name of such Surety, but if no limit of liability is indicated, the limit of liability shall be the full amount of the penal sum.

WHEREAS, said Principal is required, under the Resource Conservation and Recovery Act (RCRA) as amended and the Louisiana Environmental Quality Act, R.S. 30:2001 et seq., to have a permit in order to own or operate the hazardous waste management facility(ies) identified above; and
WHEREAS, the Principal is required by law to provide financial assurance for closure or closure and post-closure care, as a condition of the permit or interim status; and

WHEREAS, said Principal shall establish a standby trust fund as is required by LAC 33:V.Chapter 37 when a surety bond is used to provide such financial assurance;

NOW THEREFORE, the conditions of the obligation are such that if the Principal shall faithfully, before the beginning of final closure of the facility identified above, fund the standby trust fund in the amount(s) identified above for the facility,

OR, if the Principal shall fund the standby trust fund in such amount(s) within 15 days after a final order to begin final closure is issued by the Secretary, or a court of competent jurisdiction,

OR, if the Principal shall provide alternate financial assurance as specified in LAC 33:V.Chapter 37, and obtain written approval from the administrative authority of such assurance, within 90 days after the date notice of cancellation is received by both the Principal and the administrative authority from the Surety(ies), then this obligation shall be null and void; otherwise it is to remain in full force and effect.

The Surety(ies) shall become liable on this bond obligation only when the Principal has failed to fulfill the conditions described above. Upon notification by the administrative authority that the Principal has failed to perform as guaranteed by this bond, the Surety(ies) shall place funds in the amount guaranteed for the facility(ies) into the standby trust fund as directed by the administrative authority.

The Surety(ies) hereby waives notification of amendments to closure plans, permits, applicable laws, statutes, rules, and regulations, and agrees that no such amendment shall in any way alleviate its obligation on this bond.

The liability of the Surety(ies) shall not be discharged by any payment or succession of payments hereunder, unless and until such payment or payments shall amount in the aggregate to the penal sum of the bond, but in no event shall the obligation of the Surety(ies) hereunder exceed the amount of the penal sum.

The Surety(ies) may cancel the bond by sending notice of cancellation by certified mail to the Principal and to the administrative authority, provided, however, that cancellation shall not occur during the 120 days beginning on the date of receipt of notice of cancellation by the Principal and the administrative authority, as evidenced by the return receipts.

The Principal may terminate this bond by sending written notice to the Surety(ies) and to the administrative authority, provided, however, that no such notice shall become effective until the Surety(ies) receive(s) written authorization for termination of the bond by the administrative authority.

Principal and Surety(ies) hereby agree to adjust the penal sum of the bond yearly in accordance with LAC 33:V.Chapter 37, and the conditions of the

Hazardous Waste Facility permit so that it guarantees a new closure and/or post-closure amount, provided that the penal sum does not increase or decrease without the written permission of the administrative authority.

The Principal and Surety(ies) hereby agree that no portion of the penal sum may be expended without prior written approval of the administrative authority.

IN WITNESS WHEREOF, the Principal and the Surety have executed this FINANCIAL GUARANTEE BOND and have affixed their seals on the date set forth above.

Those persons whose signatures appear below hereby certify that they are authorized to execute this FINANCIAL GUARANTEE BOND on behalf of the Principal and Surety(ies), that each Surety hereto is authorized to do business in the State of Louisiana, and that the wording of this surety bond is identical to the wording specified in LAC 33:V.3719.B as such regulations were constituted on the date this bond was executed.

PRINCIPAL

[Signature(s)]_____
[Name(s)]_____
[Title(s)_____]
[Corporate Seal]

CORPORATE SURETIES

[Name and address]_____
State of incorporation: _____
Liability Limit: _____
[Signature(s)]_____
[Name(s) and title(s)]_____
[Corporate Seal]_____
[This information must be provided for each co-surety]
Bond Premium: $_____

C. Performance Bond. A surety bond guaranteeing performance of closure and/or post-closure care, as specified in LAC 33:V.3707.C or 3711.C must be worded as follows, except that the instructions in brackets are to be replaced with the relevant information and the brackets deleted.

Response
Exide acknowledges the requirements of this section and will comply.

PERFORMANCE BOND

Date bond executed: _____
Effective date: _____
Principal: [Legal name and business address of owner or operator]

Type of organization: [insert "individual," "joint venture," "partnership," or "corporation"]
State of incorporation: _____
Surety(ies): [Name(s) and business address(es)] _____
LHW/EPA Identification Number, name, address, and closure and/or post-closure amount(s) for each facility guaranteed by this bond [indicate closure and post-closure separately]: _____
_____
Total penal sum of bond: $ _____
Surety's bond number _____

Know All Persons By These Presents, That we, the Principal and Surety(ies) hereto are firmly bound to the Louisiana Department of Environmental Quality in the above penal sum for the payment of which we bind ourselves, our heirs, executors, a dministrators, s uccessors, a nd assigns jointly and severally; provided that, where the Surety(ies) are corporations acting as co-sureties, we, the Sureties, bind ourselves in such sum "jointly and severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as is set forth opposite the name of such Surety, but if no limit of liability is indicated, the limit of liability shall be the full amount of the penal sum.

WHEREAS, said Principal is required, under the Resource Conservation and Recovery Act as amended (RCRA) and the Louisiana Environmental Quality Act, R.S. 30:2001, et seq., to have a permit in order to own or operate the hazardous waste management facility(ies) identified above; and

WHEREAS, the Principal is required by law to provide financial assurance for closure and post-closure care, as a condition of the permit; and

WHEREAS, said Principal shall establish a standby trust fund as is required when a surety bond is used to provide such financial assurance;

NOW, T HEREFORE, t he conditions of this obligation are such that if the Principal shall faithfully perform closure, whenever required to do so, of the facility for which this bond guarantees closure, in accordance with the closure plan and other requirements of the permit as such plan and permit may be amended, pursuant to all applicable laws, statutes, rules, and regulations, as such laws, statutes, rules, and regulations may be amended;

AND, if the Principal shall faithfully perform post-closure care of each facility for which this bond guarantees post-closure care, in accordance with the post-closure plan and other requirements of the permit, as such plan and permit may be amended pursuant to all applicable laws, statutes, rules, and regulations, as such laws, statutes, rules, and regulations may be amended.

OR, if the Principal shall provide alternate financial assurance as specified in LAC 33:V.Chapter 37, and obtain the administrative authority's written approval of such assurance, within 90 days after the date notice of cancellation is

received by both the Principal and administrative authority, then this obligation shall be null and void; otherwise it is to remain in full force and effect.

The Surety shall become liable on this bond obligation only when the Principal has failed to fulfill the conditions described hereinabove.

Upon notification by the administrative authority that the Principal has been found in violation of the closure requirements of LAC 33:V.Chapter 37 or of its permit, for the facility for which this bond guarantees performances of closure, the Surety(ies) shall either perform closure in accordance with the closure plan and other permit requirements, or place the closure amount guaranteed for the facility into the standby trust fund as directed by the administrative authority.

Upon notification by the administrative authority that the Principal has been found in violation of the post-closure requirements of the Hazardous Waste Regulations or of its permit for the facility for which this bond guarantees performance of post-closure, the surety(ies) shall either perform post-closure in accordance with the post-closure plan and other permit requirements or place the post-closure amount guaranteed for the facility into the standby trust fund as directed by the administrative authority.

Upon notification by the administrative authority that the Principal has failed to provide alternate financial assurance as specified in LAC 33:V.Chapter 37, and obtain written approval of such assurance from the administrative authority during the 90 days following receipt by both the Principal and the administrative authority of a notice of cancellation of the bond, the Surety(ies) shall place funds in the amount guaranteed for the facility into the standby fund as directed by the administrative authority.

The Surety(ies) hereby waive(s) notification of amendments to closure plans, permits, applicable laws, statutes, rules, and regulations, and agree(s) that no such amendment shall in any way alleviate its obligation on this bond.

The liability of the Surety(ies) shall not be discharged by any payment on succession of payments hereunder, unless and until such payment or payments shall amount in the aggregate to the penal sum of the bond, but in no event shall the obligation of the Surety(ies) hereunder exceed the amount of the penal sum.

The Surety(ies) may cancel the bond by sending notice of cancellation by certified mail to the Principal and to the administrative authority, provided, however, that cancellation shall not occur during the 120 days beginning on the date of receipt of notice of cancellation by both the Principal and the administrative authority, as evidenced by the return receipts.

The Principal may terminate this bond by sending written notice to the Surety and to the administrative authority, provided, however, that no such notice shall become effective until the Surety(ies) receive(s) written authorization for termination of the bond by the administrative authority.

Principal and Surety(ies) hereby agree to adjust the penal sum of the bond yearly in accordance with LAC 33:V.Chapter 37, and the conditions of the Hazardous Waste Facility permit so that it guarantees a new closure and/or post-closure amount, provided that the penal sum does not increase or decrease without the written permission of the administrative authority.
The Principal and Surety(ies) hereby agree that no portion of the penal sum may be expended without prior written approval of the administrative authority.

IN WITNESS WHEREOF, the Principal and the Surety(ies) have executed this PERFORMANCE BOND and have affixed their seals on the date set forth above.

Those persons whose signatures appear below hereby certify that they are authorized to execute this surety bond on behalf of the Principal and Surety(ies), and that the wording of this surety bond is identical to the wording specified in LAC 33:V.3719.C as such regulation was constituted on the date this bond was executed.

PRINCIPAL

[Signature(s)]_____
[Name(s)]_____
[Title(s)]_____
[Corporate Seal]

CORPORATE SURETY(IES)

[Name and address]_____
State of incorporation: _____
Liability limit: $ _____
[Signature(s)]_____
[Name(s) and title(s)]_____
[Corporate Seal]

[For every co-surety, provide signature(s), corporate seal, and other information in the same manner as for Surety above.]
Bond premium: $ _____

D. **Letter of Credit. A letter of credit, as specified in LAC 33:V.3707.D or 3711.D or 4403.C or 4407.C must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted.**

Response
Exide acknowledges this requirement; however, this section regarding a letter of credit does not apply as Exide maintains a surety bond.

IRREVOCABLE STANDBY LETTER OF CREDIT

Secretary
Louisiana Department of Environmental Quality
P.O. Box 82231
Baton Rouge, LA 70884-2231
Dear [Sir or Madam]:

We hereby establish our Irrevocable Standby Letter of Credit Number ___in favor of the Department of Environmental Quality of the State of Louisiana at the request and for the account of [owner's or operator's name and address] up to the aggregate amount of U.S. dollars $_____upon presentation of:

1. a sight draft, bearing reference to the Letter of Credit Number__drawn by the Secretary or his or her designated representative, together with;

2. a statement signed by the Secretary or his or her designated representative, reading as follows:

"I certify that the amount of the draft is payable pursuant to regulations issued under authority of the Louisiana Environmental Quality Act, R.S. 30:2001, et seq."

This Letter of Credit is effective as of _____ , ____ , and shall expire on_____ , ___ [date at least one year later], but such expiration date will be automatically extended for a period of at least one year on the above expiration date [___, _____] and on each successive expiration date thereafter, unless, at least 120 days before the then current expiration date, we notify both you and [name of owner/operator] by certified mail that we have decided not to extend this Letter of Credit beyond the then current expiration date. In the event we give such notification, any unused portion of the credit shall be available upon presentation of your sight draft for 120 days after the date of receipt by both you and [name of owner/operator], as shown on the signed return receipts.

Whenever this Letter of Credit is drawn under and in compliance with the terms of this credit, we shall duly honor such draft upon presentation to us, and we shall deposit the amount of the draft directly into the standby trust fund of [name of owner/operator] in accordance with your instructions.

We certify that the wording of this Letter of Credit is identical to the wording specified in LAC 33:V.3719.D as such regulations were constituted on the date shown immediately below.
[Signature(s) and Titles of Official(s) of issuing institutions] [DATE]

This credit is subject to [insert "the most recent edition of the Uniform Customs and Practice for Documentary Credits, published and copyrighted by the International Chamber of Commerce," or "the Uniform Commercial Code"].

E. **A certificate of insurance, as specified in LAC 33:V.3707.E or 3711.E or 4403.D or 4407.D, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted.**

Response
Exide acknowledges this requirement and will comply.

CERTIFICATE OF INSURANCE FOR CLOSURE OR POST-CLOSURE CARE
Name and Address of Insurer
(herein called the "Insurer"): _____

Name and Address of Insured
(herein called the "Insured"): _____

Facilities Covered: [List for each facility: EPA Identification Number, name, address, and the amount of insurance for closure and/or the amount for post-closure care (these amounts for all facilities covered must total the face amount shown below).]

Face Amount: $ _____
Policy Number: _____
Effective Date: _____

The Insurer hereby certifies that it has issued to the Insured the policy of insurance identified above to provide financial assurance for [insert "closure" or "closure and post-closure care" or "post-closure care"] for the facilities identified above. The Insurer further warrants that such policy conforms in all respects with the requirements of LAC 33:V.3707.E, 3711.E, 4403.D, and 4407.D as applicable and as such regulations were constituted on the date shown immediately below. It is agreed that any provision of the policy inconsistent with such regulations is hereby amended to eliminate such inconsistency.

Whenever requested by the administrative authority, the Insurer agrees to furnish to the administrative authority a duplicate original of the policy listed above, including all endorsements thereon.

I hereby certify that the wording of this certificate is identical to the wording specified in LAC 33:V.3719.E as such regulations were constituted on the date shown immediately below and that Insurer is authorized to conduct insurance business in the State of Louisiana.

[Authorized signature for Insurer]
[Name of person signing][Title of person signing]
Signature of witness or notary: _____ [Date]

F. **Closure Guarantee. A letter from the chief financial officer, as specified in LAC 33:V:3707.F.3 or 3711.F.3 or 4403.E.3 or 4407.E.3 must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted.**

Response
Exide acknowledges the requirements of this section; however, this section does not apply as Exide maintains a surety bond and certificate of insurance.

LETTER FROM CHIEF FINANCIAL OFFICER

Secretary
Louisiana Department of Environmental Quality
P.O. Box 82231
Baton Rouge, LA 70884-2231

Dear [Sir or Madam]:

I am the chief financial officer of [name and address of firm]. This letter is in support of this firm's use of the financial test to demonstrate financial assurance for closure and/or post-closure costs, as specified in LAC 33:V.Chapter 37 and 43.
[Fill out the following five paragraphs. If there are no facilities that belong in a particular paragraph, write "None" in the space indicated. For each facility, include its EPA Identification Number, name, address, and current closure and/or post-closure cost estimates. Identify each cost as to whether it is for closure or post-closure.]

1. **This firm is the owner or operator of the following facilities for which financial assurance for closure or post-closure costs is being demonstrated through the financial test specified in LAC 33:V.Chapters 37 and 43. The current closure and/or post-closure cost estimates covered by the test are shown for each facility: _____.**

2. **This firm guarantees, through the guarantee specified in LAC 33:V.Chapters 37 and 43, financial assurance for closure or post-closure costs at the following facilities owned or operated by the guaranteed party. The current cost estimates for the closure or post-closure care so guaranteed are shown for each facility: _____. The firm identified above is [insert one or more: (1) the direct or higher-tier parent corporation of the owner or operator; (2) owned by the same parent corporation as the parent corporation of the owner or operator, and receiving the following value in consideration of this guarantee _____; or (3) engaged in the following substantial business relationship with the owner or operator _____, and receiving the following value in consideration of this guarantee [_____]. [Attach a written description of the business relationship or a copy of the contract establishing each relationship to this letter].**

3. **In states other than Louisiana, this firm, as owner or operator or guarantor, is demonstrating financial assurance for the closure or post-closure care of the following facilities through the use of a test equivalent or substantially equivalent to the financial test specified in LAC 33:V.Chapters 37 and 43. The current closure and/or post-closure cost estimates covered by such a test are shown for each facility: ___.**

4. This firm is the owner or operator of the following hazardous waste management facilities for which financial assurance for closure or, if a disposal facility, post-closure care, is not demonstrated either to the U.S. Environmental Protection Agency or to a state through the financial test or any other financial assurance mechanism specified in LAC 33:V.Chapters 37 and 43 or equivalent or substantially equivalent state mechanisms. The current closure and/or post-closure cost estimates not covered by such financial assurance are shown for each facility:_____.

5. This firm is the owner or operator or guarantor of the following UIC facilities for which financial assurance for plugging and abandonment is required under 40 CFR Part 144. The current closure cost estimates as required by 40 CFR 144.62 are shown for each facility: .

This firm [insert "is required" or "is not required"] to file a Form 10K with the Securities and Exchange Commission (SEC) for the latest fiscal year.

The fiscal year of this firm ends on [month, day]. The figures for the following items marked with an asterisk are derived from this firm's independently audited, year-end financial statements for the latest completed fiscal year, ended [date].

[Fill in Alternative I if the first criteria of LAC 33:V.3707.F.1 or 3711.F.1 or the first criteria of LAC 33:V.4403.E.1 or 4407.E.1 are used. Fill in Alternative II if the second criteria of LAC 33:V.3707.F.1 or 3711.F.1 or the second criteria of LAC 33:V.4403.E.1 or 4407.E.1 are used.]

ALTERNATIVE I

1. Sum of current closure and post-closure estimates [total of all cost estimates shown in the five paragraphs above]: $_____

*2. Total liabilities [if any portion of the closure or post-closure cost estimates is included in total liabilities, you may deduct the amount of that portion from this line and add that amount to lines 3 and 4]:$_____.

*3. Tangible net worth:$_____.

*4. Net worth:$_____.

5. Current assests:$_____.

*6. Current Liabilities:$_____

7. Net working capital [line 5 minus line 6]: $_____

*8. The sum of net income plus depreciation, depletion, and amortization:$_____

*9. Total assets in U.S. (required only if less than 90 percent of firm's assets are located in the U.S.):$_____

		YES	NO
10.	Is line 3 at least $10 million?	___	___
11.	Is line 3 at least six times line 1?	___	___
12.	Is line 7 at least six times line 1?	___	___
*13.	Are at least 90 percent of firm's assets located in the U.S.? If not, complete line 14.	___	___
14.	Is line 9 at least six times line 1?	___	___
15.	Is line 2 divided by line 4 less than 2.0?	____	____
16.	Is line 8 divided by line 2 greater than 0.1?	____	____
17.	Is line 5 divided by line 6 greater than 1.5?	___	___

ALTERNATIVE II

1. Sum of current closure and post-closure cost estimates [total of all cost estimates shown in the five paragraphs above] $_____

2. Current bond rating of most recent issuance of this firm and name of rating service: _____

3. Date of issuance of bond: _____

4. Date of maturity of bond: _____

*5. Tangible net worth [if any portion of the closure and post-closure cost estimate is included in "total liabilities" on your firm's financial statements, you may add the amount of that portion to this line]:
$ ____

*6. Total assets in U.S. [required only if less than 90 percent of firm's assets are located in the U.S.]: $ ____

		YES	NO
7.	Is line 5 at least $10 million?	___	___
*8.	Is line 5 greater than six times line 1?	___	___
*9.	Are at least 90 percent of firm's assets located in the U.S.? If not, complete line 10.	___	___

10. Is line 6 at least six times line 1? ___ ___

I hereby certify that the wording of this letter is identical to the wording specified in LAC 33:V.3719.F as such regulations were constituted on the date shown immediately below.

[Signature]_____

[Name]_____

[Title]_____

[Date]_____

G. Liability Coverage Guarantee. A letter from the chief financial officer, as specified in LAC 33:V.3715.F or 4411, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Response

Exide acknowledges this requirement; however, this section regarding liability coverage guarantee does not apply as Exide maintains a certificate of liability.

Secretary
Louisiana Department of Environmental Quality
P.O. Box 82231
Baton Rouge, LA 70884-2231

Dear [Sir or Madam]:

I am the chief financial officer of [firm's name and address]. This letter is in support of the use of the financial test to demonstrate financial responsibility for liability coverage [insert "and closure and/or post-closure care" if applicable] as specified in LAC 33:V.Chapter 37 or 43.

[Fill out the following paragraph regarding facilities and liability coverage. If there are no facilities that belong in a particular paragraph, write "none" in the space indicated. For each facility, include its EPA Identification Number, name, and address.]

The firm identified above is the owner or operator of the following facilities for which liability coverage for [insert "sudden" or "nonsudden" or "both sudden and nonsudden"] accidental occurrences is being demonstrated through the financial test specified in LAC 33:V.Chapter 37 or 43.

The firm identified above guarantees, through the guarantee specified in LAC 33:V.Chapter 37 or 43, liability coverage for [insert "sudden" or "nonsudden" or "both sudden and nonsudden"] accidental occurrences at the following facilities owned or operated by the following: _____. The firm identified above is [insert one or more: (1) the direct or higher-tier parent corporation of the owner or operator; (2) owned by the same parent corporation as the parent corporation of the owner or operator, and receiving the following value in consideration of this guarantee _____; or (3) engaged in the following substantial business relationship with the owner or

operator, and receiving the following value in consideration of this guarantee [_____]. [Attach a written description of the business relationship or a copy of the contract establishing such relationship to this letter].

[If you are using the financial test to demonstrate coverage of both liability and closure and post-closure care, fill in the following five paragraphs regarding facilities and associated closure and post-closure cost estimates. If there are no facilities that belong in a particular paragraph, write "none" in the space indicated. F or e ach f acility, i nclude i ts E PA I dentification N umber, name, address, and current closure and/or post-closure cost estimates. Identify each cost estimate as to whether it is for closure or post-closure care.]

1. The firm identified above owns or operates the following facilities for which financial assurance for closure or post-closure care or liability coverage is demonstrated through the financial test specified in LAC 33:V.Chapters 37 and 43. The current closure and/or post-closure cost estimates covered by the test are shown for each facility:

2. The firm identified above guarantees, through the guarantee specified in LAC 33:V.Chapters 37 and 43, the closure and post-closure care or liability coverage of the following facilities owned or operated by the guaranteed party. The current cost estimates for the closure or post-closure care so guaranteed are shown for each facility:_____

3. In states other than Louisiana, this firm is demonstrating financial assurance for the closure or post-closure care of the following facilities through the use of a test equivalent or substantially equivalent to the financial test specified in LAC 33:V.Chapters 37 and 43. The current closure and/or post-closure cost estimates covered by such a test are shown for each facility: _____

4. The firm identified above owns or operates the following hazardous waste management facilities for which financial assurance for closure or, if a disposal facility, post-closure care, is not demonstrated either to the U.S. Environmental Protection Agency or to a state through the financial test or any other financial a ssurance m echanism i n L AC 33:V.Chapters 37 and 43 or equivalent or substantially equivalent state mechanisms. The current closure and/or post-closure cost estimates not covered by such financial assurance are shown for each facility: _____

5. This firm is the owner or operator or guarantor of the following UIC facilities for which financial assurance for plugging and abandonment is required under the applicable regulations of the Louisiana Department of Natural Resources and is assured through a financial test. T he c urrent c losure c ost e stimates a s r equired b y L DNR a re shown for each facility: _____

This firm [insert "is required" or "is not required"] to file a Form 10K with the Securities and Exchange Commission (SEC) for the latest fiscal year.

The fiscal year of this firm ends on [month, day]. The figures for the following items marked with an asterisk are derived from this firm's independently audited, year-end financial s tatements f or t he l atest completed year, ended [date].

[Fill in Part A if you are using the financial test to demonstrate coverage only for the liability requirements under LAC 33:V.Chapters 37 and 43.]

PART A. LIABILITY COVERAGE FOR SUDDEN AND NONSUDDEN OCCURRENCES

[Fill in Alternative I if the first criteria of LAC 33:V.3707.F.1 or 4411.F.1 are used. Fill in Alternative II if the second criteria of LAC 33:V.3707.F.1 or 4411.F.1 or 4411.F.1are used.]

ALTERNATIVE I

1. Amount of annual aggregate liability coverage to be demonstrated: $ _____

*2. Current assets: $ ____

*3. Current liabilities: $ ____

*4. Net working capital (line 2 minus line 3):$ _____

*5. Tangible net worth: $ ____

*6. Total assets in the U.S. (required only if less than 90 percent of the firm's assets are located in the U.S.):$_____

		YES	NO
7.	Is line 5 at least $10 million?	___	___
*8.	Is line 4 at least six times line 1?	___	___
9.	Is line 5 at least six times line 1?	___	___
10.	Are at least 90 percent of assets located in the U.S.? If not, complete line 11.	___	___
11.	Is line 6 at least six times line 1?	___	___

ALTERNATIVE II

1. Amount of annual aggregate liability coverage to be demonstrated: $ _____

2. Current bond rating of most recent issuance and name of rating service: _____

3. Date of issuance of bond: _____

4. Date of maturity of bond: _____

*5. Tangible net worth: $_____

*6. Total assets in U.S. (required only if less than 90 percent of assets are located in the U.S.): $_____

		YES	NO
7.	Is line 5 at least $10 million?	___	___
*8.	Is line 5 at least six times line 1?	___	___
9.	Are at least 90 percent of assets located in the U.S.? If not, complete line 10.	___	___
10.	Is line 6 at least six times line 1?	___	___

[Fill in Part B if you are using the financial test to demonstrate assurance of both liability coverage and closure or post-closure care.]

PART B. CLOSURE OR POST-CLOSURE CARE AND LIABILITY COVERAGE

[Fill in Alternative I if the first criteria of LAC 33:V.3707.F.1, 3711.F.1, and 3715.F.1 or if the first criteria of LAC 33:V.4403.E.1 or 4407.E.1 and 4411.F.1 are used. Fill in Alternative II if the second criteria of LAC 33:V.3707.F.1, 3711.F.1, and 3715.F.1 or if the second criteria of LAC 33:V.4403.E.1 or 4407.E.1 and 4411.F.1 are used.]

ALTERNATIVE I

1. Sum of current closure and post-closure cost estimates (total of all cost estimates listed above): $_____

2. Amount of annual aggregate liability coverage to be demonstrated: $_____

3. Sum of lines 1 and 2: $_____

*4. Total liabilities (if any portion of your closure or post-closure cost estimates is included in your total liabilities, you may deduct that portion from this line and add that amount to lines 5 and 6): $_____

*5. Tangible net worth: $_____

*6. Net worth: $_____

*7. Current assets: $_____

*8. Current liabilities: $_____

9. Net working capital (line 7 minus line 8):$_____

10. The sum of net income plus depreciation, depletion, and amortization: $_____

*11. Total assets in the U.S. (required only if less than 90 percent of firm's assets are located in the U.S.): $_____

		YES	NO
12.	Is line 5 at least $10 million?	___	___
13.	Is line 5 at least six times line 3?	___	___
14.	Is line 9 at least six times line 3?	___	___
*15.	Are at least 90 percent of assets located in the U.S.? If not, complete line 16.	___	___
16.	Is line 11 at least six times line 3?	___	___
17.	Is line 4 divided by line 6 less than 2.0?	___	___
18.	Is line 10 divided by line 4 greater than 0.1?	___	___
19.	Is line 7 divided by line 8 greater than 1.5?	___	___

ALTERNATIVE II

1. Sum of current closure and post-closure cost estimates (total of all cost estimates listed above): $_____

2. Amount of annual aggregate liability coverage to be demonstrated: $ _____

3. Sum of lines 1 and 2: $_____

4. Current bond rating of most recent issuance and name of rating service: _____

5. Date of issuance of bond: _____

6. Date of maturity of bond: _____

*7. Tangible net worth (if any portion of the closure or post-closure cost estimates is included in "total liabilities" on your financial statements you may add that portion to this line):$__

*8. Total assets in the U.S. (required only if less than 90 percent of assets are located in the U.S.): $_____

		YES	NO
9.	Is line 7 at least $10 million?	___	___
*10.	Is line 7 at least six times line 3?	___	___
11.	Are at least 90 percent of assets located in the U.S.? If not, complete line 12.	___	___
12.	Is line 8 at least six times line 3?	___	___

I hereby certify that the wording of this letter is identical to the wording specified in LAC 33:V.3719.G as such regulations were constituted on the date shown immediately below.

[Signature]
[Name]
[Title]
[Date]

H. Corporate Guarantees

1. A corporate guarantee, as specified in LAC 33:V.3707.F or 3711.F or 4403.E or 4407.E must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the bracket deleted.

Response
Exide acknowledges this requirement; however, this section regarding corporate guarantees does not apply as Exide maintains a surety bond and certificate of insurance.

CORPORATE GUARANTEE FOR CLOSURE OR POST-CLOSURE CARE

Guarantee made this [date] by [name of guaranteeing entity], a business corporation organized under the laws of the State of [insert name of State], herein referred to as guarantor, to the Louisiana Department of Environmental Quality, obligee, on behalf of [owner or operator] of [business address], which is [one of the following: "our subsidiary"; "a subsidiary of (name and address of common parent corporation), of which guarantor is a subsidiary"; or "an entity with which guarantor has a substantial business relationship, as defined in LAC 33:V.3703.H or 4399"].

Recitals:

a. Guarantor meets or exceeds the financial test criteria and agrees to comply with the reporting requirements for guarantors as specified in LAC 33:V.3707.F, 3711.F, 4403.E, and 4407.E.

b. [Owner or operator] owns or operates the following hazardous waste management facility(ies) covered by this guarantee: [List for each facility: EPA Identification Number, name, and address. Indicate for each whether guarantee is for closure, post-closure care, or both.]

c. "Closure plans" and "post-closure plans" as used below refer to the plans maintained as required by LAC 33:V.Chapters 35 and 43 for the closure and post-closure care of facilities as identified above.

d. For value received from [owner or operator], guarantor guarantees to the Louisiana Department of Environmental Quality that in the event that [owner or operator] fails to perform [insert "closure," "post-closure care," or "closure and post-closure care"] of the above facility(ies) in accordance with the closure or post-closure plans and other permit or interim status requirements whenever required to do so, the guarantor shall do so or establish a trust fund as specified in LAC 33:V.Chapter 37 or 43, as applicable, in the name of [owner or operator] in the amount of the current closure or post-closure cost estimates as specified in LAC 33:V.Chapter 37 or 43.

e. Guarantor agrees that if, at the end of any fiscal year before termination of this guarantee, the guarantor fails to meet the financial test criteria, guarantor shall send within 90 days, by certified mail, notice to the administrative authority and to [owner or operator] that he intends to provide alternative financial assurance as specified in LAC 33:V.Chapter 37 or 43, as applicable, in the name of [owner or operator]. Within 120 days after the end of such fiscal year, the guarantor shall establish such financial assurance unless [owner or operator] has done so.

f. The guarantor agrees to notify the administrative authority by certified mail, of a voluntary or involuntary proceeding under Title 11 (bankruptcy), U.S. Code, naming guarantor as debtor, within 10 days after commencement of the proceeding.

g. Guarantor agrees that within 30 days after being notified by the administrative authority of a determination that guarantor no longer meets the financial test criteria or that he is disallowed from continuing as a guarantor of closure or post-closure care, he shall establish alternate financial assurance as specified in

LAC 33:V.Chapter 37 or 43, as applicable, in the name of [owner or operator] unless [owner or operator] has done so.

h. Guarantor agrees to remain bound under this guarantee notwithstanding any or all of the following: amendment or modification of the closure or post-closure plan, amendment or modification of the permit, the extension or reduction of the time of performance of closure or post-closure, or any other modification or alteration of an obligation of the owner or operator pursuant to LAC 33:V.Chapter 37 or 43.

i. Guarantor agrees to remain bound under this guarantee for so long as [owner or operator] must comply with the applicable financial assurance requirements of LAC 33:V.Chapter 37 or 43 for the above-listed facilities, except as provided in this Paragraph of this agreement. [Insert the following language if the guarantor is a direct or higher-tier corporate parent, or a firm whose parent corporation is also the parent corporation of the owner or operator]: Guarantor may cancel this guarantee by sending notice by certified mail to the administrative authority and to [owner or operator], provided that this guarantee may not be canceled unless and until [the owner or operator] obtains, and the administrative authority approve(s), alternate closure and/or post-closure care coverage complying with LAC 33:V.3707, 3711, 4403, and 4407.

[Insert the following language if the guarantor is a firm qualifying as a guarantor due to its "substantial business relationship" with its owner or operator]:

Guarantor may cancel this guarantee 120 days following the receipt of notification, through certified mail, by the administrative authority, and by the owner or operator.

j. Guarantor agrees that if [owner or operator] fails to provide alternate financial assurance as specified in LAC 33:V.Chapter 37 or 43, as applicable, and obtain written approval of such assurance from the administrative authority within 90 days after a notice of cancellation by the guarantor is received by the administrative authority from guarantor, guarantor shall provide such alternative financial assurance in the name of [owner or operator].

k. Guarantor expressly waives notice of acceptance of this guarantee by the administrative authority or by [owner or operator]. Guarantor also expressly waives notice of amendments or modifications of the closure and/or post-closure plan and of amendments or modifications of the facility permit(s).

I hereby certify that the wording of this guarantee is identical to the wording specified in LAC 33:V.3719.H.1 as such regulations were constituted on the date first above written.

Effective dates: _____
[Name of guarantor]
[Authorized signature for guarantor]
[Name of person signing]
[Title of person signing]
Thus sworn and signed before me on this the ____ day of _____, 20____.
Notary Public

2. A guarantee, as specified in LAC 33:V.3715.G or 4411.G, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted.

GUARANTEE FOR LIABILITY COVERAGE

Guarantee made this [date] by [name of guaranteeing entity], a business corporation organized under the laws of [if incorporated within the United States insert "the State of ___" and insert name of state; if incorporated outside the United States insert the name of the country in which incorporated, the principal place of business within the United States, and the name and address of the registered agent in the s tate o f the principal place of business], herein referred to as guarantor. This guarantee is made on behalf of [owner or operator] of [business address], which is [one of the following: "our subsidiary"; "a subsidiary of (name and address of common parent corporation), of which guarantor is a subsidiary"; or "an entity with which guarantor has a substantial business relationship, as defined in LAC 33:V.3703 or 4399"], to any and all third parties who have sustained or may sustain bodily injury or property damage caused by [sudden and/or non-sudden] accidental occurrences arising from operation of the facility(ies) covered by this guarantee.

Recitals

a. Guarantor meets or exceeds the financial test criteria and agrees to comply with the reporting requirements for guarantors as specified in LAC 33:V.3715.G and 4411.G.

b. [Owner or operator] owns or operates the following hazardous waste management facility(ies) covered by this guarantee: [List for each facility: EPA identification number, name, and address; and if guarantor is incorporated outside the United States list the name and address of the guarantor's registered agent in each state and in Louisiana.] This corporate guarantee satisfies RCRA third-party liability requirements for [insert "sudden" or "non-sudden" or "both sudden and non-sudden"] accidental

occurrences in above-named owner or operator facilities for coverage in the amount of [insert dollar amount] for each occurrence and [insert dollar amount] annual aggregate.

c. For value received from [owner or operator], guarantor guarantees to any and all third parties who have sustained or may sustain bodily injury or property damage caused by [sudden and/or nonsudden] accidental occurrences arising from operations of the facility(ies) covered by this guarantee that in the event that [owner or operator] fails to satisfy a judgment or award based on a determination of liability for bodily injury or property damage to third parties caused by [sudden and/or nonsudden] accidental occurrences, arising from the operation of the above-named facilities, or fails to pay an amount agreed to in settlement of a claim arising from or alleged to arise from such injury or damage, the guarantor will satisfy such judgment(s), award(s), or settlement agreement(s) up to the limits of coverage identified above.

d. Exclusions. This guarantee does not apply to:

i. Bodily injury or property damage for which [insert owner or operator] is obligated to pay damages by reason of the assumption of liability in a contract or agreement. This exclusion does not apply to liability for damages that [insert owner or operator] would be obligated to pay in the absence of the contract or agreement.

ii. Any obligation of the owner or operator under a workers' compensation, disability benefits, or unemployment compensation law or any similar law.

iii. Bodily injury to:

(a) an employee of [insert owner or operator] arising from, and in the course of, employment by [insert owner or operator]; or

(b) the spouse, child, parent, brother, or sister of that employee as a consequence of, or arising from, and in the course of, employment by [insert owner or operator].

This exclusion applies:

(i) whether [insert owner or operator] may be liable as an employer or in any other capacity; and

(ii) to any obligation to share damages with or repay another person who must pay damages because of the injury to persons identified in Subclauses (a) and (b).

iv. Bodily injury or property damage arising out of the ownership, maintenance, use, or entrustment to others of any aircraft, motor vehicle, or watercraft.

v. Property damage to:

(a) any property owned, rented, or occupied by [insert owner or operator];

(b) premises that are sold, given away, or abandoned by [insert owner or operator] if the property damage arises out of any part of those premises;

(c) property loaned to [insert owner or operator];

(d) personal property in the care, custody, or control of [insert owner or operator];

(e) that particular part of real property on which [insert owner or operator] or any contractors or subcontractors working directly or indirectly on behalf of [insert owner or operator] are performing operations, if the property damage arises out of these operations.

e. Guarantor agrees that if, at the end of any fiscal year before termination of this guarantee, the guarantor fails to meet the financial test criteria, guarantor shall send within 90 days, by certified mail, notice to the administrative authority and to [owner or operator] that he intends to provide alternate liability coverage as specified in LAC 33:V.3715 and 4411, as applicable, in the name of [owner or operator]. Within 120 days after the end of such fiscal year, the guarantor shall establish such liability coverage unless [owner or operator] has done so.

f. The guarantor agrees to notify the administrative authority by certified mail of a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code, naming guarantor as debtor, within 10 days after commencement of the proceeding.

g. Guarantor agrees that within 30 days after being notified by the administrative authority of a determination that

guarantor no longer meets the financial test criteria or that he is disallowed from continuing as a guarantor, he shall establish alternate liability coverage as specified in LAC 33:V.3715 or 4411 in the name of [owner or operator], unless [owner or operator] has done so.

h. Guarantor reserves the right to modify this agreement to take into account amendment or modification of the liability r equirements set by LAC:33:V.3715 and 4411, provided that such modification shall become effective only if the administrative authority does not disapprove the modification within 30 days of receipt of notification of the modification.

i. Guarantor agrees to remain bound under this guarantee for so long as [owner or operator] must comply with the applicable requirements of LAC 33:V.3715 and 4411 for the above-listed facility(ies), except as provided in Subparagraph j of this agreement.

j. [Insert the following language if the guarantor is a direct or higher-tier corporate parent, or a firm whose parent corporation is also the parent corporation of the owner or operator]:

Guarantor may terminate this guarantee by sending notice by certified mail to the administrative authority and to [owner or operator], provided that this guarantee may not be terminated unless and until the [owner or operator] obtains, and the administrative authority approves, alternate liability coverage complying with LAC 33:V.3715 and/or 4411.

[Insert the following language if the guarantor is a firm qualifying as a guarantor due to its "substantial business relationship" with the owner or operator]:

Guarantor may terminate this guarantee 120 days following receipt of notification, through certified mail, by the administrative authority and by [the owner or operator].

k. Guarantor hereby expressly waives notice of acceptance of this guarantee by any party.

l. Guarantor agrees that this guarantee is in addition to and does not affect any other responsibility or liability of the guarantor with respect to the covered facilities.

m. The Guarantor shall satisfy a third-party liability claim only on receipt of one of the following documents.

i. Certification from the Principal and the third-party claimant(s) that the liability claim should be paid. The certification must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

CERTIFICATION OF VALID CLAIM

The undersigned, as parties [insert Principal] and [insert name and address of third-party claimant(s)], hereby certify that the claim of bodily injury and/or property damage caused by a [sudden or non-sudden] accidental occurrence arising from operating [Principal's] hazardous waste treatment, storage, or disposal facility should be paid in the amount of $[ ].

[Signatures]
Principal
[Notary] [Date]
[Signatures]
Claimant(s)
[Notary] [Date]

ii. A valid final court order establishing a judgement against the Principal for bodily injury or property damage caused by sudden or non-sudden accidental occurrences arising from the operation of the Principal's facility or group of facilities.

n. In the event of combination of this guarantee with another mechanism to meet liability requirements, this guarantee will be considered [insert "primary" or "excess"] coverage.

I hereby certify that the wording of this guarantee is identical to the wording specified in LAC 33:V.3719.H.2 as such regulations were constituted on the date shown immediately below.

[Name of guarantor]

[Authorized signature of guarantor]

[Name of person signing]

[Title of person signing]

[Signature of witness or notary]

I. Liability Endorsement

1. A hazardous waste facility liability endorsement as required in LAC 33:V.3715 or 4411 must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Response
Exide acknowledges this requirement; however, this section regarding liability endorsement does not apply as Exide maintains a certificate of insurance.

HAZARDOUS WASTE FACILITY
LIABILITY ENDORSEMENT

a. This endorsement certifies that the policy to which the endorsement is attached provides liability insurance covering bodily injury and property damage in connection with the insured's obligation to demonstrate financial responsibility under LAC 33:V.3715.F or 4411. The coverage applies to [EPA Identification Number, name, and address for each facility] for [insert "sudden accidental occurrences," "non-sudden accidental occurrences," or "sudden and non-sudden accidental occurrences"; if coverage is for multiple facilities and the coverage is different for different facilities, indicate which facilities are insured for sudden accidental occurrences, which are insured for non-sudden accidental occurrences, and which are insured for both]. The limits of liability are [insert the dollar amount of the "each occurrence" and "annual aggregate" limits of the Insurer's liability], exclusive of legal defense costs.

b. The insurance afforded with respect to such occurrences is subject to all of the terms and conditions of the policy; provided, however, that any provisions of the policy inconsistent with Clauses i-v of this Subparagraph are hereby amended to conform with Clauses i-v.

i. Bankruptcy or insolvency of the Insured shall not relieve the insurer of its obligations under the policy to which this endorsement is attached.

ii. The insurer is liable for the payment of amounts within any deductible applicable to the policy, with a right of reimbursement by the Insured for any such payment made by the Insurer. This provision does not apply with respect to that amount of any deductible for which coverage is demonstrated as specified in LAC 33:V.3715.F or 4411.

iii. Whenever requested by the administrative authority, the Insurer agrees to furnish to the administrative authority a signed duplicate original of the policy and all endorsements.

iv. Cancellation of this endorsement, whether by the Insurer, the insured, a parent corporation providing insurance coverage for its subsidiary, or by a firm having an insurable interest in and obtaining liability insurance on behalf of the owner or operator of the hazardous waste management facility, will be effective only upon written notice and only after the expiration of 60 days after a copy of such written notice is received by the administrative authority.

v. Any other termination of this endorsement will be effective only upon written notice and only after the expiration o f thirty days after a copy of such written notice is received by the administrative authority.

2. Attached to and forming part of policy Number _____ issued by [name of Insurer], herein called the Insurer, of [address of Insurer] to [name of Insured] of [address] this ____day of _____, 20_.

3. I hereby certify that the wording of this endorsement is identical to the wording specified in LAC 33:V.3719.I as such regulation was constituted on the date first above written, and that the Insurer is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more states, and is authorized to conduct business in the State of Louisiana.

[Signature of Authorized Representative of Insurer]
[Type name]
[Title, Authorized Representative of [Name of Insurer]]
[Address of Representative]

J. Certificate of Liability Insurance. A certificate of liability insurance as required in LAC 33:V.3715 or 4411 must be worded as follows, except that the instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Response
Exide acknowledges this requirement and will comply.

HAZARDOUS WASTE FACILITY CERTIFICATE OF LIABILITY INSURANCE

1. [Name of Insurer], (the "Insurer") of [address of Insurer] hereby certifies that it has issued liability insurance covering bodily injury and property damage to [name of insured], (the "insured"), of [address of insured] in

connection with the insured's obligation to demonstrate financial responsibility under LAC 33:V.3715 or 4411. The coverage applies at [list EPA identification number, name, and address for each facility] for [insert "sudden accidental occurrences," "non-sudden accidental occurrences," or "sudden and non-sudden accidental occurrences"; if coverage is for multiple facilities and the coverage is different for different facilities, indicate which facilities are insured for sudden accidental occurrences, which are insured for non-sudden accidental occurrences, and which are insured for both]. The limits of liability are [insert the dollar amount of "each occurrence" and "annual aggregate" limits of the Insurer's liability], exclusive of legal defense costs. The coverage is provided under policy number _____, issued on [date]. The effective date of said policy is [date].

2. The insurer further certifies the following with respect to the insurance described in Paragraph 1.

   a. Bankruptcy or insolvency of the insured shall not relieve the insurer of its obligation under the policy.

   b. The insurer is liable for the payment of amounts within any deductible applicable to the policy, with a right of reimbursement by the insured for any such payment made by the insurer. This provision does not apply with respect to that amount of any deductible for which coverage is demonstrated as specified in LAC 33:V.3715.F or 4411.

   c. Whenever requested by the administrative authority, the insurer agrees to furnish to the administrative authority a signed duplicate original of the policy and all endorsements.

   d. Cancellation of the insurance, whether by the insurer, the insured, a parent corporation providing insurance coverage for its subsidiary, or by a firm having an insurable interest in and obtaining liability insurance on behalf of the owner or operator of the hazardous waste management facility, will be effective only upon written notice and only after the expiration of 60 days after a copy of such written notice is received by the administrative authority.

   e. Any other termination of the insurance will be effective only upon written notice and only after the expiration of 30 days after a copy of such written notice is received by the administrative authority.

   I hereby certify that the wording of this instrument is identical to the wording specified in LAC 33:V.3719.J as such regulation was constituted on the date this certificate was issued, as indicated below, and that the insurer is licensed to transact the business of insurance, or eligible to provide insurance as an

excess of surplus lines insurer, in one or more states, and is authorized to conduct insurance business in the state of Louisiana.

[Signature of authorized representative of Insurer]
[Type name]
[Title], Authorized Representative of [Name of Insurer]
[Address of Representative]
DATE OF ISSUANCE: _____.

K. Letter of Credit. A letter of credit, as specified in LAC 33:V.3715 or 4411, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted.

Response
Exide acknowledges this requirement; however, this section regarding letter of credit does not apply as Exide maintains a surety bond and insurance certificate.

IRREVOCABLE STANDBY LETTER OF CREDIT

Secretary
Louisiana Department of Environmental Quality
P.O. Box 82231
Baton Rouge, Louisiana 70884-2231

Dear Sir or Madam:

We hereby establish our Irrevocable Standby Letter of Credit Number_____ _____in the favor of ["any and all third-party liability claimants" or insert name of trustee of the standby trust fund], at the request and for the account of [owner or operator's name and address] for third-party liability awards or settlements up to [in words] U.S. dollars $_____ per occurrence and the annual aggregate amount of [in words] U.S. dollars, for sudden accidental occurrences and/or for third-party liability awards or settlements up to the amount of [in words] U.S. dollars $_____ per occurrence, and the annual aggregate amount o f [in w ords] U .S. d ollars $_____ for nonsudden accidental occurrences available upon presentation of a sight draft bearing reference to this Letter of Credit Number_____, and [insert the following language if the letter of credit is being used without a standby trust fund:]

1. A signed certificate reading as follows:
CERTIFICATE OF VALID CLAIM

The undersigned, as parties [insert principal] and [insert name and address of third-party claimant(s)], hereby certify that the claim of bodily injury and/or property damage caused by a [sudden or non-sudden] accidental occurrence arising from operations of [principal's] hazardous waste treatment, storage, or disposal facility should be paid

in the amount of $_____. We hereby certify that the claim does not apply to any of the following:

a. Bodily injury or property damage for which [insert principal] is obligated to pay damages by reason of the assumption of liability in a contract or agreement. This exclusion does not apply to liability for damages that [insert principal] would be obligated to pay in the absence of the contract or agreement.

b. Any obligation of [insert principal] under a workers' compensation, disability benefits, or unemployment compensation law or any similar law.

c. Bodily injury to:

   i. an employee of [insert principal] arising from, and in the course of, employment by [insert principal]; or

   ii. the spouse, child, parent, brother, or sister of that employee as a consequence of, or arising from, and in the course of employment by [insert principal].

   This exclusion applies:

   (a) whether [insert principal] may be liable as an employer or in any other capacity; and

   (b) to any obligation to share damages with or repay another person who must pay damages because of the injury to persons identified in Clause K.1.c.i or ii of this Section.

d. Bodily injury or property damage arising out of the ownership, maintenance, use, or entrustment to others of any aircraft, motor vehicle, or watercraft.

e. Property damage to:

   i. any property owned, rented, or occupied by [insert principal];

   iii. premises that are sold, given away, or abandoned by [insert principal] if the property damage arises out of any part of those premises;

   iii. property loaned to [insert principal];

   iv. personal property in the care, custody, or control of [insert principal];

v. that particular part of real property on which [insert principal] or any contractors or subcontractors working directly or indirectly on behalf of [insert principal] are performing operations, if the property damage arises out of these operations.

[Signatures]
Grantor
[Signatures]
Claimant(s)

2. Or, as an alternative to the Certificate of Valid Claim, a valid final court order establishing a judgment against the Grantor for bodily injury or property damage caused by sudden or nonsudden accidental occurrences arising from the operation of the Grantor's facility or group of facilities.

This Letter of Credit is effective as of [date] and shall expire on [date at least one year later], but such expiration date shall be automatically extended for a period of [at least one year] on [date] and on each successive expiration date, unless, at least 120 days before the current expiration date, we notify you, the administrative authority, and [owner's or operator's name] by certified mail that we have decided not to extend this letter of credit beyond the current expiration date.

Whenever this Letter of Credit is drawn on under and in compliance with the terms of this credit, we shall duly honor such draft upon presentation to us.

Insert the following language if a standby trust fund is not being used: "In the event that this letter of credit is used in combination with another mechanism for liability coverage, this letter of credit shall be considered [insert "primary" or "excess" coverage]."

We certify that the wording of this letter of credit is identical to the wording specified in LAC 33:V.3719.K as such regulations were constituted on the date shown immediately below.

[Signature(s) and title(s) of official(s) of issuing institution [Date]]

This credit is subject to [insert "the most recent edition of the Uniform Customs and Practice for Documentary Credits published and copyrighted by the International Chamber of Commerce" or "the Uniform Commercial Code"].

L. Surety Bond. A surety bond, as specified in LAC 33:V.3715 or 4411, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted.

Response
Exide acknowledges this section and will comply.

PAYMENT BOND

Surety Bond Number [insert number]

Parties [insert name and address of owner or operator], Principal, incorporated in [insert state of incorporation] of [insert city and state of principal place of business], and [insert name and address of Surety Company(ies)], surety company(ies), of [insert surety(ies) place of business].

EPA identification number, name, and address for each facility guaranteed by this bond:

Sudden AccidentalNon-sudden Accidental OccurrencesOccurrences

Penal Sum per Occurrence	**[insert amount]**
Annual Aggregate	**[insert amount]**

Purpose: This is an agreement between the surety(ies) and the Principal under which the Surety(ies), its (their) successors and assignees, agree to be responsible for the payment of claims against the principal for bodily injury and/or property damage to third parties caused by ["sudden" and/or "non-sudden"] accidental occurrences arising from operations of the facility or group of facilities in the sums prescribed herein, subject to the governing provisions and the following conditions.

1. **Governing Provisions**

   a. **Section 3004 of the Resource Conservation and Recovery Act of 1976, as amended.**

   b. **Rules and regulations of the U.S. Environmental Protection Agency (EPA), particularly 40 CFR 264.147 or 265.147 (if applicable).**

   c. **Rules and regulations of the Louisiana Department of Environmental Quality, particularly LAC 33:V.3715 and 4411, as applicable.**

2. **Conditions**

   a. **The Principal is subject to the applicable governing provisions that require the Principal to have and maintain liability coverage for bodily injury and property damage to third parties caused by ["sudden" and/or "non-sudden"] accidental occurrences arising from operations of the facility or group of facilities. Such obligation does not apply to any of the following:**

i. Bodily injury or property damage for which [insert principal] is obligated to pay damages by reason of the assumption of liability in a contract or agreement. This exclusion does not apply to liability for damages that [insert principal] would be obligated to pay in the absence of the contract or agreement.

ii. Any obligation of [insert principal] under a workers' compensation, disability benefits, or unemployment compensation law or similar law.

iii. Bodily injury to:

(a) an employee of [insert principal] arising from, and in the course of, employment by [insert principal]; or

(b) the spouse, child, parent, brother, or sister of that employee as a consequence of, or arising from, and in the course of employment by [insert principal]. This exclusion applies:

(i) whether [insert principal] may be liable as an employer or in any other capacity; and

(ii) to any obligation to share damages with or repay another person who must pay damages because of the injury to persons identified in Subclauses (a) and (b) above.

iv. Bodily injury or property damage arising out of the ownership, maintenance, use, or entrustment to others of any aircraft, motor vehicle, or watercraft.

v. Property damage to:

(a) any property owned, rented, or occupied by [insert principal];

(b) premises that are sold, given away, or abandoned by [insert Principal] if the property damage arises out of any part of those premises;

(c) property loaned to [insert Principal];

(d) personal property in the care, custody, or control of [insert Principal];

(e) that particular part of real property on which [insert principal] or any contractors or subcontractors working directly or indirectly on behalf of [insert principal] are performing operations, if the property damage arises out of these operations.

b. This bond assures that the Principal will satisfy valid third-party liability claims, as described in Condition A.

c. If the Principal fails to satisfy a valid third-party liability claim, as described above, the Surety(ies) become(s) liable on this bond obligation.

d. The Surety(ies) shall satisfy a third-party liability claim only upon the receipt of one of the following documents.

i. Certification from the Principal and the third-party claimant(s) that the liability claim should be paid. The certification must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

CERTIFICATION OF VALID CLAIM

The undersigned, as parties [insert name of Principal] and [insert name and address of third-party claimant(s)], hereby certify that the claim of bodily injury and/or property damage caused by a [sudden or non-sudden] accidental occurrence arising from operating [Principal's] hazardous waste treatment, storage, or disposal facility should be paid in the amount of $[ ].

[Signature]
Principal
[Notary] [Date]
[Signature(s)]
Claimant(s)
[Notary] [Date]

ii. A valid final court order establishing a judgement against the Principal for bodily injury or property damage caused by sudden or non-sudden accidental occurrences arising from the operation of the Principal's facility or group of facilities.

e. In the event of combination of this bond with another mechanism for liability coverage, this bond will be considered [insert "primary" or "excess"] coverage.

f. The liability of the Surety(ies) shall not be discharged by any payment or succession of payments hereunder, unless and until such payment or payments shall amount in the aggregate to the penal sum of the bond. In no event shall the obligation of the Surety(ies) hereunder exceed the amount of said annual aggregate penal sum, provided that the Surety(ies) furnish(es) notice to the administrative authority forthwith of all claims filed and payments made by the Surety(ies) under this bond.

g. The Surety(ies) may cancel the bond by sending notice of cancellation by certified mail to the Principal and the administrative authority, provided, however, that cancellation shall not occur during the 120 days beginning on the date of receipt of the notice of cancellation by the Principal and the administrative authority, as evidenced by the return receipt.

h. The Principal may terminate this bond by sending written notice to the Surety(ies) and to the administrative authority.

i. The Surety(ies) hereby waive(s) notification of amendments to applicable laws, statutes, rules, and regulations and agree(s) that no such amendment shall in any way alleviate its (their) obligation on this bond.

j. This bond is effective from [insert date] (12:01 a.m., standard time, at the address of the Principal as stated herein) and shall continue in force until terminated as described above.

In Witness Whereof, the Principal and Surety(ies) have executed this Bond and have affixed their seals on the date set forth above.

The persons whose signatures appear below hereby certify that they are authorized to execute this surety bond on behalf of the Principal and Surety(ies) and that the wording of this surety bond is identical to the wording specified in LAC 33:V.3719, as such regulations were constituted on the date this bond was executed.

PRINCIPAL
[Signature(s)]
[Name(s)]
[Title(s)]
[Corporate Seal]
CORPORATE SURETY[IES]
[Name and address]
State of incorporation:
Liability Limit: $
[Signature(s)]
[Name(s) and title(s)]

[Corporate seal]
[For every co-surety, provide signature(s), corporate seal, and other information in the same manner as for surety above.]
Bond premium: $

M. Trust Agreement

1. A trust agreement, as specified in LAC 33:V.3715 and 4411, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted.

Response
Exide acknowledges this requirement; however, this section regarding trust agreements does not apply as Exide maintains a surety bond.

TRUST AGREEMENT

Trust Agreement, the "Agreement," entered into as of [date] by and between [name of the owner or operator] a [name of state] [insert "corporation," "partnership," "association," or "proprietorship"], the "Grantor," and [name of corporate trustee], [insert, "incorporated in the state of _____ " or "a national bank"], the "Trustee."

WHEREAS, the United States Environmental Protection Agency, "EPA," an agency of the United States Government, has established certain regulations applicable to the Grantor, requiring that an owner or operator of a hazardous waste management facility or group of facilities must demonstrate financial responsibility for bodily injury and property damage to third parties caused by sudden accidental and/or nonsudden accidental occurrences arising from operations of the facility or group of facilities.

WHEREAS, the Grantor has elected to establish a trust to assure all or part of such financial responsibility for the facilities identified herein.

WHEREAS, the Grantor, acting through its duly authorized officers, has selected the Trustee to be the trustee under this Agreement, and the Trustee is willing to act as trustee.

NOW, THEREFORE, the Grantor and the Trustee agree as follows:

Section 1. Definitions. As used in this Agreement:

a. The term "Grantor" means the owner or operator who enters into this Agreement and any successors or assigns of the Grantor.

b. The term "Trustee" means the Trustee who enters into this Agreement and any successor Trustee.

Section 2. Identification of Facilities

This agreement pertains to the facilities identified on attached Schedule A [on Schedule A, for each facility list the EPA Identification Number, name, and address of the facility(ies) and the amount of liability coverage, or portions thereof, if more than one instrument affords combined coverage as demonstrated by this Agreement].

Section 3. Establishment of Fund

The Grantor and the Trustee hereby establish a trust fund, hereinafter the "Fund," for the benefit of any and all third parties injured or damaged by [sudden and/or nonsudden] accidental occurrences arising from operation of the facility(ies) covered by this guarantee, in the amounts of _____[up to $5 million] per occurrence and ____ [up to $10 million] annual aggregate for sudden accidental occurrences, exclusive of legal defense costs and _____ [up to $3 million] per occurrence and _____ [up to $6 million] annual aggregate for nonsudden occurrences exclusive of legal defense costs, except that the F und i s n ot e stablished f or t he benefit of third parties for the following:

a. Bodily injury or property damage for which [insert Grantor] is obligated to pay damages by reason of the assumption of liability in a contract or agreement. This exclusion does not apply to liability for damages that [insert Grantor] would be obligated to pay in the absence of the contract or agreement.

b. Any obligation of [insert Grantor] under a workers' compensation, disability benefits, or unemployment compensation law or any similar law.

c. Bodily injury to:

   i. an employee of [insert Grantor] arising from, and in the course of, employment by [insert Grantor]; or

   ii. the spouse, child, parent, brother, or sister of that employee as a consequence of, or arising from, and in the course of employment by [insert Grantor].

   This exclusion applies:

   (a) whether [insert Grantor] may be liable as an employer or in any other capacity; and

   (b) to any obligation to share damages with or repay another person who must pay damages because of the injury to persons identified in Clauses i and ii above.

d. Bodily injury or property damage arising out of the ownership, maintenance, use, or entrustment to others of any aircraft, motor vehicle, or watercraft.

e. Property damage to:

i. any property owned, rented, or occupied by [insert Grantor];

ii. premises that are sold, given away, or abandoned by [insert Grantor] if the property damage arises out of any part of those premises;

iii. property loaned to [insert Grantor];

iv. personal property in the care, custody, or control of [insert Grantor];

vi. that particular part of real property on which [insert Grantor] or any contractors or subcontractors working directly or indirectly on behalf of [insert Grantor] are performing operations, if the property damage arises out of these operations.

In the event of combination with another mechanism for liability coverage, the fund shall be considered [insert "primary" or "excess"] coverage.

The F und is established initially as consisting of the property, which is acceptable to the Trustee, described in Schedule B attached hereto. Such property and any other property subsequently transferred to the Trustee is referred to as the Fund, together with all earnings and profits thereon, less any payments or distributions made by the Trustee pursuant to this Agreement. The Fund shall be held by the Trustee, IN TRUST as hereinafter provided. The Trustee shall not be responsible nor shall it undertake any responsibility for the amount or adequacy of, nor any duty to collect from the Grantor, any payments necessary to discharge any liabilities of the Grantor established by EPA.

Section 4. Payment for Bodily Injury or Property Damage

The Trustee shall satisfy a third-party liability claim by making payments from the Fund only upon receipt of one of the following documents.

a. Certification from the Grantor and the third-party claimant(s) that the liability claim should be paid. The certification must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

CERTIFICATION OF VALID CLAIM
The undersigned, as parties [insert Grantor] and [insert name and address of third-party claimant(s)], hereby certify that the claim of bodily injury and/or property damage caused by a [sudden or non-sudden] accidental occurrence arising from operating [Grantor's] hazardous waste treatment, storage, or disposal facility should be paid in the amount of $[ ].

[Signatures]
Grantor
[Signatures]
Claimant(s)

b. A valid final court order establishing a judgement against the Grantor for bodily injury or property damage caused by sudden or non-sudden accidental occurrences arising from the operation of the Grantor's facility or group of facilities.

Section 5. Payments Comprising the Fund.

Payments made to the Trustee for the Fund shall consist of cash or securities acceptable to the Trustee.

Section 6. Trustee Management

The Trustee shall invest and reinvest the principal and income, in accordance with general investment policies and guidelines which the Grantor may communicate in writing to the Trustee from time to time, subject; however, to the provisions of this Section. In investing, reinvesting, exchanging, selling, and managing the Fund, the Trustee shall discharge his duties with respect to the trust fund solely in the interest of the beneficiary and with the care, skill, prudence, and diligence under the circumstance then prevailing which persons of prudence, acting in a like capacity and familiar with such matters, would use in the conduct of an enterprise of a like character and with like aims, except that:

a. securities or other obligations of the Grantor, or any other owner or operator of the facilities, or any of their affiliates as defined in the Investment Company Act of 1940, as amended, 15 U.S.C. 80a-2.(a), shall not be acquired or held unless they are securities or other obligations of the federal or a state government;

b. the Trustee is authorized to invest the Fund in time or demand deposits of the Trustee, to the extent insured by an agency of the federal or state government; and

c. the Trustee is authorized to hold cash awaiting investment or distribution uninvested for a reasonable time and without liability for the payment of interest thereon.

Section 7. Commingling and Investment

The Trustee is expressly authorized in its discretion:

a. to transfer from time to time any or all of the assets of the Fund to any common commingled or collective trust fund created by the Trustee in which the fund is eligible to participate, subject to all of the provisions thereof, to be commingled with the assets of other trusts participating therein; and

b. to purchase shares in any investment company registered under the Investment Company Act of 1940, 15 U.S.C. 81a-1 et seq., including one which may be created, managed, underwritten, or to which investment advice is rendered or the shares of which are sold by the Trustee. The Trustee may vote such shares in its discretion.

Section 8. Express Powers of Trustee

Without in any way limiting the powers and discretions conferred upon the Trustee by the other provisions of this Agreement or by law, the trustee is expressly authorized and empowered:

a. To sell, exchange, convey, transfer, or otherwise dispose of any property held by it, by public or private sale. No person dealing with the Trustee shall be bound to see to the application of the purchase money or to inquire into the validity or expediency of any such sale or other disposition.

b. To make, execute, acknowledge, and deliver any and all documents of transfer and conveyance and any and all other instruments that may be necessary or appropriate to carry out the powers herein granted.

c. To register any securities held in the Fund in its own name or in the name of a nominee and to hold any security in bearer form or in book entry, or to combine certificates representing such securities with certificates of the same issue held by the Trustee in other fiduciary capacities, or to deposit or arrange for the deposit of

such securities in a qualified central depositary even though, when so deposited, such securities may be merged and held in bulk in the name of the nominee of such depositary with other securities deposited therein by another person, or to deposit or arrange for the deposit of any securities issued by the United States Government, or any agency or instrumentality thereof, with a Federal Reserve bank, but the books and records of the Trustee shall at all times show that all such securities are part of the Fund.

d. To deposit any cash in the Fund in interest-bearing accounts maintained or savings certificates issued by the Trustee, in its separate corporate capacity, or in any other banking institution affiliated with the Trustee, to the extent insured by an agency of the federal or state government.

e. To compromise or otherwise adjust all claims in favor of or against the Fund.

Section 9. Taxes and Expenses

All taxes of any kind that may be assessed or levied against or in respect of the Fund and all brokerage commissions incurred by the Fund shall be paid from the fund. All other expenses incurred by the Trustee in connection with the administration of this Trust, including fees for legal services rendered to the Trustee, the compensation of the Trustee to the extent not paid directly by the Grantor, and all other proper charges and disbursements of the Trustee shall be paid from the fund.

Section 10. Annual Valuations

The Trustee shall annually, at least 30 days prior to the anniversary date of establishment of the Fund, furnish to the Grantor and to the administrative authority a statement confirming the value of the Trust. Any securities in the Fund shall be valued at market value as of no more than 60 days prior to the anniversary date of establishment of the Fund. The failure of the Grantor to object in writing to the Trustee within 90 days after the statement has been furnished to the Grantor and the administrative authority shall constitute a conclusively binding assent by the Grantor barring the Grantor from asserting any claim or liability against the Trustee with respect to matters disclosed in the statement.

Section 11. Advice of Counsel

The Trustee may from time to time consult with counsel, who may be counsel to the Grantor with respect to any question arising as to the

construction of this Agreement or any action to be taken hereunder. The Trustee shall be fully protected, to the extent permitted by law, in acting upon the advice of counsel.

Section 12. Trustee Compensation

The Trustee shall be entitled to reasonable compensation for its services as agreed upon in writing from time to time with the Grantor.

Section 13. Successor Trustee

The Trustee may resign or the Grantor may replace the Trustee, but such resignation or replacement shall not be effective until the Grantor has appointed a successor trustee and this successor accepts the appointment. The successor trustee shall have the same powers and duties as those conferred upon the Trustee hereunder. Upon the successor trustee's acceptance of the appointment, the Trustee shall assign, transfer, and pay over to the successor trustee the funds and properties then constituting the Fund. If for any reason the Grantor cannot or does not act in the event of the resignation of the Trustee, the Trustee may apply to a court of competent jurisdiction for the appointment of a successor trustee or for instructions. The successor trustee shall specify the date on which it assumes administration of the trust in a writing sent to the Grantor, the administrative authority, and the present Trustee by certified mail 10 days before such change becomes effective. Any expenses incurred by the Trustee as a result of any of the acts contemplated by this Section shall be paid as provided in Section 9.

Section 14. Instructions to the Trustee

All orders, requests, and instructions by the Grantor to the Trustee shall be in writing, signed by such persons as are designated in the attached Exhibit A or such other designees as the Grantor may designate by amendments to Exhibit A. The Trustee shall be fully protected in acting without inquiry in accordance with the Grantor's orders, requests, and instructions. All orders, requests, and instructions by the administrative authority to the Trustee shall be in writing, signed by the administrative authority, or his or her designee, and the Trustee shall act and shall be fully protected in acting in accordance with such orders, requests, and instructions. The Trustee shall have the right to assume, in the absence of written notice to the contrary, that no event constituting a change or a termination of the authority of any person to act on behalf of the grantor or the administrative authority hereunder has occurred. The Trustee shall have no duty to act in the absence of such orders, requests, and instructions from the Grantor and/or the administrative authority, except as provided for herein.

Section 15. Notice of Nonpayment

If a payment for bodily injury or property damage is made under Section 4 of this trust, the Trustee shall notify the Grantor of such payment and the amount(s) thereof within five working days. The Grantor shall, on or before the anniversary date of the establishment of the Fund following such notice, either make payments to the Trustee in amounts sufficient to cause the trust to return to its value immediately prior to the payment of claims under Section 4, or shall provide written proof to the Trustee that other financial assurance for liability coverage has been obtained equalling the amount necessary to return the trust to its value prior to the payment of claims. If the Grantor does not either make payments to the Trustee or provide the Trustee with such proof, the Trustee shall within 10 working days after the anniversary date of the establishment of the Fund provide a written notice of nonpayment to the administrative authority.

Section 16. Amendment of Agreement

This Agreement may be amended by an instrument in writing executed by the Grantor, the Trustee, and the administrative authority, or by the Trustee and the administrative authority if the Grantor ceases to exist.

Section 17. Irrevocability and Termination

Subject to the right of the parties to amend this Agreement as provided in Section 16, this Trust shall be irrevocable and shall continue until terminated at the written agreement of the Grantor, the Trustee, and the administrative authority, or by the Trustee and the administrative authority, if the Grantor ceases to exist. Upon termination of the Trust, all remaining trust property, less final trust administration expenses, shall be delivered to the Grantor.

The administrative authority will agree to termination of the Trust when the owner or operator substitutes alternate financial assurance as specified in LAC 33:V.Chapter 37 or 44.

Section 18. Immunity and Indemnification

The Trustee shall not incur personal liability of any nature in connection with any act or omission, made in good faith, in the administration of this Trust, or in carrying out any directions by the Grantor or the administrative authority issued in accordance with this Agreement. The Trustee shall be indemnified and saved harmless by the Grantor or from the Trust Fund, or both, from and against any personal liability to which the Trustee may be subjected by reason of any act or conduct in its official capacity, including all expenses reasonably incurred in its defense in the event the Grantor fails to provide such defense.

Section 19. Choice of Law

This Agreement shall be administered, construed, and enforced according to the laws of the State of Louisiana.

Section 20. Interpretation

As used in this Agreement, words in the singular include the plural and words in the plural include the singular. The descriptive headings for each section of this Agreement shall not affect the interpretation or the legal efficacy of this Agreement.

In Witness Whereof the parties have caused this Agreement to be executed by their respective officers duly authorized and their corporate seals to be hereunto affixed and attested as of the date first above written. The parties below certify that the wording of this Agreement is identical to the wording specified in LAC 33:V.3719 as such regulations were constituted on the date first above written.

[Signature of Grantor]
[Title]
Attest:
[Title]
[Seal]
[Signature of Trustee]
Attest:
[Title]
[Seal]

1. The following is an example of the certification of acknowledgement which must accompany the trust agreement for a trust fund as specified in LAC 33:V.3715 or 4411.

State of Louisiana
Parish of

On this [date], before me personally came [owner or operator] to me known, who, being by me duly sworn, did depose and say that she/he resides at [address], that she/he is [title] of [corporation], the corporation described in and which executed the above instrument; that she/he knows the seal of said corporation; that the seal affixed to such instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation; and that she/he signed her/his name thereto by like order.

Witness:

_____

_____ _____

_____

THUS DONE AND SIGNED before me this _____day of ____, , in _____.

_____

_____

NOTARY PUBLIC

N. Standby Trust Agreement

1. A standby trust agreement, as specified in LAC 33:V.3715.H. or 4411.H, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted.

STANDBY TRUST AGREEMENT

Trust Agreement, the "Agreement," entered into as of [date] by and between [name of the owner or operator] a [name of a State] [insert "corporation," "partnership," "association," or "proprietorship"], the "Grantor," and [name of corporate trustee], [insert, "incorporated in the State of _____" or "a national bank"], the "Trustee."

WHEREAS, the United States Environmental Protection Agency, "EPA," an agency of the United States Government, has established certain regulations applicable to the Grantor, requiring that an owner or operator of a hazardous waste management facility or group of facilities must demonstrate financial responsibility for bodily injury and property damage to third parties caused by sudden accidental and/or non-sudden accidental occurrences arising from operations of the facility or group of facilities.

WHEREAS, the Grantor has elected to establish a standby trust into which the proceeds from a letter of credit may be deposited to assume all or part of such financial responsibility for the facilities identified herein.

WHEREAS, the Grantor, acting through its duly authorized officers, has selected the Trustee to be the trustee under this agreement, and the trustee is willing to act as trustee.

NOW, THEREFORE, the Grantor and the Trustee agree as follows:

Section 1. Definitions. As used in this Agreement:

a. The term "Grantor" means the owner or operator who enters into this Agreement and any successors or assigns of the Grantor.

b. The term "Trustee" means the trustee who enters into this Agreement and any successor Trustee.

Section 2. Identification of Facilities

This agreement pertains to the facilities identified on attached Schedule A [on Schedule A, for each facility list the EPA identification number, name, and address of the facility(ies) and the amount of liability coverage, or portions thereof, if more than one instrument affords combined coverage as demonstrated by this Agreement].

Section 3. Establishment of Fund

The Grantor and the Trustee hereby establish a standby trust fund, hereafter the "Fund," for the benefit of any and all third parties injured or damaged by [sudden and/or non-sudden] accidental occurrences arising from operation of the facility(ies) covered by this guarantee, in the amounts of _____[up to $1 million] per occurrence and _____[up to $2 million] annual aggregate for sudden accidental occurrences, and _____[up to $3 million] per occurrence and _____[up to $6 million] annual aggregate for non-sudden occurrences, except that the Fund is not established for the benefit of third parties for the following:

a. Bodily injury or property damage for which [insert Grantor] is obligated to pay damages by reason of the assumption of liability in a contract or agreement. This exclusion does not apply to liability for damages that [insert Grantor] would be obligated to pay in the absence of the contract or agreement.

b. Any obligation of [insert Grantor] under a workers' compensation, disability benefits, or unemployment compensation law or any similar law.

c. Bodily injury to:

   i. an employee of [insert Grantor] arising from, and in the course of, employment by [insert Grantor]; or

   ii. the spouse, child, parent, brother, or sister of that employee as a consequence of, or arising from, and in the course of employment by [insert Grantor].

   This exclusion applies:

   (a) whether [insert Grantor] may be liable as an employer or in any other capacity, and

   (b) to any obligation to share damages with or repay another person who must pay damages because of the injury to persons identified in Clauses i and ii above.

d. Bodily injury or property damage arising out of the ownership, maintenance, use, or entrustment to others of any aircraft, motor vehicle, or watercraft.

e. Property damage to:

i. any property owned, rented, or occupied by [insert Grantor];

ii. premises that are sold, given away, or abandoned by [insert Grantor] if the property damage arises out of any part of those premises;

iii. property loaned to [insert Grantor];

iv. personal property in the care, custody, or control of [insert Grantor];

v. that particular part of real property on which [insert Grantor] or any contractors or subcontractors working directly or indirectly on behalf of [insert Grantor] are performing operations, if the property damage arises out of these operations.

In the event of combination with another mechanism for liability coverage, the fund shall be considered [insert "primary" or "excess"] coverage.

The Fund is established initially as consisting of the proceeds of the letter of credit deposited into the Fund. Such proceeds and any other property subsequently transferred to the Trustee is referred to as the Fund, together with all earnings and profits thereon, less any payments or distributions made by the Trustee pursuant to this Agreement. The Fund shall be held by the Trustee, IN TRUST, as hereinafter provided. The Trustee shall not be responsible nor shall it undertake any responsibility for the amount or adequacy of, nor any duty to collect from the Grantor, any payments necessary to discharge any liabilities of the Grantor established by EPA.

Section 4. Payment for Bodily Injury or Property Damage

The Trustee shall satisfy a third-party liability claim by drawing on the letter of credit described in Schedule B and by making payments from the Fund only upon receipt of one of the following documents:

a. Certification from the Grantor and the third-party claimant(s) that the liability claim should be paid. The

certification must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

CERTIFICATION OF VALID CLAIM

The undersigned, as parties [insert Grantor] and [insert name and address of third-party claimant(s)], hereby certify that the claim of bodily injury and/or property damage caused by a [sudden or non-sudden] accidental occurrence arising from operating [Grantor's] hazardous waste treatment, storage, or disposal facility should be paid in the amount of $[_____].
[Signatures]
Grantor
[Signatures]
Claimant(s)

b. A valid final court order establishing a judgement against the Grantor for bodily injury or property damage caused by sudden or non-sudden accidental occurrences arising from the operation of the Grantor's facility or group of facilities.

Section 5. Payments Comprising the Fund

Payments made to the Trustee for the Fund shall consist of the proceeds from the letter of credit drawn upon by the Trustee in accordance with the requirements of LAC 33:V.3719.K and Section 4 of this Agreement.

Section 6. Trustee Management

The Trustee shall invest and reinvest the principal and income, in accordance with general investment policies and guidelines which the Grantor may communicate in writing to the Trustee from time to time, subject, however, to the provisions of this Section. In investing, reinvesting, exchanging, selling, and managing the Fund, the Trustee shall discharge his duties with respect to the trust fund solely in the interest of the beneficiary and with the care, skill, prudence, and diligence under the circumstances then prevailing which persons of prudence, acting in a like capacity and familiar with such matters, would use in the conduct of an enterprise of a like character and with like aims, except that:

a. securities or other obligations of the Grantor, or any other owner or operator of the facilities, or any of their affiliates as defined in the Investment Company Act of 1940, as amended, 15 U.S.C. 80a-2(a), shall not be acquired or held, unless they are s ecurities o r o ther obligations of the federal or a state government;

b. the Trustee is authorized to invest the Fund in time or demand deposits of the Trustee, to the extent insured by an agency of the federal or a state government; and

c. the Trustee is authorized to hold cash awaiting investment or distribution uninvested for a reasonable time and without liability for payment of interest thereon.

Section 7. Commingling and Investment

The Trustee is expressly authorized in its discretion:

a. to transfer from time to time any or all of the assets of the Fund to any common, commingled, or collective trust fund created by the Trustee in which the Fund is eligible to participate, subject to all of the provisions thereof, to be commingled with the assets of other trusts participating therein; and

b. to purchase shares in any investment company registered under the Investment Company Act of 1940, 15 U.S.C. 80a-1 et seq., including one which may be created, managed, underwritten, or to which investment advice is rendered or the shares of which are sold by the Trustee. The Trustee may vote such shares in its discretion.

Section 8. Express Powers of Trustee

Without in any way limiting the powers and discretions conferred upon the Trustee by the other provisions of this Agreement or by law, and Trustee is expressly authorized and empowered:

a. To sell, exchange, convey, transfer, or otherwise dispose of any property held by it, by public or private sale. No person dealing with the Trustee shall be bound to see to the application of the purchase money or to inquire into the validity or expediency or any such sale or other disposition.

b. To make, execute, acknowledge, and deliver any and all documents of transfer and conveyance and any and all other instruments that may be necessary or appropriate to carry out the powers herein granted.

c. To register any securities held in the Fund in its own name or in the name of a nominee and to hold any security in bearer form or in book entry, or to combine certificates representing such securities with certificates of the same issue held by the Trustee in other fiduciary

capacities, or to deposit or arrange for the deposit of such securities in a qualified central depositary even though, when so deposited, such securities may be merged and held in bulk in the name of the nominee of such depositary with other securities deposited herein by another person, or to deposit or arrange for the deposit of any securities issued by the United States government, or any agency or instrumentality thereof, with a Federal Reserve Bank, but the books and records of the Trustee shall at all times show that all such securities are part of the Fund.

d. To deposit any cash in the Fund in interest-bearing accounts maintained or savings certificates issued by the Trustee, in its separate corporate capacity, or in any other banking institution affiliated with the Trustee, to the extent insured by an agency of the federal or state government.

e. To compromise or otherwise adjust all claims in favor of or against the Fund.

Section 9. Taxes and Expenses

All taxes of any kind that may be assessed or levied against or in respect of the Fund and all brokerage commissions incurred by the Fund shall be paid from the Fund. All other expenses incurred by the Trustee in connection with the administration of this Trust, including fees for legal services rendered to the Trustee, the compensation of the Trustee to the extent not paid directly by the Grantor, and all other proper charges and disbursements to the Trustee shall be paid from the Fund.

Section 10. Advice of Counsel

The Trustee may from time to time consult with counsel, who may be counsel to the Grantor, with respect to any question arising as to the construction of this Agreement or any action to be taken hereunder. The Trustee shall be fully protected, to the extent permitted by law, in acting upon the advice of counsel.

Section 11. Trustee Compensation

The Trustee shall be entitled to reasonable compensation for its services as agreed upon in writing from time to time with the Grantor.

Section 12. Successor Trustee

The Trustee may resign or the Grantor may replace the Trustee, but such resignation or replacement shall not be effective until the Grantor

has appointed a successor trustee and this successor accepts the appointment. The successor trustee shall have the same powers and duties as those conferred upon the Trustee hereunder. Upon the successor trustee's acceptance of the appointment, the Trustee shall assign, transfer, and pay over to the successor trustee the funds and properties then constituting the Fund. If for any reason the Grantor cannot or does not act in the event of the resignation of the Trustee, the Trustee may apply to a court of competent jurisdiction for the appointment of a successor trustee or for instructions. The successor trustee shall specify the date on which it assumes administration of the trust in a writing sent to the Grantor, the administrative authority, and the present Trustee by certified mail 1 0 d ays b efore s uch c hange becomes effective. Any expenses incurred by the Trustee as a result of any of the acts contemplated by this Section shall be paid as provided in Section 9.

Section 13. Instructions to the Trustee

All orders, requests, certifications of valid claims, and instructions to the Trustee shall be in writing, signed by such persons as are designated in the attached Exhibit A or such other designees as the Grantor may designate by amendments to Exhibit A. The Trustee shall be fully protected in acting without inquiry in accordance with the Grantor's orders, requests, and instructions. The Trustee shall have the right to assume, in the absence of written notice to the contrary, that no event constituting a change or a termination of the authority of any person to act on behalf of the Grantor or the administrative authority hereunder has occurred. The Trustee shall have no duty to act in the absence of such orders, requests, and instructions from the Grantor and/or the administrative authority, except as provided for herein.

Section 14. Amendment of Agreement

This Agreement may be amended by an instrument in writing executed by the Grantor, the Trustee, and the administrative authority if the grantor ceases to exist.

Section 15. Irrevocability and Termination

Subject to the right of the parties to amend this Agreement as provided in Section 14, this Trust shall be irrevocable and shall continue until terminated at the written agreement of the Grantor, the Trustee, and the administrative authority, or by the Trustee and the administrative authority, if the Grantor ceases to exist. Upon termination of the Trust, all remaining trust property, less final trust administration expenses, shall be paid to the grantor.

The administrative authority will agree to termination of the Trust when the owner or operator substitutes alternative financial assurances as specified in LAC 33:V.Chapter 37 or 44.

Section 16. Immunity and Indemnification

The Trustee shall not incur personal liability of any nature in connection with any act or omission, made in good faith, in the administration of this Trust, or in carrying out any directions by the Grantor and the administrative authority issued in accordance with this Agreement. The Trustee shall be indemnified and saved harmless by the Grantor or from the Trust Fund, or both, from and against any personal liability to which the Trustee may be subjected by reason of any act or conduct in its official capacity, including all expenses reasonably incurred in its defense in the event the Grantor fails to provide such defense.

Section 17. Choice of Law

This Agreement shall be administered, construed, and enforced according to the laws of the State of Louisiana.

Section 18. Interpretation

As used in this Agreement, words in the singular include the plural and words in the plural include the singular. The descriptive headings for each section of this Agreement shall not affect the interpretation of the legal efficacy of this Agreement.

In Witness Whereof the parties have caused this Agreement to be executed by their respective officers duly authorized and their corporate seals to be hereunto affixed and attested as of the date first above written. The parties below certify that the wording of this Agreement is identical to the wording specified in LAC 33:V.3719.N as such regulations were constituted on the date first above written.

[Signature of Grantor]
[Title]
Attest:
[Title]
[Seal]
[Signature of Trustee]
Attest:
[Title]
[Seal]

2. The following is an example of the certification of acknowledgement which must accompany the trust agreement for a standby trust fund as specified in LAC 33:V.3715.H or 4411.H.

State of Louisiana

Parish of

On this [date], before me personally came [owner or operator] to me known, who, being by me duly sworn, did depose and say that she/he resides at [address], that she/he is [title] of [corporation], the corporation described in and which executed the above instrument; that she/he knows the seal of said corporation; that the seal affixed to such instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that she/he signed her/his name thereto by like order.

Witness:

_____

_____

_____

THUS DONE AND SIGNED before me this _____ day of _____, _____, in _____.

_____

NOTARY PUBLIC

40. *LAC 33:V.Chapter 40, The Permittee must respond to all the regulatory requirements of this chapter. The Permittee must provide a brief summary of the information included in the Used Oil Plan (i.e., Appendix 18).*

Responses have been provided to the regulatory requirements of Chapter 40 as follows:

Chapter 40. Used Oil

Subchapter A. Materials Regulated as Used Oil

§4003. Applicability

This Section identifies those materials which are subject to regulation as used oil under this Chapter. This Section also identifies some materials that are not subject to regulation as used oil under this Chapter and indicates whether these materials may be subject to regulation as hazardous waste under this Subpart.

A. Used Oil. Used oil is to be recycled unless a used oil handler disposes of it or sends it for disposal. Except as provided in LAC 33:V.4005, the regulations of LAC 33:V.Chapter 40 apply to used oil and to materials identified in LAC 33:V.4003 as being subject to regulation as used oil, whether or not the used oil or material exhibits any characteristics of hazardous waste identified in LAC 33:V.4903.

Response

Exide acknowledges and understands this provision. Exide contracts a recycling company to reclaim all used oil generated at the Baton Rouge smelter. The Used Oil Plan is included as Appendix 18. The Used Oil Plan includes procedures for storage and transportation of used oil and a contingency plan for spills.

B. Mixtures of Used Oil and Hazardous Waste

1. Listed Hazardous Waste

a. Mixtures of used oil and hazardous waste that is listed in LAC 33:V.4901 are subject to regulation as hazardous waste under LAC 33:V.Subpart 1, rather than as used oil under LAC 33:V.Chapter 40.

Response

Exide acknowledges and understands this provision. Exide does not mix used oil and hazardous waste. A copy of the Used Oil Plan is included in Appendix 18. The Used Oil Plan includes procedures for storage and transportation of used oil and a contingency plan for spills.

b. Rebuttable Presumption for Used Oil. Used oil containing more than 1,000 ppm total halogens is presumed to be a hazardous waste because it has been mixed with halogenated hazardous waste listed in LAC 33:V.4901. Persons may rebut this presumption by demonstrating that the used oil does not contain hazardous waste (for example, by using an analytical method from EPA Publication SW-846, Third Edition, to show that the used oil does not contain significant concentrations of halogenated hazardous constituents listed in LAC 33:V.3105.Table 1). EPA Publication SW-846, Third Edition, is available from the Government Printing Office, Superintendent of Documents, Box 371954, Pittsburgh, PA 15250-7954, (202) 512-1800 (document number 955-001-00000-1).

Response

Exide acknowledges and understands this provision. Exide does not mix used oil and hazardous waste. A copy of the Used Oil Plan is included in Appendix 18. The Used Oil Plan includes procedures for storage and transportation of used oil and a contingency plan for spills.

i. The rebuttable presumption does not apply to metalworking oils/fluids containing chlorinated paraffins if they are processed through a tolling arrangement as described in LAC 33:V.4017.C to reclaim metalworking oils/fluids. The presumption does apply to metalworking oils/fluids if such oils/fluids are recycled in any other manner or disposed.

Response

This provision does not apply since Exide does not use oils in metal working.

ii. **The rebuttable presumption does not apply to used oils contaminated with chlorofluorocarbons (CFCs) removed from refrigeration units in which the CFCs are destined for reclamation. The rebuttable presumption does apply to used oils contaminated with CFCs that have been mixed with used oil from sources other than refrigeration units.**

Response

Exide acknowledges and understands this provision. A copy of the Used Oil Plan is included in Appendix 18. The Used Oil Plan includes procedures for storage and transportation of used oil and a contingency plan for spills. Exide does not manage used oils contaminated with CFCs.

2. **Characteristic Hazardous Waste. Mixtures of used oil and hazardous waste that solely exhibits one or more of the hazardous waste characteristic identified in LAC 33:V.4903 and mixtures of used oil and hazardous waste that is listed in LAC 33:V.4901 solely because it exhibits one or more of the characteristics of hazardous waste identified in LAC 33:V.4903 are subject to:**

   a. **regulation as hazardous waste under LAC 33:V.Subpart 1 rather than as used oil under LAC 33:V.Chapter 40 if the resultant mixture exhibits any characteristics of hazardous waste identified in LAC 33:V.4903, except as provided in LAC 33:V.4003.B.2.c;**

   b. **regulation as used oil under LAC 33:V.Chapter 40 if the resultant mixture does not exhibit any characteristics of hazardous waste identified under LAC 33:V.4903, except as specified in LAC 33:V.4003.B.2.c; or**

   c. **regulation as used oil under this Chapter if the mixture is of used oil and a waste which is hazardous solely because it exhibits the characteristic of ignitability (e.g., ignitable-only mineral spirits), provided that the resulting mixture does not exhibit the characteristic of ignitability under LAC 33:V.4903.**

   Response

   Exide acknowledges and understands this provision. Exide does not mix used oil and hazardous waste. The Used Oil Plan (Appendix 18) includes procedures for storage and transportation of used oil and a contingency plan for spills.

C. **Materials Containing or Otherwise Contaminated with Used Oil**

1. **Except as provided in LAC 33:V.4003.C.2, materials containing or otherwise contaminated with used oil from which the used oil has been**

properly drained or removed to the extent possible such that no visible signs of free-flowing oil remain in or on the material:

a. are not used oil and thus not subject to LAC 33:V.Chapter 40; and

b. are subject to the hazardous waste regulations of LAC 33:V.Subpart 1, if applicable.

Response

Exide acknowledges and understands this provision. Management of materials contaminated with used oil is addressed in the Used Oil Plan in Appendix 18. The Used Oil Plan includes procedures for storage and transportation of used oil and a contingency plan for spills.

2. Materials containing or otherwise contaminated with used oil that are burned for energy recovery are subject to regulation as used oil under LAC 33:V.Chapter 40.

Response

Exide acknowledges and understands this provision, however, Exide does not burn used oil or materials contaminated with used oil for energy recovery.

3. Used oil drained or removed from materials containing or otherwise contaminated with used oil is subject to regulation as used oil under LAC 33:V.Chapter 40.

Response

Exide acknowledges and understands this provision. Management of used oil drained or removed from materials containing or contaminated with used oil is addressed in the Used Oil Plan in Appendix 18. The Used Oil Plan includes procedures for storage and transportation of used oil and a contingency plan for spills.

D. Mixtures of Used Oil with Products

1. Except as provided in LAC 33:V.4003.D.2, mixtures of used oil and fuels or other fuel products are subject to regulation as used oil under LAC 33:V.Chapter 40.

Response

Exide acknowledges and understands this provision. A copy of the Used Oil Plan is included in Appendix 18. The Used Oil Plan includes procedures for storage and transportation of used oil and a contingency plan for spills. It is not standard practice at Exide to mix oil with fuel or other fuel products; however, mixing of oil with fuel or other fuel products does happen on occasion as part of facility operations.

2. Mixtures of used oil and diesel fuel mixed on-site by the generator of the used oil for use in the generator's own vehicles are not subject LAC 33:V.Chapter 40 once the used oil and diesel fuel have been mixed.

Prior to mixing, the used oil is subject to the requirements of LAC 33:V.Chapter 40.Subchapter B.

Response

Exide acknowledges and understands this provision. A copy of the Used Oil Plan is included in Appendix 18. The Used Oil Plan includes procedures for storage and transportation of used oil and a contingency plan for spills. It is not standard practice at Exide to mix oil with diesel fuel; however, mixing of oil with diesel does happen on occasion as part of facility operations.

E. Materials Derived from Used Oil

1. **Materials that are reclaimed from used oil that are used beneficially and are not burned for energy recovery or used in a manner constituting disposal (e.g., re-refined lubricants) are:**

   a. **not used oil and, thus, are not subject to LAC 33:V.Chapter 40; and**

   b. **not solid wastes and, thus, are not subject to the hazardous waste regulations of LAC 33:V.Subpart 1 as provided in LAC 33:V.109.*Hazardous Waste*.4.b.i.**

   Response

   Exide acknowledges and understands this provision; however, Exide does not manage materials derived from used oil. A copy of the Used Oil Plan is included in Appendix 18. The Used Oil Plan includes procedures for storage and transportation of used oil and a contingency plan for spills.

2. **Materials produced from used oil that are burned for energy recovery (e.g., used oil fuels) are subject to regulation as used oil under LAC 33:V.Chapter 40.**

   Response

   Exide acknowledges and understands this provision; however, Exide does not burn materials produced from used oil for energy recovery. A copy of the Used Oil Plan is included in Appendix 18. The Used Oil Plan includes procedures for storage and transportation of used oil and a contingency plan for spills.

3. **Except as provided in LAC 33:V.4003.E.4, materials derived from used oil that are disposed of or used in a manner constituting disposal are:**

   a. **not used oil and, thus, are not subject to LAC 33:V.Chapter 40; and**

   b. **solid wastes and, thus, are subject to the hazardous waste regulations of LAC 33:V.Subpart 1 if the materials are listed or identified as hazardous waste.**

Response

Exide acknowledges and understands this provision; however, Exide does not manage materials derived from used oil. The Used Oil Plan (Appendix 18) includes procedures for storage and transportation of used oil and a contingency plan for spills.

4. **Used oil re-refining distillation bottoms that are used as feedstock to manufacture asphalt products are not subject to LAC 33:V.Chapter 40.**

Response

This provision does not apply since Exide does not generate this type of material.

F. **Wastewater. Wastewater, the discharge of which is subject to regulation under either section 402 or section 307(b) of the Clean Water Act and LAC 33:IX (including wastewaters at facilities which have eliminated the discharge of wastewater), contaminated with de minimis quantities of used oil is not subject to the requirements of this Chapter. For purposes of LAC 33:V.4003.F, "de minimis" quantities of used oils are defined as small spills, leaks, or drippings from pumps, machinery, pipes, and other similar equipment during normal operations or small amounts of oil lost to the wastewater treatment system during washing or draining operations. This exception will not apply if the used oil is discarded as a result of abnormal manufacturing operations resulting in substantial leaks, spills, or other r eleases o r t he u sed o il i s recovered from wastewaters.**

Response

Exide acknowledges and understands the above provision regarding wastewater contaminated with de minimus quantities of used oil. Wastewater contaminated with de minimus quantities of used oil will be processed in the facility's wastewater treatment plant and discharged in accordance with the facility's NPDES permit. Used oil discarded as a result of abnormal manufacturing operations resulting in substantial leaks, spills or other releases or recovered from wastewaters will be managed in accordance with the Used Oil Plan in Appendix 18 and the Spill Prevention, Control and Countermeasures Plan in Appendix 16. The Used Oil Plan includes procedures for storage and transportation of used oil and a contingency plan for spills.

G. **Used Oil Introduced into Crude Oil Pipelines or a Petroleum Refining Facility**

1. **Used oil mixed with crude oil or natural gas liquids (e.g., in a production separator or crude oil stock tank) for insertion into a crude oil pipeline is exempt from the requirements of LAC 33:V.Chapter 40. The used oil is subject to the requirements of LAC 33:V.Chapter 40 prior to the mixing of used oil with crude oil or natural gas liquids.**

Response

This citation does not apply, Exide is not a crude oil pipeline or refining facility.

2. **Mixtures of used oil and crude oil or natural gas liquids containing less than 1 percent used oil that are being stored or transported to a crude oil pipeline or petroleum refining facility for insertion into the refining process at a point prior to crude distillation or catalytic cracking are exempt from the requirements of LAC 33:V.Chapter 40.**

   Response
   This citation does not apply, Exide is not a crude oil pipeline or refining facility.

3. **Used oil that is inserted into the petroleum refining facility process before crude distillation or catalytic cracking without prior mixing with crude oil is exempt from the requirements of LAC 33:V.Chapter 40 provided that the used oil constitutes less than 1 percent of the crude oil feed to any petroleum refining facility process unit at any given time. Prior to insertion into the petroleum refining facility process, the used oil is subject to the requirements of LAC 33:V.Chapter 40.**

   Response
   This citation does not apply, Exide is not a crude oil pipeline or refining facility.

4. **Except as provided in LAC 33:V.4003.G.5, used oil that is introduced into a petroleum refining facility process after crude distillation or catalytic cracking is exempt from the requirements of LAC 33:V.Chapter 40 only if the used oil meets the specification of LAC 33:V.4005. Prior to insertion into the petroleum refining facility process, the used oil is subject to the requirements of LAC 33:V.Chapter 40.**

   Response
   This citation does not apply, Exide is not a crude oil pipeline or refining facility.

5. **Used oil that is incidentally captured by a hydrocarbon recovery system or wastewater treatment system as part of routine process operations at a petroleum refining facility and inserted into the petroleum refining facility process is exempt from the requirements of LAC 33:V.Chapter 40. This exemption does not extend to used oil which is intentionally introduced into a hydrocarbon recovery system (e.g., by pouring collected used oil into the wastewater treatment system).**

   Response
   This citation does not apply, Exide is not a crude oil pipeline or refining facility and does not operate a hydrocarbon recovery system.

6. **Tank bottoms from stock tanks containing exempt mixtures of used oil and crude oil or natural gas liquids are exempt from the requirements of LAC 33:V.Chapter 40.**

Response
This citation does not apply, Exide does not maintain stock tanks containing exempt mixtures of used oil and crude oil or natural gas liquids.

H. **Used Oil on Vessels. Used oil produced on vessels from normal shipboard operations is not subject to this Chapter until it is transported ashore.**

Response
Exide acknowledges and understands this provision. This citation does not apply to the Exide facility as used oil is not produced on vessels.

I. **Used Oil Containing PCBs. Used oil containing PCBs (as defined at 40 CFR 761.3) at any concentration less than 50 ppm is subject to the requirements of this Subchapter. Used oil subject to the requirements of this Subchapter may also be subject to the prohibitions and requirements found at 40 CFR part 761, including sections 761.20(d) and (e). Used oil containing PCBs at concentrations of 50 ppm or greater is not subject to the requirements of this Subchapter, but is subject to regulation under 40 CFR part 761.**

Response

Exide acknowledges and understands this provision. Exide does not manage used oil contaminated with PCBs.

§4005. Used Oil Specifications

Used oil burned for energy recovery and any fuel produced from used oil by processing, blending, or other treatment is subject to regulation under this Chapter unless it is shown not to exceed any of the allowable levels of the constituents and properties in the specifications shown in LAC 33:V.4005.Table 1. Once used oil that is to be burned for energy recovery has been shown not to exceed any specifications and the person making that showing complies with LAC 33:V.4081, 4083, and 4085.B, the used oil is no longer subject to this Chapter.

Response
Exide acknowledges this provision. However, this citation is not applicable since Exide does not burn used oil for energy recovery.

Table 1

Used Oil Not Exceeding Any Specification Level is Not Subject to this Chapter When Burned for Energy Recovery[1]

Constituent/property level	Allowable
Arsenic	5 ppm maximum
Cadmium	2 ppm maximum
Chromium	10 ppm maximum
Lead	1,000 ppm maximum
Flash point	100°F minimum
Total halogens	4,000 ppm maximum[2]

ENDNOTE: [1]The specification does not apply to mixtures of used oil and hazardous waste that continue to be regulated as hazardous waste (see LAC 33:V.4003.B).

ENDNOTE: [2]Used oil containing more than 1,000 ppm total halogens is presumed to be a hazardous waste under the rebuttable presumption provided under LAC 33:V.4003.B.1. Such used oil is subject to LAC 33:V.Chapter 30 rather than LAC 33:V.Chapter 40 when burned for energy recovery unless the presumption of mixing can be successfully rebutted.

§4007. Prohibitions

A. Surface Impoundment Prohibition. Used oil shall not be managed in surface impoundments or waste piles unless the units are subject to regulation under LAC 33:V.Chapters 9, 15, 17, 19, 21, 23, 25, 27-29, 31-33, 35, 37, and 43.

Response

Exide acknowledges and understands this provision. Exide does not manage used oil in surface impoundments or waste piles. Exide manages Used Oil in tanks as indicated in the Used Oil Plan (Appendix 18). The Used Oil Plan includes procedures for storage and transportation of used oil and a contingency plan for spills.

B. Use as a Dust Suppressant. The use of used oil as a dust suppressant is prohibited.

Response

Exide acknowledges that the use of used oil as a dust suppressant is prohibited. Exide uses water for dust suppression, as specified in the Dust Suppression Operational Procedure which is included in Appendix 13.

C. Burning in Particular Units. Off-specification used oil fuel may be burned for energy recovery in only the following devices:

1. industrial furnaces identified in LAC 33:V.109;

2. **boilers as defined in LAC 33:V.109 that are identified as follows:**

   a. **industrial boilers located on the site of a facility engaged in a manufacturing process where substances are transformed into new products, including the component parts of products, by mechanical or chemical processes;**

   b. **utility boilers used to produce electric power, steam, heated or cooled air, or other gases or fluids for sale; or**

   c. **used oil-fired space heaters provided that the burner meets the provisions of LAC 33:V.4015.**

3. **hazardous waste incinerators subject to regulation under LAC 33:V.Chapter 31 and Chapter 43.Subchapter N.**

   Response

   Exide acknowledges and understands this provision. Used oil generated by the Baton Rouge smelter is recycled and not burned for energy recovery.

Subchapter B. Standards for Used Oil Generators

§4009. Applicability

A. **General. Except as provided in LAC 33:V.4009.A.1-4, this Subchapter applies to all used oil generators.**

1. **Household Do-it-yourselfer Used Oil Generators. Household do-it-yourselfer used oil generators are not subject to regulation under LAC 33:V.Chapter 40.**

2. **Vessels. Vessels at sea or at port are not subject to LAC 33:V.Chapter 40.Subchapter B. For purposes of this Subchapter, used oil produced on vessels from normal shipboard operations is considered to be generated at the time it is transported ashore. The owner or operator of the vessel and the person(s) removing or accepting used oil from the vessel are co-generators of the used oil and are both responsible for managing the waste in compliance with this Subchapter once the used oil is transported ashore. The co-genenerators may decide among them which party will fulfill the requirements of this Subchapter.**

3. **Diesel Fuel. Mixtures of used oil and diesel fuel mixed by the generator of the used oil for use in the generator's own vehicles are not subject to LAC 33:V.Chapter 40 once the used oil and diesel fuel have been mixed. Prior to mixing, the used oil fuel is subject to the requirements of this Subchapter.**

4. **Farmers. Farmers who generate an average of 25 gallons per month or less of used oil from vehicles or machinery used on the farm in a calendar year are not subject to requirements of LAC 33:V.Chapter 40.**

   Response

   Exide is a used oil generator and acknowledges that, except as provided in LAC 33:V.4009.A.1-4, this subchapter applies to all used oil generators.

B. **Other Applicable Provisions. Used oil generators who conduct the following activities are subject to the requirements of other applicable provisions of LAC 33:V.Chapter 40 as indicated in LAC 33:V.4009.B.1-5:**

1. **generators who transport used oil, except under the self-transport provisions of LAC 33:V.4017.A and B, must also comply with LAC 33:V.Chapter 40.Subchapter D;**

2. **generators who process or re-refine used oil must also comply with LAC 33:V.Chapter 40.Subchapter E, except as provided in LAC 33:V.4009.B.2.b. Generators who perform the following activities are not processors provided that the used oil is generated on-site and is not being sent off-site to a burner of on- or off-specification used oil fuel:**

   a. **filtering, cleaning, or otherwise reconditioning used oil before returning it for reuse by the generator;**

   b. **separating used oil from wastewater generated on-site to make the wastewater acceptable for discharge or reuse pursuant to section 402 or section 307(b) of the Clean Water Act, LAC 33:IX, or other applicable federal or state regulations governing the management or discharge of wastewater;**

   c. **using oil mist collectors to remove small droplets of used oil from in-plant air to make plant air suitable for continued recirculation;**

   d. **draining or otherwise removing used oil from materials containing or otherwise contaminated with used oil in order to remove excessive oil to the extent possible in accordance with LAC 33:V.4003.C; or**

   e. **filtering, separating, or otherwise reconditioning used oil before burning it in a space heater pursuant to LAC 33:V.4015;**

3. **generators who burn off-specification used oil for energy recovery, except under the on-site space heater provisions of LAC 33:V.4015, must also comply with LAC 33:V.Chapter 40.Subchapter F;**

4. **generators who direct shipments of off-specification used oil from their facility to a used oil burner or first claim that used oil that is to be burned for energy recovery meets the used oil fuel specifications set forth in LAC 33:V.4005 must also comply with LAC 33:V.Chapter 40.Subchapter G; and**

5. **generators who dispose of used oil, including the use of used oil as a dust suppressant, must also comply with LAC 33:V.Chapter 40.Subchapter H.**

Response

Exide acknowledges these provisions. However, Exide does not conduct any of the above activities.

§4011. Hazardous Waste Mixing

A. Mixtures of used oil and hazardous waste must be managed in accordance with LAC 33:V.4003.B.

Response

Exide acknowledges that all mixtures of used oil and hazardous waste must be managed in accordance with LAC 33:V.4003.B. Exide does not mix used oil and hazardous waste. The Used Oil Plan is included in Appendix 18. The Used Oil Plan includes procedures for storage and transportation of used oil and a contingency plan for spills.

B. The rebuttable presumption for used oil of LAC 33:V.4003.B.1.b applies to used oil managed by generators. Under the rebuttable presumption for used oil of LAC 33:V.4003.B.1.b, used oil containing greater than 1,000 ppm total halogens is presumed to be a hazardous waste and, thus, must be managed as hazardous waste and not as used oil unless the presumption is rebutted. However, the rebuttable presumption does not apply to certain metalworking oils/fluids and certain used oils removed from refrigeration units.

Response

Exide acknowledges and understands this provision. Exide does not mix used oil and hazardous waste. A copy of the Used Oil Plan is included in Appendix 18. The Used Oil Plan includes procedures for storage and transportation of used oil and a contingency plan for spills.

§4013. Used Oil Storage

Used oil generators are subject to all applicable Spill Prevention, Control, and Countermeasures (40 CFR part 112) in addition to the requirements of this Subchapter. Used oil generators are also subject to the Underground Storage Tanks (LAC 33:XI) standards for used oil stored in underground tanks whether or not the used oil exhibits any characteristics of hazardous waste, in addition to the requirements of this Subchapter.

Response

Exide acknowledges and understands this provision. A copy of the Used Oil Plan is included in Appendix 18. The Used Oil Plan includes procedures for storage and transportation of used oil and a contingency plan for spills. The requirements of 40 CFR part 112 are addressed in the Spill Prevention, Control and Countermeasures Plan included in Appendix 16. The requirements of Underground Storage Tank (LAC 33:XI) standards do not apply as underground storage tanks are not used for storage of used oil.

A. Storage Units. Used oil generators shall not store used oil in units other than tanks, containers, or units subject to regulation under LAC 33:V.Chapters 9, 15, 17, 19, 21, 23, 25, 27-29, 31-33, 35, 37, and 43.

Response

Used oil will not be stored at Exide in units other than tanks, containers, or units subject to the regulations listed above. Please refer to the Used Oil Plan in Appendix

18 for detailed information regarding used oil storage at Exide. The Used Oil Plan includes procedures for storage and transportation of used oil and a contingency plan for spills.

B. **Condition of Units. Containers and aboveground tanks used to store used oil at generator facilities must:**

1. **be in good condition (no severe rusting, apparent structural defects or deterioration); and**
2. **not be leaking (no visible leaks).**

Response

All containers/aboveground tanks used to store used oil at Exide will be in good condition with no severe rusting, apparent structural defects or deterioration. The unit will not have any visible leaks.

C. **Labels**

1. **Containers and aboveground tanks used to store used oil at generator facilities must be labeled or marked clearly with the words "Used Oil."**
2. **Fill pipes used to transfer used oil into underground storage tanks at generator facilities must be labeled or marked clearly with the words "Used Oil."**

Response

Exide will label or mark clearly any container or aboveground tank used to store used oil or fill pipes used to transfer used oil with the words "Used Oil". Underground storage tanks are not used to store used oil at Exide.

D. **Response to Releases. Upon detection of a release of used oil to the environment which is not subject to the requirements of LAC 33:XI.715 and which has occurred after the effective date of the recycled used oil management program in effect in the state in which the release is located, a generator must perform the following cleanup steps:**

1. **stop the release;**
2. **contain the released used oil;**
3. **clean up and properly manage the released used oil and other materials; and**
4. **if necessary, repair or replace any leaking used oil storage containers or tanks prior to returning them to service.**

Response

Upon the detection of a used oil release to the environment, Exide will follow the provisions listed in the Spill Prevention, Control and Counter Measures Plan (Appendix 16) including – stop the release, contain any released used oil, clean up and properly manage the released used oil and other materials.

If necessary, the used oil storage unit will be repaired or replaced prior to returning to service.

§4015. On-site Burning in Space Heaters

Generators may burn used oil in used oil-fired space heaters provided that:

A. the heater burns only used oil that the owner or operator generates or used oil received from household do-it-yourself used oil generators;

B. the heater is designed to have a maximum capacity of not more than 0.5 million Btu per hour; and

C. the combustion gases from the heater are vented to the ambient air.

Response

Exide acknowledges this provision. However, it is not applicable since Exide does not burn used oil.

§4017. Off-site Shipments

Except as provided in LAC 33:V.4017.A-C, generators must ensure that their used oil is transported only by transporters who have obtained EPA identification numbers.

A. Self-transportation of Small Amounts to Approved Collection Centers. Generators may transport, without an EPA identification number, used oil that is generated at the generator's site and used oil collected from household do-it-yourselfers to a used oil collection center provided that:

1. the generator transports the used oil in a vehicle owned by the generator or owned by an employee of the generator;

2. the generator transports no more than 55 gallons of used oil at any one time; and

3. the generator transports the used oil to a used oil collection center that is registered, licensed, permitted, or recognized to manage used oil.

Response

Exide acknowledges and understands this provision and will comply by using a transporter with an EPA identification number. If Exide self-transports used oil to an approved collection center as provided in LAC 33:V.4017.A, no more than 55-gallons of used oil will be transported at any one time.

B. Self-transportation of Small Amounts to Aggregation Points Owned by the Generator. Generators may transport, without an EPA identification number, used oil that is generated at the generator's site to an aggregation point provided that:

1. the generator transports the used oil in a vehicle owned by the generator or owned by an employee of the generator;

2. **the generator transports no more than 55 gallons of used oil at any one time; and**

3. **the generator transports the used oil to an aggregation point that is owned and/or operated by the same generator.**

Response
Exide acknowledges and understands this provision and will comply by using a transporter with an EPA identification number.

C. **Tolling Arrangements. Used oil generators may arrange for used oil to be transported by a transporter who does not have an EPA identification number if the used oil is reclaimed under a contractual agreement according to which reclaimed oil is returned by the processor/re-refiner to the generator for use as a lubricant, cutting oil, or coolant. The contract (known as a "tolling arrangement") must indicate:**

1. **the type of used oil and the frequency of shipments;**

2. **that the vehicle used to transport the used oil to the processing/re-refining facility and to deliver recycled used oil back to the generator is owned and operated by the used oil processor/re-refiner; and**

3. **that reclaimed oil will be returned to the generator.**

Response
Exide acknowledges this provision. Exide's used oil is reclaimed and is returned to the facility for use. The recycling company, including transportation, has an EPA identification number.

Subchapter C. Standards for Used Oil Collection Centers and Aggregation Points

§4019. Do-it-yourselfer Used Oil Collection Centers

A. **Applicability. This Section applies to owners or operators of all do-it-yourselfer (DIY) used oil collection centers.**

B. **DIY Used Oil Collection Center Requirements. Owners or operators of all DIY used oil collection centers must comply with the generator standards in LAC 33:V.Chapter 40.Subchapter B and any applicable requirements set forth in LAC 33:VII.**

Response
Exide is not a used oil collection center. Therefore, this subchapter does not apply.

§4021. Used Oil Collection Centers

A. **Applicability. This Section applies to owners or operators of used oil collection centers. A used oil collection center is any site or facility that accepts/aggregates and stores used oil collected from used oil generators**

regulated under LAC 33:V.Chapter 40.Subchapter B who bring used oil to the collection center in shipments of no more than 55 gallons under the provisions of LAC 33:V.4017.A. Used oil collection centers may also accept used oil from household do-it-yourselfers.

B. Used Oil Collection Center Requirements. Owners or operators of all used oil collection centers must:

1. comply with the generator standards in LAC 33:V.Chapter 40.Subchapter B and any applicable requirements set forth in LAC 33:VII; and

2. be registered, licensed, permitted, and/or recognized to manage used oil.

§4023. Used Oil Aggregation Points Owned by the Generator

A. Applicability. This Section applies to owners or operators of all used oil aggregation points. A used oil aggregation point is any site or facility that accepts, aggregates, and/or stores used oil collected only from other used oil generation sites owned or operated by the owner or operator of the aggregation point from which used oil is transported to the aggregation point in shipments of no more than 55 gallons under the provisions of LAC 33:V.4017.B. Used oil aggregation points may also accept used oil from household do-it-yourselfers.

B. Used Oil Aggregation Point Requirements. Owners or operators of all used oil aggregation points must comply with the generator standards in LAC 33:V.Chapter 40.Subchapter B and any applicable requirements set forth in LAC 33:VII.

Subchapter D. Standards for Used Oil Transporter and Transfer Facilities

§4025. Applicability

A. General. Except as provided in LAC 33:V.4025.A.1-4, this Subchapter applies to all used oil transporters.

1. This Subchapter does not apply to on-site transportation.

2. This Subchapter does not apply to generators who transport shipments of used oil totaling 55 gallons or less from the generator to a used oil collection center as specified in LAC 33:V.4017.A.

3. This Subchapter does not apply to generators who transport shipments of used oil totaling 55 gallons or less from the generator to a used oil aggregation point owned or operated by the same generator as specified in LAC 33:V.4017.B.

4. **This Subchapter does not apply to transportation of used oil from household do-it-yourselfers to a regulated used oil generator, collection center, aggregation point, processor/re-refiner, or burner subject to the requirements of LAC 33:V.Chapter 40. Except as provided in LAC 33:V.4025.A.1-3, this Subchapter does, however, apply to transportation of collected household do-it-yourselfer used oil from regulated used oil generators, collection centers, aggregation points, or other facilities where household do-it-yourselfer used oil is collected.**

   Response
   Exide is not a used oil transporter. Therefore, this subchapter is not applicable.

B. **Imports and Exports. Transporters who import used oil from abroad or export used oil outside of the United States are subject to the requirements of this Subchapter from the time the used oil enters and until the time it exits the United States.**

C. **Trucks Used to Transport Hazardous Waste. Unless trucks previously used to transport hazardous waste are emptied as described in LAC 33:V.109.*Empty Container* prior to transporting used oil, the used oil is considered to have been mixed with the hazardous waste and must be managed as hazardous waste unless, under the provisions of LAC 33:V.4003.B, the hazardous waste/used oil mixture is determined not to be hazardous waste.**

D. **Other Applicable Provisions. Used oil transporters who conduct the following activities are also subject to other applicable provisions of this Chapter as indicated in LAC 33:V.4025.D.1-5:**

   1. **transporters who generate used oil must also comply with LAC 33:V.Chapter 40.Subchapter B;**

   2. **transporters who process or re-refine used oil, except as provided in LAC 33:V.4027, must also comply with LAC 33:V.Chapter 40.Subchapter E;**

   3. **transporters who burn off-specification used oil for energy recovery must comply with LAC 33:V.Chapter 40.Subchapter F;**

   4. **transporters who direct shipments of off-specification used oil from their facility to a used oil burner or first claim that used oil that is to be burned for energy recovery meets the used oil fuel specifications set forth in LAC 33:V.4005 must also comply with LAC 33:V.Chapter 40.Subchapter G; and**

   5. **transporters w ho d ispose o f u sed o il m ust also comply with LAC 33:V.Chapter 40.Subchapter H.**

§4027. Restrictions on Transporters Who Are Not Also Processors or Re-refiners

A. Used oil transporters may consolidate or aggregate loads of used oil for purposes of transportation. However, except as provided in LAC 33:V.4027.B, used oil transporters may not process used oil unless they also comply with the requirements for processors/re-refiners in LAC 33:V.Chapter 40.Subchapter E.

B. Transporters may conduct incidental processing operations that occur in the normal course of used oil transportation (e.g., settling and water separation), but that are not designed to produce (or make more amenable for production of) used oil-derived products unless they also comply with the processor/re-refiner requirements in LAC 33:V.Chapter 40.Subchapter E.

C. Transporters of used oil that is removed from oil-bearing electrical transformers and turbines and filtered by transporter or at a transfer facility prior to being returned to its original use are not subject to the processor/re-refiner requirements in LAC 33:V.Chapter 40.Subchapter E.

§4029. Notification

A. Identification Numbers. Used oil transporters who have not previously complied with the notification requirements of LAC 33:V.Chapter 40 must comply with these requirements and obtain an EPA identification number.

B. Mechanics of Notification. A used oil transporter who has not received an EPA identification number may obtain one by notifying the administrative authority of their used oil activity by submitting a completed Louisiana Notification of Hazardous Waste Activity Form (HW-1).

C. Upon promulgation of this Chapter, used oil transporters and transfer facilities who have previously notified must renotify the administrative authority of used oil activity.

D. Used oil transporters and transfer facilities must notify the administrative authority within seven business days if any of the information submitted in the application for the identification number changes.

§4031. Used Oil Transportation

A. Deliveries. A used oil transporter must deliver all used oil received to:

1. another used oil transporter, provided that the transporter has obtained an EPA identification number;

2. a used oil processing/re-refining facility which has obtained an EPA identification number;

3. an off-specification used oil burner facility which has obtained an EPA identification number; or

4. an on-specification used oil burner facility.

B. DOT Requirements. Used oil transporters must comply with all applicable requirements under the U.S. Department of Transportation regulations in 49 CFR parts 171-180. Persons transporting used oil that meets the definition of a hazardous material in 49 CFR 171.8 must comply with all applicable regulations in 49 CFR parts 171-180.

C. Used Oil Discharges

1. In the event of a discharge of used oil during transportation, the transporter must take appropriate immediate action to protect human health and the environment (e.g., notify local authorities, dike the discharge area, etc.).

2. If a discharge of used oil occurs during transportation and an official acting within the scope of official responsibilities determines that immediate removal of the used oil is necessary to protect human health or the environment, that official may authorize the removal of the used oil by transporters who do not have EPA identification numbers.

3. An air, rail, highway, or water transporter who has discharged used oil must:

a. give notice, if required by 49 CFR 171.15, to the National Response Center (800/424-8802 or 202/426-2675); and

b. report in writing as required by 49 CFR 171.16 to the Director, Office of Hazardous Materials Regulations, Materials Transportation Bureau, Department of Transportation, Washington, DC 20590.

4. A water transporter who has discharged used oil must give notice as required by 33 CFR 153.203.

5. A transporter must clean up any used oil discharge that occurs during transportation or take such action as may be required or approved by federal, state, or local officials so that the used oil discharge no longer presents a hazard to human health or the environment.

§4033. Rebuttable Presumption for Used Oil

A. To ensure that used oil is not a hazardous waste under the rebuttable presumption of LAC 33:V.4003.B.1.b, the used oil transporter must determine whether the total halogen content of used oil being transported or stored at a transfer facility is above or below 1,000 ppm.

B. The transporter must make this determination by:

1. testing the used oil; or

2. applying knowledge of the halogen content of the used oil in light of the materials or processes used.

C. If the used oil contains greater than or equal to 1,000 ppm total halogens, it is presumed to be a hazardous waste because it has been mixed with halogenated hazardous waste, which is listed in LAC 33:V.4901. The owner or operator may rebut the presumption by demonstrating that the used oil does not contain hazardous waste (for example, by using an analytical method from SW-846, Third Edition, to show that the used oil does not contain significant concentrations of halogenated hazardous constituents, which are listed in LAC 33:V.3105.Table 1). EPA Publication SW-846, Third Edition, is available from t he G overnment P rinting O ffice, Superintendent of Documents, Box 371954, Pittsburgh, PA 15250-7954. (202) 512-1800 (document number 955-001-00000-1).

1. The rebuttable presumption does not apply to metalworking oils/fluids containing chlorinated paraffins if they are processed, through a tolling arrangement, as described in LAC 33:V.4017.C, to reclaim metalworking oils/fluids. The presumption does apply to metalworking oils/fluids if such oils/fluids are recycled in any other manner or disposed.

2. The rebuttable presumption does not apply to used oils contaminated with chlorofluorocarbons (CFCs) removed from refrigeration units if the CFCs are destined for reclamation. The rebuttable presumption does apply to used oils contaminated with CFCs that have been mixed with used oil from sources other than refrigeration units.

D. Record Retention. Records of analyses conducted or information used to comply with LAC 33:V.4033.A-C must be maintained by the transporter for at least three years.

§4035. Used Oil Storage at Transfer Facilities

Used oil transporters are subject to all applicable spill prevention, control, and countermeasures (40 CFR part 112) in addition to the requirements of this Subchapter. Used oil transporters are also subject to the Underground Storage Tanks (LAC 33:XI) standards for used oil stored in underground tanks, whether or not the used oil exhibits any characteristics of hazardous waste, in addition to the requirements of this Subchapter. Used oil transfer facility status is contingent upon approval of the administrative authority. .

A. Applicability. This Section applies to used oil transfer facilities. Used oil transfer facilities are transportation-related facilities, including loading docks, parking areas, storage areas, and other areas, where shipments of used oil are held for more than 24 hours during the normal course of transportation and not longer than 35 days. Transfer facilities that store used oil for more than 35 days are subject to regulation under LAC 33:V.Chapter 40.Subchapter E.

B. Storage Units. Owners or operators of used oil transfer facilities may not store used oil in units other than tanks, containers, or units subject to regulation under LAC 33:V.Chapters 9, 15, 17, 19, 21, 23, 25, 27-29, 31-33, 35, 37, and 43.

C. Condition of Units. Containers and aboveground tanks used to store used oil at transfer facilities must:

1. be in good condition (no severe rusting, apparent structural defects or deterioration); and

2. not be leaking (no visible leaks).

D. Secondary Containment for Containers. Containers used to store used oil at transfer facilities must be equipped with a secondary containment system.

1. The secondary containment system must consist of, at a minimum:

a. dikes, berms, or retaining walls; and

b. a floor. The floor must cover the entire area within the dikes, berms, or retaining walls; or

c. an equivalent secondary containment system.

2. The entire containment system, including walls and floors, must be sufficiently impervious to used oil to prevent any used oil which is released into the containment system from migrating out of the system to the soil, groundwater, or surface water.

E. Secondary Containment for Existing Aboveground Tanks. Existing aboveground tanks used to store used oil at transfer facilities must be equipped with a secondary containment system.

1. The secondary containment system must consist of, at a minimum:

a. dikes, berms, or retaining walls; and
b. a floor. The floor must cover the entire area within the dike, berm, or retaining wall except areas where existing portions of the tank meet the ground; or

c. an equivalent secondary containment system.

2. The entire containment system, including walls and floors, must be sufficiently impervious to used oil to prevent any used oil which is released into the containment system from migrating out of the system to the soil, groundwater, or surface water.

F. Secondary Containment for New Aboveground Tanks. New aboveground tanks used to store used oil at transfer facilities must be equipped with a secondary containment system.

1. The secondary containment system must consist of, at a minimum:

a. dikes, berms, or retaining walls; and

b. a floor. The floor must cover the entire area within the dike, berm, or retaining wall; or

2. The entire containment system, including walls and floors, must be sufficiently impervious to used oil to prevent any used oil which is released into the containment system from migrating out of the system to the soil, groundwater, or surface water.

G. Labels

1. Containers and aboveground tanks used to store used oil at transfer facilities must be labeled or marked clearly with the words "Used Oil."

2. Fill pipes used to transfer used oil into underground storage tanks at transfer facilities must be labeled or marked clearly with the words "Used Oil."

H. Response to Releases. Upon detection of a release of used oil to the environment which is not subject to the requirements of LAC 33:XI.715 and which occurred after the effective date of the recycled used oil management program in effect in the state in which the release is located, the owner/operator of a transfer facility must perform the following cleanup steps:

1. stop the release;

2. contain the released used oil;

3. clean up and manage properly the released used oil and other materials; and

4. if necessary, repair or replace any leaking used oil storage containers or tanks prior to returning them to service.

§4037. Tracking

A. Acceptance. U sed o il t ransporters m ust k eep a record of each used oil shipment accepted for transport. This record shall be in the form of a used oil reuse/recycle manifest obtained from the department. Records for each shipment must include:

1. the name and address of the generator, transporter, or processor/re-refiner who provided the used oil for transport;

2. the EPA identification number (if applicable) of the generator, transporter, or processor/re-refiner who provided the used oil for transport;

3. the quantity of used oil accepted;

4. the date of acceptance; and

5. except as provided in LAC 33:V.4037.A.5.b, the signature, dated upon receipt of the used oil, of a representative of the generator, transporter, or processor/re-refiner who provided the used oil for transport. Intermediate rail transporters are not required to sign the record of acceptance.

B. Deliveries. Used oil transporters must keep a record of each shipment of used oil that is delivered to another used oil transporter or to a used oil burner, processor/re-refiner, or disposal facility. This record shall be in the form of a used oil reuse/recycle manifest obtained from the department. Records of each delivery must include:

1. the name and address of the receiving facility or transporter;

2. the EPA identification number of the receiving facility or transporter;

3. the quantity of used oil delivered;

4. the date of delivery;

5. except as provided in LAC 33:V.4037.A.5.b, the signature, dated upon receipt of the used oil, of a representative of the receiving facility or transporter. Intermediate rail transporters are not required to sign the record of delivery.

C. Exports of Used Oil. Used oil transporters must maintain the records described in LAC 33:V.4037.B.1-4 for each shipment of used oil exported to any foreign country.

D. Record Retention. The records described in LAC 33:V.4037.A-C must be maintained for at least three years.

§4039. Management of Residues

Transporters who generate residues from the storage or transport of used oil must manage the residues as specified in LAC 33:V.4003.E.

Subchapter E. Standards for Used Oil Processors and Re-Refiners

§4041. Applicability

A. The requirements of this Subchapter apply to owners and operators of facilities that process used oil. The requirements of this Subchapter do not apply to:

1. transporters that conduct incidental processing operations that occur during the normal course of transportation as provided in LAC 33:V.4027; or

2. burners that conduct incidental processing operations that occur during the normal course of used oil management prior to burning as provided in LAC 33:V.4063.B.

Response
Exide is not a processor or refiner of used oil. Therefore, this subchapter is not applicable.

B. Other Applicable Provisions. Used oil processors/re-refiners who conduct the following activities are also subject to the requirements of other applicable provisions of this Chapter as indicated in LAC 33:V.4041.B.1-5:

1. processors/re-refiners who generate used oil must also comply with LAC 33:V.Chapter 40.Subchapter B;

2. processors/re-refiners who transport used oil must also comply with LAC 33:V.Chapter 40.Subchapter D;

3. except as provided in LAC 33:V.4041.B.3.a and b, processors/re-refiners who b urn o ff-specification used oil for energy recovery must also comply with LAC 33:V.Chapter 40.Subchapter F. Processors/re-refiners burning used oil for energy recovery under the following conditions are not subject to LAC 33:V.Chapter 40.Subchapter F:

a. the used oil is burned in an on-site space heater that meets the requirements of LAC 33:V.4015; or

b. the used oil is burned for purposes of processing used oil which is considered burning incidentally to used oil processing;

5. processors/re-refiners who direct shipments of off-specification used oil from their facility to a used oil burner or first claim that used oil that is to be burned for energy recovery meets the used oil fuel specifications set forth in LAC 33:V.4005 must also comply with LAC 33:V.Chapter 40.Subchapter G; and

6. processors/re-refiners who dispose of used oil must also comply with LAC 33:V.Chapter 40.Subchapter H.

§4043. Notification

A. Identification Numbers. Used oil processors and re-refiners who have not previously complied with the notification requirements of LAC 33:V. Chapter 40 must comply with these requirements and obtain an EPA identification number.

B. Mechanics of Notification. A used oil processor or re-refiner who has not received an EPA identification number may obtain one by notifying the administrative authority of their used oil activity by submitting a completed Louisiana Notification of Haz. Waste Activity Form (HW-1).

C. Upon promulgation of this Chapter, used oil processors and re-refiners who have previously notified must renotify the administrative authority of used oil activity.

D. Used oil processors and re-refiners must notify the administrative authority within seven business days if any of the information submitted in the application for the identification number changes.

§4045. General Facility Standards

A. Preparedness and Prevention. Owners and operators of used oil processing and re-refining facilities must comply with the following requirements:

1. Maintenance and Operation of Facility. Facilities must be maintained and operated to minimize the possibility of a fire, explosion, or any unplanned release of used oil to air, soil, or surface water which could threaten human health or the environment;

2. Required Equipment. All facilities must be equipped with the following, unless none of the hazards posed by used oil handled at the facility could require a particular kind of equipment specified in LAC 33:V.4045.A.2.a-d:

a. an internal communications or alarm system capable of providing immediate emergency instruction (voice or signal) to facility personnel;

b. a device, such as a telephone (immediately available at the scene of operations) or a hand-held two-way radio, capable of summoning emergency assistance from local police departments, fire departments, or emergency response teams;

c. portable fire extinguishers, fire control equipment (including special extinguishing equipment, such as that using foam, inert gas, or dry chemicals), spill control equipment, and decontamination equipment; and

d. water at adequate volume and pressure to supply water hose streams, or foam producing equipment, or automatic sprinklers, or water spray systems;

3. Testing and Maintenance of Equipment. All facility communications or alarm systems, fire protection equipment, spill control equipment, and decontamination equipment, where required, must be tested and maintained as necessary to ensure its proper operation in time of emergency;

4. Access to Communications or Alarm System

a. Whenever used oil is being poured, mixed, spread, or otherwise handled, all personnel involved in the operation must have

immediate access to an internal alarm or emergency communication device, either directly or through visual or voice contact with another employee, unless such a device is not required in LAC 33:V.4045.A.2;

b. If there is ever just one employee on the premises while the facility is operating, the employee must have immediate access to a communication device, such as a telephone (immediately available at the scene of operation) or a hand-held two-way radio, capable of summoning external emergency assistance, unless such a device is not required in LAC 33:V.4045.A.2;

5. Required Aisle Space. The owner or operator must maintain aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of facility operation in an emergency, unless aisle space is not needed for any of these purposes; and

6. Arrangements with Local Authorities

a. The owner or operator must attempt to make the following arrangements, as appropriate for the type of used oil handled at the facility and the potential need for the services of these organizations:

i. to familiarize police, fire departments, and emergency response teams with the layout of the facility, properties of used oil handled at the facility and associated hazards, places where facility personnel would normally be working, entrances to roads inside the facility, and possible evacuation routes;

ii. to designate primary emergency authority to a specific police and a specific fire department for those instances when multiple departments might respond to an emergency and to make further agreements with any other departments to provide support to the primary emergency authority;

iii. to make agreements with emergency response teams, emergency response contractors, and equipment suppliers; and

iv. to familiarize local hospitals with the properties of used oil handled at the facility and the types of injuries or illnesses which could result from fires, explosions, or releases at the facility;

b. Where local authorities decline to enter into such arrangements, the owner or operator must document the refusal in the operating record.

B. Contingency Plan and Emergency Procedures. Owners and operators of used oil processing and re-refining facilities must comply with the following requirements:

1. Purposes and Implementation of Contingency Plan

a. Each owner or operator must have a contingency plan for the facility. The contingency plan must be designed to minimize hazards to human health or the environment from fires, explosions, or any unplanned release of used oil to air, soil, or surface water;

b. The provisions of the plan must be carried out immediately whenever there is a fire, explosion, or release of used oil which could threaten human health or the environment;

2. Content of Contingency Plan

a. The contingency plan must describe the actions facility personnel must take to comply with LAC 33:V.4045.B.1 and 6 in response to fires, explosions, or any unplanned release of used oil to air, soil, or surface water at the facility;

b. If the owner or operator has already prepared a Spill Prevention, Control, and Countermeasures (SPCC) Plan in accordance with 40 CFR chapter 1 part 112, or 40 CFR chapter V part 1510, or some other emergency or contingency plan, the owner or operator need only amend that plan to incorporate used oil management provisions that are sufficient to comply with the requirements of this Chapter;

c. The plan must describe arrangements agreed to by local police departments, fire departments, emergency response teams, emergency response contractors, equipment suppliers, and hospitals to coordinate emergency services in accordance with LAC 33:V.4045.A.6;

d. The plan must list names, addresses, and phone numbers (office and home) of all persons qualified to act as the emergency coordinator (see LAC 33:V.4045.B.5) and this list must be kept up-to-date. Where more than one person is listed, one must be named as primary emergency coordinator and the others must be listed in the order in which they will assume responsibility as alternates;

e. The plan must include a list of all emergency equipment at the facility (such as fire extinguishing systems, spill control equipment, internal and external communications and alarm systems, and decontamination equipment), where this equipment may be required. This list must be kept up-to-date. In addition, the plan must include the location and a physical description of each item on the list and a brief outline of its capabilities;

f. The plan must include an evacuation plan for facility personnel where there is a possibility that evacuation could be necessary. This plan must describe signal(s) to be used to begin evacuation, evacuation routes, and alternate evacuation routes (in cases where the primary routes could be blocked by releases of used oil or fires);

3. Copies of Contingency Plan. A copy of the contingency plan and all revisions to the plan must be:

a. maintained at the facility; and

b. submitted to all local police departments, fire departments, emergency response teams, and hospitals that may be called upon to provide emergency services;

4. Amendment of Contingency Plan. The contingency plan must be reviewed and immediately amended, if necessary, whenever:

a. applicable regulations are revised;

b. the plan fails in an emergency;

c. the facility changes its design, construction, operation, maintenance, or other circumstances in such a way that materially increases the potential for fires, explosions, or releases of used oil or changes the response necessary in an emergency;

d. the list of emergency coordinators changes; or

e. the list of emergency equipment changes;

5. Emergency Coordinator. At all times, there must be at least one employee either on the facility premises or on call (i.e., available to respond to an emergency by reaching the facility within a short period of time) with the responsibility for coordinating all emergency response measures. This emergency coordinator must be thoroughly familiar with all aspects of the facility's contingency plan, all operations and activities at the facility, the location and characteristic of used oil handled, the location of all records within the facility, and facility layout.

In addition, this person must have the authority to commit the resources needed to carry out the contingency plan.

Note: The emergency coordinator's responsibilities are more fully spelled out in LAC 33:V.4045.B.6. Applicable responsibilities for the emergency coordinator vary, depending on factors such as the type and variety of used oil handled by the facility and the type and complexity of the facility; and

6. Emergency Procedures

a. Whenever there is an imminent or actual emergency situation, the emergency coordinator (or the designee when the emergency coordinator is on call) must immediately:

i. activate internal facility alarms or communication systems, where applicable, to notify all facility personnel; and

ii. notify appropriate local agencies that have designated response roles, if their help is needed.

b. Whenever there is a release, fire, or explosion, the emergency coordinator must immediately identify the character, exact source, amount, and the real extent of any released materials. He may do this by observation, review of facility records of manifests and, if necessary, chemical analyses.

c. Concurrently, the emergency coordinator must assess possible hazards to human health or the environment that may result from the release, fire, or explosion. This assessment must consider both direct and indirect effects of the release, fire, or explosion (e.g., the effects of any toxic, irritating, or asphyxiating gases that are generated or the effects of any hazardous surface water run-offs from water containing chemical agents used to control fire and heat-induced explosions).

d. If the emergency coordinator determines that the facility has had a release, fire, or explosion which could threaten human health or the environment outside the facility, then he must report his findings as follows:

i. if his assessment indicates that evacuation of local areas may be advisable, he must immediately notify appropriate local authorities. He must be available to help appropriate officials decide whether local areas should be evacuated; and

ii. he must immediately notify the state official designated as the on-scene coordinator for the geographical area.

The report must include:

(a) name and telephone number of reporter;

(b) name and address of facility;

(c) time and type of incident (e.g., release, fire);

(d) name and quantity of material(s) involved, to the extent known;

(e) the extent of injuries, if any; and

(f) the possible hazards to human health or the environment outside the facility.

e. During an emergency, the emergency coordinator must take all reasonable measures necessary to ensure that fires, explosions, and releases do not occur, recur, or spread to other used oil or hazardous waste at the facility. These measures must include, where applicable, stopping processes and operation, collecting and containing released used oil, and removing or isolating containers.

f. If the facility stops operation in response to a fire, explosion, or release, t he e mergency coordinator must monitor for leaks, pressure buildup, gas generation, or ruptures in valves, pipes, or other equipment, wherever this is appropriate.

g. Immediately after an emergency, the emergency coordinator must provide for recycling, storing, or disposing of recovered used oil, contaminated soil or surface water, or any other material that results from a release, fire, or explosion at the facility.

h. The emergency coordinator must ensure that, in the affected area(s) of the facility:

i. no waste or used oil that may be incompatible with the released material is recycled, treated, stored, or disposed of until cleanup procedures are completed;

ii. all emergency equipment listed in the contingency plan is cleaned and fit for its intended use before operations are resumed; and

iii. the owner or operator must n otify t he a dministrative authority and appropriate local authorities that the facility is in compliance with LAC 33:V.4045.B.h.i and ii before operations are resumed in the affected area(s) of the facility.

i. The owner or operator must note in the operating record the time, date, and details of any incident that requires implementing the contingency plan. Within 15 days after the incident, he must submit a written report about the incident to the administrative authority. The report must include:

i. name, address, and telephone number of the owner or operator;

ii. name, address, and telephone number of the facility;

iii. date, time, and type of incident (e.g., fire, explosion);

iv. name and quantity of material(s) involved;

v. the extent of injuries, if any;

vi. an assessment of actual or potential hazards to human health or the environment, where this is applicable; and

vii. estimated quantity and disposition of recovered material that resulted from the incident.

§4047. Rebuttable Presumption for Used Oil

A. To ensure that used oil managed at a processing/re-refining facility is not hazardous waste under the rebuttable presumption of LAC 33:V.4003.B.1.b, the owner or operator of a used oil processing/re-refining facility must determine whether the total halogen content of used oil managed at the facility is above or below 1,000 ppm.

B. The owner or operator must make this determination by:

1. testing the used oil; or

2. applying knowledge of the halogen content of the used oil in light of the materials or processes used.

C. If the used oil contains greater than or equal to 1,000 ppm total halogens, it is presumed to be a hazardous waste because it has been mixed with halogenated hazardous waste, which is listed in LAC 33:V.4901. The owner or operator may rebut the presumption by demonstrating that the used oil does not contain hazardous waste (for example, by using an analytical method from SW-846, Third Edition, to show that the used oil does not contain significant

concentrations of halogenated hazardous constituents, which are listed in LAC 33:V.3105.Table 1). EPA Publication SW-846, Third Edition, is available from t he G overnment P rinting O ffice, Superintendent of Documents, Box 371954, Pittsburgh, PA 15250-7954. (202) 512-1800 (document number 955-001-00000-1).

1. The rebuttable presumption does not apply to metalworking oils/fluids containing chlorinated paraffins if they are processed, through a tolling agreement, to reclaim metalworking oils/fluids. The presumption does apply to metalworking oils/fluids if such oils/fluids are recycled in any other manner or disposed.

2. The rebuttable presumption does not apply to used oils contaminated with chlorofluorocarbons (CFCs) removed from refrigeration units where the CFCs are destined for reclamation. The rebuttable presumption does apply to used oils contaminated with CFCs that have been mixed with used oil from sources other than refrigeration units.

§4049. Used Oil Management

Used oil processors/re-refiners are subject to all applicable Spill Prevention, Control, and Countermeasures (40 CFR part 112) in addition to the requirements of this Subchapter. Used oil processors/re-refiners are also subject to the Underground Storage Tanks (LAC 33:XI) standards for used oil stored in underground tanks whether or not the used oil exhibits any characteristics of hazardous waste, in addition to the requirements of this Subchapter.

A. Management Units. Used oil processors/re-refiners may not store used oil in units other than tanks, containers, or units subject to regulation under LAC 33:V.Chapters 9, 15, 17, 19, 21, 23, 25, 27-29, 31-33, 35, 37, and 43.

B. Condition of Units. Containers and aboveground tanks used to store or process used oil at processing and re-refining facilities must:

1. be in good condition (no severe rusting, apparent structural defects or deterioration); and

2. not be leaking (no visible leaks).

C. Secondary Containment for Containers. Containers used to store or process used oil at processing and re-refining facilities must be equipped with a secondary containment system.

1. The secondary containment system must consist of, at a minimum:

a. dikes, berms, or retaining walls; and

b. a floor. The floor must cover the entire area within the dike, berm, or retaining wall; or

c. an equivalent secondary containment system.

2. The entire containment system, including walls and floor, must be sufficiently impervious to used oil to prevent any used oil released into the containment system from migrating out of the system to the soil, groundwater, or surface water.

D. Secondary Containment for Existing Aboveground Tanks. Existing aboveground tanks used to store or process used oil at processing and re-refining facilities must be equipped with a secondary containment system.

1. The secondary containment system must consist of, at a minimum:

a. dikes, berms, or retaining walls; and

b. a floor. The floor must cover the entire area within the dike, berm, or retaining wall except areas where existing portions of the tank meet the ground; or

c. an equivalent secondary containment system.

2. The entire containment system, including walls and floor, must be sufficiently impervious to used oil to prevent any used oil released into the containment system from migrating out of the system to the soil, groundwater, or surface water.

E. Secondary Containment for New Aboveground Tanks. New aboveground tanks used to store or process used oil at processing and re-refining facilities must be equipped with a secondary containment system.

1. The secondary containment system must consist of, at a minimum:

a. dikes, berms, or retaining walls; and

b. a floor. The floor must cover the entire area within the dike, berm, or retaining wall; or

c. an equivalent secondary containment system.

2. The entire containment system, including walls and floor, must be sufficiently impervious to used oil to prevent any used oil released into the containment system from migrating out of the system to the soil, groundwater, or surface water.

F. Labels

1. Containers and aboveground tanks used to store or process used oil at processing and re-refining facilities must be labeled or marked clearly with the words "Used Oil."

2. Fill pipes used to transfer used oil into underground storage tanks at processing and re-refining facilities must be labeled or marked clearly with the words "Used Oil."

G. Response to Releases. Upon detection of a release of used oil to the environment not subject to the requirements of LAC 33:XI.715 which has occurred after the effective date of the recycled used oil management program in effect in the state in which the release is located, an owner/operator must perform the following cleanup steps:

1. stop the release;

2. contain the released used oil;

3. clean up and manage properly the released used oil and other materials; and

4. if necessary, repair or replace any leaking used oil storage containers or tanks prior to returning them to service.

H. Closure

1. Aboveground Tanks. Owners and operators who store or process used oil in aboveground tanks must comply with the following requirements:

a. at closure of a tank system, the owner or operator must remove or decontaminate used oil residues in tanks, contaminated containment system components, contaminated soils, and structures and equipment contaminated with used oil, and manage them as hazardous waste, unless the materials are not hazardous waste under LAC 33:V.Subpart 1; and

b. if the owner or operator demonstrates that not all contaminated soils can be practicably removed or decontaminated as required in LAC 33:V.4049.H.1.a, then the owner or operator must close the tank system and perform post-closure care in accordance with the closure and post-closure care requirements that apply to hazardous waste landfills (LAC 33:V.4501).

2. Containers. Owners and operators who store used oil in containers must comply with the following requirements:

a. at closure, containers holding used oils or residues of used oil must be removed from the site; and

b. the owner or operator must remove or decontaminate used oil residues, contaminated containment system components, contaminated soils, and structures and equipment contaminated with used oil and manage them as hazardous waste, unless

materials are not hazardous waste under LAC 33:V.Chapters 1, 31, 41, and 49.

§4051. Analysis Plan

Owners or operators of used oil processing and re-refining facilities must develop and follow a written analysis plan describing the procedures that will be used to comply with the analysis requirements of LAC 33:V.4047 and, if applicable, LAC 33:V.4081. The owner or operator must keep the plan at the facility.

A. Rebuttable Presumption for Used Oil in LAC 33:V.4047. At minimum, the plan must specify the following:

1. whether sample analyses or knowledge of the halogen content of the used oil will be used to make this determination;

2. if sample analyses are used to make this determination:

a. the sampling method used to obtain representative samples to be analyzed. A representative sample may be obtained using either:

i. one of the sampling methods in LAC 33:V.4901.Appendix D; or

ii. a method shown to be equivalent under LAC 33:V.105.H and I;

b. the frequency of sampling to be performed and whether the analysis will be performed on-site or off-site; and

c. the methods used to analyze used oil for the parameters specified in LAC 33:V.4047; and

3. the type of information that will be used to determine the halogen content of the used oil.

B. On-specification Used Oil Fuel in LAC 33:V.4081. At a minimum, the plan must specify the following if LAC 33:V.4081 is applicable:

1. whether sample analyses or other information will be used to make this determination;

2. if sample analyses are used to make this determination:

a. the sampling method used to obtain representative samples to be analyzed. A representative sample may be obtained using either:

i. one of the sampling methods in LAC 33:V.4901.Appendix D; or

ii. a method shown to be equivalent under LAC 33:V.105.H and I;

b. whether used oil will be sampled and analyzed prior to or after any processing/re-refining;

c. the frequency of sampling to be performed and whether the analysis will be performed on-site or off-site; and

d. the methods used to analyze used oil for the parameters specified in LAC 33:V.4081; and

3. the type of information that will be used to make the on-specification used oil fuel determination.

§4053. Tracking

A. Acceptance. Used oil processors/re-refiners must keep a record of each used oil shipment accepted for processing/re-refining. These records shall take the form of a used oil reuse/recycle manifest obtained from t he d epartment. Records for each shipment must include the following information:

1. the name and address of the transporter who delivered the used oil to the processor/re-refiner;

2. the name and address of the generator or processor/re-refiner from whom the used oil was sent for processing/re-refining;

3. the EPA identification number of the transporter who delivered the used oil to the processor/re-refiner;

4. the EPA identification number (if applicable) of the generator or processor/re-refiner from whom the used oil was sent for processing/re-refining;

5. the quantity of used oil accepted; and

6. the date of acceptance.

B. Delivery. Used oil processor/re-refiners must keep a record of each shipment of used oil that is shipped to a used oil burner, processor/re-refiner, or disposal facility. These records shall take the form of a used oil reuse/recycle manifest obtained from the department. Records for each shipment must include the following information:

1. the name and address of the transporter who delivers the used oil to the burner, processor/re-refiner, or disposal facility;

2. the name and address of the burner, processor/re-refiner, or disposal facility who will receive the used oil;

3. the EPA identification number of the transporter who delivers the used oil to the burner, processor/re-refiner, or disposal facility;

4. the EPA identification number of the burner, processor/re-refiner, or disposal facility who will receive the used oil;

5. the quantity of used oil shipped; and

6. the date of shipment.

C. Record Retention. The records described in LAC 33:V.4053.A and B must be maintained for at least three years.

§4055. Operating Record and Reporting

A. Operating Record

1. The owner or operator must keep a written operating record at the facility.

2. The following information must be recorded, as it becomes available, and maintained in the operating record until closure of the facility:

a. records and results of used oil analyses performed as described in the analysis plan required under LAC 33:V.4051; and

b. summary reports and details of all incidents that require implementation of the contingency plan as specified in LAC 33:V.4045.B.

B. Reporting. A used oil processor/re-refiner must report to the administrative authority, in the form of a letter, on a biennial basis (by March 1 of each even-numbered year), the following information concerning used oil activities during the previous calendar year:

1. the EPA identification number, name, and address of the processor/re-refiner;

2. the calendar year covered by the report; and

3. the quantities of used oil accepted for processing/re-refining and the manner in which the used oil is processed/re-refined, including the specific processes employed.

§4057. Off-site Shipments of Used Oil

Used oil processors/re-refiners who initiate shipments of used oil off-site must ship this oil using a used oil transporter who has obtained an EPA identification number.

§4059. Management of Residues

Owners and operators who generate residues from the storage, processing, or re-refining of used oil must manage the residues as specified in LAC 33:V.4003.E.

Subchapter F. Standards for Used Oil Burners Which Burn Off-specification Used Oil for Energy Recovery

§4061. Applicability

A. General. The requirements of this Subchapter apply to used oil burners except as specified in LAC 33:V.4061.A.1 and 2. A used oil burner is a facility where used oil not meeting the specification requirements in LAC 33:V.4005 is burned for energy recovery in devices identified in LAC 33:V.4063.A. Facilities burning used oil for energy recovery under the following conditions are not subject to LAC 33:V.Chapter 40.Subchapter F:

1. the used oil is burned by the generator in an on-site space heater under the provisions of LAC 33:V.4015; or

2. the used oil is burned by a processor/re-refiner for purposes of processing used oil, which is considered burning incidentally to used oil processing.

Response
Exide does not burn used oil. Therefore, this subchapter is not applicable.

B. Other Applicable Provisions. Used oil burners who conduct the following activities are also subject to the requirements of other applicable provisions of this Chapter as indicated below:

1. burners who generate used oil must also comply with LAC 33:V.Chapter 40.Subchapter B;

2. burners who transport used oil must also comply with LAC 33:V.Chapter 40.Subchapter D;

3. burners who process or re-refine used oil must also comply with LAC 33:V.Chapter 40.Subchapter E, except as provided in LAC 33:V.4063.B;

4. burners who direct shipments of off-specification used oil from their facility to a used oil burner or first claim that used oil that is to be burned for energy recovery meets the used oil fuel specifications set forth in LAC 33:V.4005 must also comply with LAC 33:V.Chapter 40.Subchapter G; and

5. burners who dispose of used oil must comply with Chapter 40.Subchapter H.

C. Specification Fuel. This Subchapter does not apply to persons burning used oil that meets the used oil fuel specification of LAC 33:V.4005, provided that the burner complies with the requirements of LAC 33:V.Chapter 40.Subchapter G.

§4063. Restrictions on Burning

A. Off-specification used oil fuel may be burned for energy recovery only in the following devices:

1. industrial furnaces identified in LAC 33:V.4003;

2. boilers, as defined in LAC 33:V.4003, that are identified as follows:

a. industrial boilers located on the site of a facility engaged in a manufacturing process where substances are transformed into new products, including the component parts of products, by mechanical or chemical processes;

b. utility boilers used to produce electric power, steam, heated or cooled air, or other gases or fluids for sale; or

c. used oil-fired space heaters provided that the burner meets the provisions of LAC 33:V.4015; or

3. hazardous waste incinerators subject to regulation under LAC 33:V.Chapter 31 or LAC 33:V.Chapter 43.Subchapter N.

B. With the following exception, used oil burners may not process used oil unless they also comply with the requirements of LAC 33:V.Chapter 40.Subchapter E. Used oil burners may aggregate off-specification used oil with virgin oil or on-specification used oil for purposes of burning, but may not aggregate for purposes of producing on-specification used oil.

§4065. Notification

A. Identification Numbers. Used oil burners which have not previously complied with the notification requirements of this Chapter must comply with these requirements and obtain an EPA identification number.

B. Mechanics of Notification. A used oil burner who has not received an EPA identification number may obtain one by notifying the administrative authority of their used oil activity by submitting a completed Louisiana Notification of Hazardous Waste Activity Form (HW-1).

C. Upon promulgation of this Chapter, used oil burners which burn off-specification used oil for energy recovery and have previously notified must renotify the administrative authority of this used oil activity.

D. A used oil burner must notify the administrative authority within seven business days if any of the information submitted in the application for the identification number changes.

§4067. Rebuttable Presumption for Used Oil

A. To ensure that used oil managed at a used oil burner facility is not hazardous waste under the rebuttable presumption of LAC 33:V.4003.B.1.b, a used oil burner must determine whether the total halogen content of used oil managed at the facility is above or below 1,000 ppm.

B. The used oil burner must determine if the used oil contains above or below 1,000 ppm total halogens by:

1. testing the used oil;

2. applying knowledge of the halogen content of the used oil in light of the materials or processes used; or

3. if the used oil has been received from a processor/ refiner subject to regulation under LAC 33:V.Chapter 40.Subchapter E, using information provided by the processor/re-refiner.

C. If the used oil contains greater than or equal to 1,000 ppm total halogens, it is presumed to be a hazardous waste because it has been mixed with halogenated hazardous waste, which is listed in LAC 33:V.4901. The owner or operator may rebut the presumption by demonstrating that the used oil does not contain hazardous waste (for example, by using an analytical method from SW-846, Third Edition, to show that the used oil does not contain significant concentrations of halogenated hazardous constituents, which are listed in LAC 33:V.3105.Table 1). EPA Publication SW-846, Third Edition, is available from t he G overnment P rinting O ffice, Superintendent of Documents, Box 371954, Pittsburgh, PA 15250-7954. (202) 512-1800 (document number 955-001-00000-1).

1. The rebuttable presumption does not apply to metalworking oils/fluids containing chlorinated paraffins if they are processed, through a tolling arrangement as described in LAC 33:V.4017.C to reclaim metalworking oils/fluids. The presumption does apply to metalworking oils/fluids if such oils/fluids are recycled in any other manner or disposed.

2. The rebuttable presumption does not apply to used oils contaminated with chlorofluorocarbons (CFCs) removed from refrigeration units where the CFCs are destined for reclamation. The rebuttable presumption does apply to used oils contaminated with CFCs that have been mixed with used oil from sources other than refrigeration units.

D. Record Retention. Records of analyses conducted or information used to comply with LAC 33:V.4067.A-C must be maintained by the burner for at least three years.

§4069.Used Oil Storage

Used oil burners are subject to all applicable Spill Prevention, Control, and Countermeasures (40 CFR part 112) in addition to the requirements of this Subchapter. Used oil burners are also subject to the Underground Storage Tank (LAC 33:XI) standards for used oil stored in underground tanks whether or not the used oil exhibits any characteristics of hazardous waste, in addition to the requirements of this Subchapter.

A. Storage Units. Used oil burners may not store used oil in units other than tanks, containers, or units subject to regulation under LAC 33:V.Chapters 9, 15, 17, 19, 21, 23, 25, 27-29, 31-33, 35, 37, and 43.

B. Condition of Units. Containers and aboveground tanks used to store oil at burner facilities must:

1. be in good condition (no severe rusting, apparent structural defects or deterioration); and

2. not be leaking (no visible leaks).

C. Secondary Containment for Containers. Containers used to store used oil at burner facilities must be equipped with a secondary containment system.

1. The secondary containment system must consist of, at a minimum:

a. dikes, berms, or retaining walls; and

b. a floor. The floor must cover the entire area within the dike, berm, or retaining wall.

2. The entire containment system, including walls and floor, must be sufficiently impervious to used oil to prevent any used oil released into the containment system from migrating out of the system to the soil, groundwater, or surface water.

D. Secondary Containment for Existing Aboveground Tanks. Existing aboveground tanks used to store used oil at burner facilities must be equipped with a secondary containment system.

1. The secondary containment system must consist of, at a minimum:

a. dikes, berms, or retaining walls; and

b. a floor. The floor must cover the entire area within the dike, berm, or retaining wall except areas where existing portions of the tank meet the ground; or

c. an equivalent secondary containment system.

2. The entire containment system, including walls and floor, must be sufficiently impervious to used oil to prevent any used oil released into the containment system from migrating out of the system to the soil, groundwater, or surface water.

E. Secondary Containment For New Aboveground Tanks. New aboveground tanks used to store used oil at burner facilities must be equipped with a secondary containment system.

1. The secondary containment system must consist of, at a minimum:

a. dikes, berms, or retaining walls; and

b. a floor. The floor must cover the entire area within the dike, berm, or retaining wall; or

c. an equivalent secondary containment system.

2. The entire containment system, including walls and floor, must be sufficiently impervious to used oil to prevent any used oil released into the containment system from migrating out of the system to the soil, groundwater, or surface water.

F. Labels

1. Containers and aboveground tanks used to store used oil at burner facilities must be labeled or marked clearly with the words "Used Oil."

2. Fill pipes used to transfer used oil into underground storage tanks at burner facilities must be labeled or marked clearly with the words "Used Oil."

G. Response to Releases. Upon detection of a release of used oil to the environment not subject to the requirements of LAC 33:XI.715 which has occurred after the effective date of the recycled used oil management program in effect for the state in which the release is located, a burner must perform the following cleanup steps:

1. stop the release;

2. contain the released used oil;

3. clean up and manage properly the released used oil and other materials; and

4. if necessary, repair or replace any leaking used oil storage containers or tanks prior to returning them to service.

§4071. Tracking

A. Acceptance. Used oil burners must keep a record of each used oil shipment accepted for burning. These records shall take the form of a used oil reuse/recycle manifest obtained from the department. Records for each shipment must include the following information:

1. the name and address of the transporter who delivered the used oil to the burner;

2. the name and address of the generator or processor/re-refiner from whom the used oil was sent to the burner;

3. the EPA identification number of the transporter who delivered the used oil to the burner;

4. the EPA identification number (if applicable) of the generator or processor/re-refiner from whom the used oil was sent to the burner;

5. the quantity of used oil accepted; and

6. the date of acceptance.

B. Record Retention. The records described in LAC 33:V.4071.A must be maintained for at least three years.

§4073. Notices

A. Certification. Before a burner accepts the first shipment of off-specification used oil fuel from a generator, transporter, or processor/re-refiner, the burner must provide to the generator, transporter, or processor/re-refiner a one-time written and signed notice certifying that:

1. the burner has notified the administrative authority stating the location and general description of his used oil management activities; and

2. the burner will burn the used oil only in an industrial furnace or boiler identified in LAC 33:V.4063.A.

B. Certification Retention. The certification described in LAC 33:V.4073.A must be maintained for three years from the date the burner last receives shipment of off-specification used oil from that generator, transporter, or processor/re-refiner.

§4075. Management of Residues

Burners who generate residues from the storage or burning of used oil must manage the residues as specified in LAC 33:V.4003.E.

Subchapter G. Standards for Used Oil Fuel Marketers

§4077. Applicability

A. Any person who conducts either of the following activities is subject to the requirements of this Subchapter:

1. directs a shipment of off-specification used oil from their facility to a used oil burner; or

2. first claims that used oil that is to be burned for energy recovery meets the used oil fuel specifications set forth in LAC 33:V.4005.

B. The following persons are not marketers subject to this Subchapter:

1. used oil generators and transporters who transport used oil received only from generators, unless the generator or transporter directs a shipment of off-specification used oil from their facility to a used oil burner. Processors/re-refiners who burn some used oil fuel for purposes of processing are considered to be burning incidentally to processing. Thus, generators and transporters who direct shipments of off-specification used oil to processor/re-refiners who incidentally burn used oil are not marketers subject to this Subchapter; and

2. persons who direct shipments of on-specification used oil and who are not the first person to claim the oil meets the used oil fuel specifications of LAC 33:V.4005.

<u>Response</u>
Exide is a used oil generator. Exide does not direct any shipments of off-specification used oil from its facility to a used oil burner or does not first claim that used oil that is to be burned for energy recovery meets the used oil fuel specifications set forth in LAC 33:V.4005. Therefore, this subchapter is not applicable.

C. Any person subject to the requirements of this Subchapter must also comply with one of the following:

1. LAC 33:V.Chapter 40.Subchapter B;

2. LAC 33:V.Chapter 40.Subchapter D;

3. LAC 33:V.Chapter 40.Subchapter E; or

4. LAC 33:V.Chapter 40.Subchapter F.

§4079. Prohibitions

A used oil fuel marketer may initiate a shipment of off-specification used oil only to a used oil burner who:

A. has an EPA identification number; and

B. burns the used oil in an industrial furnace or boiler identified in LAC 33:V.4063.A.

§4081. On-specification Used Oil Fuel

A. Analysis of Used Oil Fuel. A generator, transporter, processor/re-refiner, or burner may determine that used oil that is to be burned for energy recovery meets the fuel specifications of LAC 33:V.4005 by performing analyses or obtaining copies of analyses or other information documenting that the used oil fuel meets the specifications.

B. Record Retention. A generator, transporter, processor/ re-refiner, or burner who first claims that used oil that is to be burned for energy recovery meets the specifications for used oil fuel under LAC 33:V.4005, must keep copies of analyses of the used oil (or other information used to make the determination) for three years.

§4083. Notification

A. Identification Numbers. A used oil fuel marketer subject to the requirements of this Subchapter who has not previously complied with the notification requirements of this Chapter must comply with these requirements and obtain an EPA identification number.

B. A marketer who has not received an EPA identification number may obtain one by notifying the administrative authority of their used oil activity by submitting a completed Louisiana Notification of Hazardous Waste Activity Form (HW-1) EPA Form 8700-12.

C. Upon promulgation of this Chapter, used oil fuel marketers who have previously notified must renotify the administrative authority of used oil activity.

D. A generator must notify the administrative authority within seven days if any of the information submitted in the application for the identification number changes.

§4085. Tracking

A. Off-specification Used Oil Delivery. Any used oil marketer who directs a shipment of off-specification used oil to a burner must keep a record of each shipment of used oil to that used oil burner. These records shall take the form of a used oil reuse/recycle manifest obtained from the department. Records for each shipment must include the following information:

1. the name and address of the transporter who delivers the used oil to the burner;

2. the name and address of the burner who receives the used oil;

3. the EPA identification number of the transporter who delivers the used oil to the burner;

4. the EPA identification number of the burner;

5. the quantity of used oil shipped; and

6. the date of shipment.

B. On-Specification Used Oil Delivery. A generator, transporter, processor/re-refiner, or burner who first claims the used oil that is to be burned for energy recovery meets the fuel specifications under LAC 33:V.4005 must keep a record of each shipment of used oil to the facility to which it delivers the used oil. Records for each shipment must include the following information:

1. the name and address of the facility receiving the shipment;

2. the quantity of used oil fuel delivered;

3. the date of shipment or delivery; and

4. a cross-reference to the record of used oil analysis or other information used to make the determination that the oil meets the specification as required under LAC 33:V.4081.A.

C. Record Retention. The records described in LAC 33:V.4085.A and B must be maintained for at least three years.

§4087. Notices

A. Certification. Before a used oil generator, transporter, or processor/re-refiner directs the first shipment of off-specification used oil fuel to a burner, he must obtain a one-time notice written and signed by the burner certifying that:

1. the burner has notified the administrative authority stating the location and general description of his used oil management activities; and

2. the burner will burn the off-specification used oil only in an industrial furnace or boiler identified in LAC 33:V.4063.A.

B. Certification Retention. The certification described in LAC 33:V.4087.A must be maintained for three years from the date the last shipment of off-specification used oil is shipped to the burner.

Subchapter H. Standards for Disposal of Used Oil and Use as a Dust Suppressant

§4089. Applicability

The requirements of this Subchapter apply to all used oils that cannot be recycled and are therefore being disposed.

§4091. Disposal

A. Disposal of Hazardous Used Oils. Used oils that are identified as a hazardous waste and cannot be recycled in accordance with this Chapter must be managed in accordance with the hazardous waste management requirements of LAC 33:V.Subpart 1.

Response
Exide understands that used oil that is identified as hazardous waste cannot be recycled and must be managed in accordance with the hazardous waste management requirements of LAC 33:V.Subpart 1 and abide by this regulation. Exide does not generate used oils identified as hazardous waste and does not mix used oil with hazardous waste.

B. Disposal of Nonhazardous Used Oils. Used oils that are not hazardous wastes and cannot be recycled under this Chapter must be disposed in accordance with the requirements of LAC 33:VII.

Response
Exide acknowledges this citation and will comply.

§4093. Use as a Dust Suppressant

The use of used oil as a dust suppressant is prohibited.

Response
Exide will not apply used oil as a dust suppressant. Water will be used for dust suppression as indicated in the Dust Suppression Operational Procedure in Appendix 12.

41. *LAC 33:V.4091.A. The Permittee's response must reference the correct regulatory citation.*

The reference has been corrected as requested in the response to comment 40:

42. *LAC 33:V.Chapter 41, The Permittee must respond to all the regulatory requirements of Chapter 41.*

Responses have been provided to the regulatory requirements of Chapter 41, Recyclable Materials as follows:

Chapter 41. Recyclable Materials

§4101. Applicability

A. **Hazardous wastes that are recycled will be known as "recyclable materials."**

Response
Exide acknowledges the applicability of this section and will comply. Exide reclaims and recycles spent lead-acid batteries and other lead-bearing materials.

B. **A recyclable material is subject to the regulations in this Chapter and other sections as specifically referred to herein.**

Response
Exide acknowledges this section and will comply.

C. **A material which is used for a purpose for which it is manufactured or produced is not a recyclable material for purposes of this Chapter.**

Response
Exide acknowledges this section and will comply.

D. **Upon transport of a recyclable material from the generation site and out of the direct control of the generator, the owner of the recyclable material shall notify the Office of Environmental Compliance by telephone at (225) 763-3908 during office hours; (225) 342-1234 after hours, weekends, and holidays; or by e-mail utilizing the Incident Report Form and procedures found at www.deq.state.la.us/surveillance within 24 hours of any determination that the material shall not be used, reused, or recycled. Following such a determination the recyclable material is no longer considered a recyclable material and is fully subject to all requirements of these regulations.**

Response
Exide acknowledges this section and will comply.

E. **Upon determination by the generator that any material held for use, reuse, or recycle is to be discarded, such material shall no longer be considered a recyclable material and shall be handled as otherwise required in these regulations.**

Response
Exide acknowledges this section and will comply.

§4103. Notification

A. **All operators of facilities which generate, transport, treat, store, or utilize or recycle a recyclable material that have not previously notified shall notify the department within 90 days of promulgation of these rules and regulations that they are engaged in activities involving a recyclable material as defined in LAC 33:V.109. For notification, the operator may obtain notification forms from the department.**

Response
Exide acknowledges this section and has complied.

§4105. Requirements for Recyclable Material

Recyclable materials are subject to additional regulations as follows:

A. Hazardous wastes that are recycled are subject to the requirements for generators, transporters, and storage facilities of Subchapter A (Group I) of this Chapter except for the materials listed in Subsections B and C of this Section. Hazardous wastes that are recycled will be known as "recyclable materials."

Response
Exide acknowledges this section and will comply. Exide recycles spent hazardous wastes including lead-acid batteries and other lead-bearing materials. These materials are considered hazardous by characteristic (D002, D004, D006, D007, D008, D010, D011) or listing (K069).

B. The following recyclable materials (Group II) are subject to the requirements of Subchapter B of this Chapter and all applicable provisions as provided in Subchapter B of this Chapter:

1. industrial ethyl alcohol that is reclaimed except that, unless otherwise provided in an international agreement:

Response
This section does not apply as Exide does not recycle industrial ethyl alcohol.

a. a person initiating a shipment for reclamation in a foreign country, and any intermediary arranging for the shipment, must comply with the requirements applicable to a primary exporter in LAC 33:V.1113.D, G, and H, export such materials only upon consent of the receiving country and in conformance with the Louisiana State Acknowledgment of Consent as defined in LAC 33:V.1113, and provide a copy of the Louisiana State Acknowledgment of Consent to the shipment to the transporter transporting the shipment for export;

b. transporters transporting a shipment for export may not accept a shipment if he knows the shipment does not conform to the Louisiana State Acknowledgment of Consent, must ensure that a copy of the Louisiana State Acknowledgment of Consent accompanies the shipment and must ensure that it is delivered to the facility designated by the person initiating the shipment;

2. Reserved.

3. Reserved.

4. **scrap metal that is not excluded under LAC 33:V.105.D.1.m;**

   Response
   This section does not apply as Exide does not recycle scrap metal.

5. **Reserved.**

6. **Reserved.**

7. **Reserved.**

8. **fuels produced from the refining of oil-bearing hazardous wastes along with normal process streams at a petroleum refining facility if such wastes result from normal petroleum refining production, and transportation practices (this exemption does not apply to fuels produced from oil recovered from oil-bearing hazardous waste, where such recovered oil is already excluded under LAC 33:V.105.D.1.l);**

   Response
   This section does not apply as Exide does not recycle fuels from the refining of oil-bearing hazardous wastes.

9. **hazardous waste fuel produced from oil-bearing hazardous wastes from petroleum refining, production, or transportation practices, or produced from oil reclaimed from such hazardous wastes, where such hazardous wastes are reintroduced into a process that does not use distillation or does not produce products from crude oil so long as the resulting fuel meets the used oil specification under LAC 33:V.4005 of this Chapter and so long as no other hazardous wastes are used to produce the hazardous waste fuel;**

   Response
   This section does not apply as Exide does not recycle hazardous waste fuels from petroleum refining.

10. **hazardous waste fuel produced from oil-bearing hazardous waste from petroleum refining production, and transportation practices, where such hazardous wastes are reintroduced into a refining process after a point at which contaminants are removed, so long as the fuel meets the used oil fuel specification under LAC 33:V.4005;**

    Response
    This section does not apply as Exide does not recycle hazardous waste fuels from petroleum refining.

11. **oil reclaimed from oil-bearing hazardous wastes from petroleum refining, production, and transportation practices, which reclaimed oil is burned as a fuel without reintroduction to a refining process, so long as the reclaimed oil meets the used oil fuel specification under LAC 33:V.4005.**

Response
This section does not apply as Exide does not recycle oil reclaimed from oil-bearing hazardous waste.

C. **The following recyclable materials (Group III) are only subject to the requirements of LAC 33:V.Chapter 41.Subchapter C, Chapter 30 and all applicable provisions as provided in LAC 33:V.Chapters 1, 3, 5, 7, 27, 31, and 43:**

1. **recyclable materials used in a manner constituting disposal;**

   Response
   This section does not apply as Exide does not dispose of recycled materials.

2. **hazardous wastes burned for energy recovery in boilers and industrial furnaces that are not regulated under LAC 33:V.Chapters 31 or 43.Subchapter N;**

   Response
   This section does not apply as Exide does not burn hazardous waste for energy recovery in boilers and industrial furnaces.

3. **recyclable materials from which precious metals are reclaimed;**

   Response
   This section does not apply as Exide does not reclaim precious metals from recyclable materials. Exide reclaims lead from sent lead-acid batteries and other lead bearing materials.

4. **spent lead-acid batteries that are being reclaimed; and**

   Response
   Exide acknowledges this citation and will comply. Exide reclaims and recycles spent lead-acid batteries.

5. **used oil that exhibits one or more of the characteristics of hazardous waste and is burned for energy recovery in boilers and industrial furnaces that are not regulated under LAC 33:V.Chapters 31 or 43.Subchapter N.**

   Response
   This section does not apply as Exide does not burn used oil for energy recovery. Used oil is sent off-site for recycling in accordance with the Used Oil Plan in Appendix 18.

D. **The recyclable materials listed in Paragraph D.1 of this Section are subject to all requirements and provisions of Paragraph D.2 of this Section.**

1. **Any hazardous waste-derived product produced by any commercial hazardous waste incineration facility that accepts hazardous waste or hazardous waste products for a fee, or any commercial recycling or**

resource recovery facility that recycles hazardous waste to produce aggregates and that accepts hazardous wastes or hazardous waste products for a fee, provided that such derived product is:

Response
Sections D.1 and D.2 do not apply as Exide does not operate an incinerator.

a. inherently waste-like;

b. accumulated speculatively;

c. used as a fuel; or

d. used in a manner constituting disposal.

2. Recycling facilities and other entities receiving, handling, shipping, or selling the derived product from the point of production to the ultimate use of the product shall maintain for a period of three years from the date of transaction such records as needed to furnish the following information to the department upon request:

a. the name and location of each entity receiving the hazardous waste-derived product. This is to include the names, business addresses, telephone numbers, and functions of all brokers, wholesalers, middlemen, interim purchasers, and all other parties involved in any and all transactions relating to the derived product from the point of production by the recycler to the product's ultimate use;

b. the date of each shipment, the physical state and description of the hazardous waste-derived product shipped, and the total quantity of the product shipped by units of weight. If the weight is unknown, the volume and estimated weight should be provided;

c. copies of analytical results;

d. all financial documents necessary to verify all transactions and/or transfers involving the derived product, including:

i. individual sales invoices to verify the sales price of each financial transaction;

ii. state or federal tax documents or other official receipts to verify total quarterly sales of the derived product by the recycler; and

iii. all other documents necessary to verify any type of financial transaction involving transfer of the product, including such arrangements as donations, tax credits,

producer paying shipping charges, or producer paying another party to receive the product.

E. **Used oil that is recycled and is also a hazardous waste solely because it exhibits a hazardous characteristic is not subject to the requirements of LAC 33:V.Subpart 1, but is regulated under LAC 33:V.Chapter 40. Used oil that is recycled includes any used oil which is reused, following its original use, for any purpose (including the purpose for which the oil was originally used). Such term includes, but is not limited to, oil which is re-refined, reclaimed, burned for energy recovery, or reprocessed.**

Response
Exide acknowledges this requirement and will comply.

F. **Hazardous waste that is exported to or imported from designated member countries of the Organization for Economic Cooperation and Development (OECD) (as defined in LAC 33:V.1113.I.1.a) for the purpose of recovery is subject to the requirements of LAC 33:V.Chapter 11.Subchapter B, if it is subject to either the manifesting requirements of LAC 33:V.Chapter 11 or to the universal waste management standards of LAC 33:V.Chapter 38.**

Response
This section does not apply as Exide does not import or export hazardous waste.

§4107. Spills

A. **Any spill of recyclable material which could possibly endanger human health or adversely affect the environment shall be reported to the department as provided in the "Notification Regulations and Procedures for Unauthorized Discharges and Spills." (See LAC 33:I.Chapter 39.)**

Response
Exide acknowledges this requirement and will comply. The Spill Prevention Control and Countermeasure Plan is provided in Appendix 18. The plan includes the facility's capability and procedures for taking corrective actions and/or countermeasures when a spill occurs.

B. **If a spill occurs on the site of a generator or a reuse-recycle facility that handles recyclable materials and that spill could endanger the public health or affect the environment offsite, the department and the Department of Public Safety have the authority to enter the site and investigate the spill.**

Response
Exide acknowledges this requirement and will comply.

C. **Owners of the spilled material are considered to be generators for the purposes of these regulations. In an emergency situation, all reporting and manifest requirements of these rules and regulations for generators may be suspended. However, the owners of the material must submit a full report on the spill, including location of spill, type of material spilled, cause of spill, amount of spilled material, damages incurred, and how the spilled material**

was cleaned up, transported, and disposed of. This report shall be forwarded to the Office of Environmental Compliance, Surveillance Division no later than 20 days following the spill.

Response
Exide acknowledges this requirement and will comply.

D. **Whenever a spill of recyclable material occurs that requires immediate removal to protect human health or the environment, the transporter shall immediately notify the Office of Environmental Compliance by telephone at (225) 763-3908 during office hours; (225) 342-1234 after hours, weekends, and holidays; or by e-mail utilizing the Incident Report Form and procedures found at www.deq.state.la.us/surveillance as required by the "Notification Regulations and Procedures for Unauthorized Discharges and Spills." (See LAC 33:I.Chapter 39.)**

Response
Exide acknowledges this requirement and will comply.

E. **The generator, transporter, reuse facility, recycle facility, or user shall clean up all of the spilled material or take such action as may be required pursuant to the Emergency Response System so that the spilled material no longer presents a hazard to human health or the environment.**

Response
Exide acknowledges this requirement and will comply.

§4109. Violations

A. **No person shall accept any recyclable material unless it is delivered with a properly completed manifest as required by Subchapters A and C of this Chapter or under an Emergency Action Authorization pursuant to LAC 33:V.701.**

Response
Exide acknowledges this requirement and will comply.

B. **No person shall dispose of a recyclable material except by bonafide use, reuse, recycling, or reclamation or by treatment, storage, or disposal as a hazardous waste in accordance with these regulations.**

Response
Exide acknowledges this requirement and will comply.

Subchapter A. Special Requirements for Group I Recyclable Materials

§4111. Applicability

A. **Hazardous wastes that are recycled are subject to the requirements for generators, transporters, and storage facilities except for the materials listed in LAC 33:V.4105.B and C.**

Response
Exide acknowledges this requirement and will comply.

§4113. Generator, Transporter, and Notification Requirements

A. **Generators and transporters of recyclable materials are subject to the applicable requirements of LAC 33:V.Chapters 11 and 13 and the notification requirements of LAC 33:V.105 except as provided in LAC 33:V.4105.B.**

Response
Exide acknowledges this requirement and will comply.

§4115. Owners and Operators of Facilities that Store or Recycle Recyclable Materials

A. **Owners and operators of facilities that store recyclable materials before they are recycled are regulated under all applicable provisions of LAC 33:V.Chapters 3, 5, 9, 11, 15, 19, 21, 22, 23, 29, 33, 35, 37, and Subchapters A-K of LAC 33:V.Chapter 43 and the notification requirements under LAC 33:V.105.A, except as provided in LAC 33:V.4105.A. (The recycling process itself is exempt from regulations, except as provided in LAC 33:V.4115.C.)**

Response
Exide acknowledges this requirement and will comply.

B. **Owners or operators of facilities that recycle recyclable materials without storing them before they are recycled are subject to the following requirements, except as provided in LAC 33:V.4105.A:**

1. **notification requirements under LAC 33:V.105.A;**

2. **LAC 33:V.905 and 907 (dealing with the use of manifest and manifest discrepancies); and**

3. **LAC 33:V.4115.C.**

Response
Exide acknowledges this requirement and will comply.

C. **Owners or operators subject to LAC 33:V.Subpart 1 permitting requirements with hazardous waste management units that recycle hazardous wastes are subject to the requirements of LAC 33:V.Chapter 17 and Subchapters Q-R of LAC 33:V.Chapter 43.**

Response
Exide acknowledges this requirement and will comply.

Subchapter B. Special Requirements for Group II Recyclable Materials

§4117. Applicability

The requirements of this Subchapter and all applicable provisions as provided in this Subchapter apply to industrial ethyl alcohol that is reclaimed; sludges and by products exhibiting a characteristic of a hazardous waste which are reclaimed. The following wastes are exempt from regulations:

A. scrap metal;

Response
This exemption does not apply as Exide does not recycle scrap metal.

B. fuels produced from the refining of oil-bearing hazardous wastes along with normal process streams at a petroleum refining facility if such wastes result from normal petroleum refining, production, and transportation practices;

Response
This exemption does not apply as Exide does not recycle fuels produced from the refining of oil-bearing hazardous wastes.

C. oil reclaimed from hazardous waste resulting from normal petroleum refining, production, and transportation practices, which oil is to be refined along with normal process streams at a petroleum refining facility;

Response
This exemption does not apply as Exide does not recycle oil reclaimed from hazardous waste.

D. coke from the iron and steel industry that contains hazardous waste from the iron and steel production process;

Response
This exemption does not apply as Exide does not recycle coke from the iron and steel industry.

E. wastes described in LAC 33:V.4105.B.1-14 which are used or reused on-site or stored at the generator site prior to such use or reuse on-site are exempt from these regulations except that on-site storage shall be in an environmentally sound manner;

Response
This exemption does not apply as Exide does not recycle wastes described in LAC 33:V.4105.B.1-14.

F. used batteries (or used battery cells) returned to a battery manufacturer for regeneration except for storage requirements under LAC 33:V.4119;

Response
Exide understands this exemption for recycling of spent batteries and will comply with applicable regulations.

G. **used oil that exhibits one or more of the characteristics of hazardous waste but is recycled in some manner other than being burned for energy recovery.**

Response
This exemption does not apply as Exide does not recycle used oil.

§4119. Storage

A. **Except waste exempt in LAC 33:V.4117 all storage of recyclable materials described in LAC 33:V.4117 shall be in containers or tanks meeting the applicable standards of LAC 33:V.2103, 2105, 2107, 2109.A, 2111, and 2113, LAC 33:V.1903.A-D, 1905, 1907, and 1909 where practical except as otherwise specified in Subchapters A and C of this Chapter. Used batteries or used battery cells returned for manufacturer regeneration may be stored on pallets provided such storage contains the contents of the batteries or battery cells and is protective of human health and the environment. When it is impractical to store a recyclable material in containers or tanks, or in the manner described for used batteries or used battery cells, alternate storage acceptable to the administrative authority shall be provided by the owner of the material. The storage of all recyclable materials described in LAC 33:V.4117 must be in a manner which will prevent any release of the materials or constituents that would endanger the public health or the environment.**

Response
Exide acknowledges this requirement and will comply.

§4121. Manifest Forms and Shipping Documents

A. **Manifest forms containing the information required by this Chapter shall be used for all off-site shipments, except by pipeline, of recyclable material described in LAC 33:V.4117. The manifest form must be obtained from the department.**

Response
Exide acknowledges this requirement and will comply.

B. **Recyclable materials described in LAC 33:V.4117 may be collected and manifested on a trip ticket listing with the manifesting requirements fulfilled by the transporter. The listing shall show the identification of the transporter and reuse facility with a listing of the waste collected by identification, quantity, and source, on a form available from or approved by the administrative authority.**

Response
Exide acknowledges this requirement and will comply.

C. **Failure to utilize a manifest form for shipments of recyclable materials shall be a violation of LAC 33:V.Subpart 1.**

Response
Exide acknowledges this requirement and will comply.

§4123. Manifest Document Flow

A. **The generator initiates the manifest by filling out his or her portion and providing the name, address, telephone number, and active EPA identification number of each transporter, and the name, address, telephone number, and active EPA identification number of the recycling facility that will receive the recyclable material. After the initial transporter signs and dates the manifest accepting the recyclable material, the generator retains one copy for his or her files, mails a copy to the administrative authority of the state where the waste was generated, and the original and remaining copies accompany the recyclable material shipment.**

Response
Exide acknowledges this requirement and will comply.

B. **The transporter secures the signature of the operator of the facility that will receive the recyclable material upon delivery of the recyclable material. The transporter retains one copy for his or her files and gives the original and remaining copies to the facility operator.**

Response
Exide acknowledges this requirement and will comply.

C. **The facility operator fills out his or her portion, retains a copy for his or her files, submits the original to the department no later than seven days thereafter, and sends all remaining copies to the generator and other appropriate parties no later than seven days after delivery of the recyclable material.**

Response
Exide acknowledges this requirement and will comply.

D. **If a recycle facility refuses to accept a recyclable material for use, the facility operator must notify the Office of Environmental Services, Environmental Assistance Division immediately and provide the following information:**

1. **name of the person reporting the refusal and phone number for that person;**

2. **name and address of the transporter;**

3. **name and address of the generator;**

4. **name and address of the recycle facility operator;**

5. **date, time, and place of the refusal;**

6. **description of the incident; and**

7. **classification, name, and amount of recyclable material, to the extent available.**

Response
Exide acknowledges this requirement and will comply.

E. **The signing of the manifest by the generator, transporter, or facility operator certifies that to the best of his knowledge his portion of the manifest is accurately and correctly filled out. The generator further certifies that the material is properly packaged, marked and labeled and is in the proper container for transportation.**

Response
Exide acknowledges this requirement and will comply.

F. **The generator, transporter, and facility operator are required to report to the department any irregularities between the materials actually received and the materials described on the manifest, or any other irregularities, within five days.**

Response
Exide acknowledges this requirement and will comply.

G. **For rail shipments, the generator may comply with the requirements of LAC 33:V.1107.D.4 and 5.**

Response
This requirement does not apply as Exide does not ship by rail.

§4125. Procedures Governing the Generator's Portion of the Manifest System

A. **Generators of recyclable material shall use a manifest form as required by LAC 33:V.4121.**

Response
Exide acknowledges this requirement and will comply. Exide sends shipments of spent nickel-cadmium batteries to separate off-site facilities for recycling.

B. **In naming a recyclable material, a generator shall use the nomenclature for the material which otherwise would be required under these regulations if the material were subject to regulations under LAC 33:V.Chapter 11. Such description of the material shall be used on the material manifest and in all reports on the material required under this Chapter.**

Response
Exide acknowledges this requirement and will comply.

C. **A single manifest may be used for multiple loads of recyclable material, provided that:**

1. **all loads of recyclable material are shipped on the same day from the same location by the same transporter to the same facility;**

2. **all loads are accompanied by a copy of the manifest and emergency information as required by LAC 33:V.4125;**

3. **the recyclable material in all loads has the same shipping description and hazard class;**

4. **the total quantity of each load is specified and is initialed by the generator and transporter; and**

5. **the operator of the transport vehicle for each load is listed on the manifest.**

Response
Exide acknowledges this requirement and will comply.

D. **Generators must provide a Chem-Card or similar emergency card or a statement concerning the hazardous nature of the material and general guidelines for an emergency situation involving the recyclable material to accompany the manifest on shipments and loads.**

Response
Exide acknowledges this requirement and will comply.

E. **In naming a recyclable material, a generator shall:**

1. **use the proper Department of Transportation (DOT) shipping name (identified in 49 CFR 172);**
2. **if the DOT proper shipping name is "NOT OTHERWISE SPECIFIED" (NOS), then the classification system of LAC 33:V.105.B shall be used after the DOT proper shipping name, "NOS".**

Response
Exide acknowledges this requirement and will comply.

F. **If the recyclable material is to be transported out-of-state, the generator will be responsible for receiving the completed, signed manifest from the out-of-state facility.**

Response
Exide acknowledges this requirement and will comply.

G. **Generators must obtain written confirmation of the acceptability of the type of recyclable material from the operator of the facility where the material will be used or stored prior to use, before shipping the recyclable material.**

Response
Exide acknowledges this requirement and will comply.

§4127. Procedures Governing the Transporter's Portion of the Manifest System

A. Transporters will pick up and ship only those recyclable materials which are properly prepared for shipment, are accompanied by a properly completed manifest, and appear to be the recyclable material described on the manifest.

Response
As Exide is not a transporter, these requirements do not apply. However, Exide will monitor the transporter to ensure these requirements are satisfied.

B. Transporters who pick up recyclable material from generators exempted by LAC 33:V.105.B are responsible for the generator manifest requirements of this Section. Transporters may use a single manifest for shipments containing recyclable material from several generators if all generators are listed; all recyclable materials are accurately described, the materials transported in the same shipment are compatible, and the material is labeled as required in this Section by transportation regulations for hazardous materials promulgated by the Louisiana Department of Public Safety.

Response
As Exide is not a transporter, these requirements do not apply. However, Exide will monitor the transporter to ensure these requirements are satisfied.

C. If the facility rejects a shipment of recyclable material, the transporter shall return it to the generator, notify the Office of Environmental Services, Environmental Assistance Division of the action immediately, and give reasons to his best understanding why the material was rejected.

Response
As Exide is not a transporter, these requirements do not apply. However, Exide will monitor the transporter to ensure these requirements are satisfied.

§4129. Procedures Governing the Portion of the Manifest System for the Recycle Facility

A. The operator of a facility accepting out-of-state recyclable materials is responsible for all the requirements of this Section, including requiring the generator to initiate a manifest.

Response
Exide acknowledges this requirement and will comply.

B. Only those recyclable materials which are properly manifested and properly shipped are to be accepted by the operator of the facility.

Response
Exide acknowledges this requirement and will comply.

C. **If the operator of the facility rejects any recyclable material he is to notify the Office of Environmental Services, Environmental Assistance Division immediately and give reasons for the rejection.**

Response
Exide acknowledges this requirement and will comply.

D. **The operator of any facility that uses or stores a reusable material will assume all the responsibilities of a generator established by these regulations for any recyclable material transported from his facility to another facility, except for material rejected under LAC 33:V.4127.**

Response
Exide acknowledges this requirement and will comply.

§4131. Recordkeeping

A. **Generators, transporters, storers and recyclers that handle recyclable materials shall maintain the required manifests, annual reports and exception reports for a period of three years.**

Response
Exide acknowledges this requirement and will comply.

B. **An annual report shall be submitted by generators, storers and recyclers of recyclable materials and recycle facilities. The reports shall be submitted by March 1 after the end of the calendar year and shall include:**

1. **materials handled;**
2. **quantities;**
3. **physical state; and**
4. **for the recyclers, the final utilization or disposition of the recyclable materials.**

Response
Exide acknowledges this requirement and will comply.

§4133. Personnel Training

A. **All generators, storers and recyclers shall institute a personnel training program covering all portions of the facility that handle recyclable material.**

Response
Exide acknowledges this requirement and will comply. Exide's Training Manual is included in Appendix 8. The Training Manual includes medical surveillance, lockout/tagout, confined space entry, hearing conservation, respiratory protection, powered industrial truck safety, hazard communication, HAZWOPER, the facility's contingency plan, environmental regulations, spill response, work practice training,

DOT hazardous materials, sexual harassment, blood borne pathogens, heat stress, fire extinguisher use, incipient fire control, fall protection, slip trip and fall hazard avoidance, proper lifting techniques and back protection.

§4135. Contingency Plan

A. Each generator, storer and recycler shall prepare a contingency plan, outlining steps to be taken in the case of spills, fires, releases and other emergency situations.

Response
Exide acknowledges this requirement and will comply. Exide's RCRA Contingency Plan and Emergency Response Plan is included in Appendix 6. The Plan includes assignment of duties to personnel, emergency response procedures, types of emergency situations, procedures for plan or unit shutdowns, the alarm system and types and locations of emergency equipment.

Subchapter C. Special Requirements for Group III Recyclable Materials

§4139. Recyclable Materials Used in a Manner Constituting Disposal

A. Applicability

Response
This section does not apply as Exide does not use recyclable batteries in a manner constituting disposal.

1. The regulations of this Section apply to recyclable materials that are applied to or placed on the land without being mixed with any other substance(s) or after being mixed or combined with any other substance(s). These materials will be referred to throughout this Section as "materials used in a manner that constitutes disposal."

Response
This requirement does not apply as Exide does not place recyclable materials on land.

2. Except for the requirements of LAC 33:V:4105.D, products produced for the general public's use that are used in a manner that constitutes disposal and that contain recyclable materials are not presently subject to regulation if:

Response
This section does not apply as Exide does not use recyclable materials in a manner that constitutes disposal.

a. the recyclable materials have undergone a chemical reaction in the course of producing the products so as to become inseparable by physical means;

b. **such products meet the applicable treatment standards in LAC 33:V.Chapter 22.Subchapter B (or applicable prohibition levels in LAC 33:V.2209 or 2213, where no treatment standards have been established) for each recyclable material (i.e., hazardous waste constituent) that they contain; and**

c. **the product does not exhibit a characteristic of a hazardous waste as specified in LAC 33:V.4903.**

3. **Zinc-containing fertilizers using hazardous waste K061 that are produced for the general public's use are not presently subject to regulation.**

Response
This section does not apply as Exide does not manage K061 wastes.

4. **Commercial fertilizers that are produced for the general public's use that c ontain r ecyclable m aterials a lso a re n ot p resently subject to regulation provided they meet these same treatment standards or prohibition levels for each recyclable material that they contain.**

Response
This section does not apply as Exide does not produce commercial fertilizers.

5. **Anti-skid/de-icing uses of slags, which are generated from high temperature metals recovery (HTMR) processing of hazardous wastes K061, K062, and F006, in a manner constituting disposal are not covered by the exemption in Paragraphs A.2-4 of this Section and remain subject to regulation.**

Response
This section does not apply as Exide does not use slags for anti-skid/de-icing uses.

B. **General Requirements**

1. **Generators and transporters of materials that are used in a manner that constitutes disposal are subject to all the requirements of LAC 33.V.Chapters 11 and 13, and LAC 33:V.105.A of these regulations, and the notification requirement under Section 3010 of RCRA or 105.A.**

Response
This section does not apply as Exide does not use materials in a manner that constitutes disposal.

2. **Owners and operators of facilities that store recyclable materials that are to be used in a manner that constitutes disposal but who are not the ultimate users of the materials are regulated under all applicable provisions of LAC 33:V.Chapters 3, 5, 7, 9, 11, 15, 19, 21, 23, 29, 33, 35,**

37; Subchapters A-L of Chapter 43; and the notification requirement under Section 3010 of RCRA or 105.A.

Response
This section does not apply as Exide does not use materials in a manner that constitutes disposal.

3. **Owners and operators of facilities that use recyclable materials in a manner that constitutes disposal are regulated under all applicable provisions of LAC 33:V.Chapters 3, 5, 7, 9, 11, 15, 19, 21, 22, 23, 25, 27, 29, 31, 33, 35, 37; Subchapters A-M of Chapter 43; and the notification requirement under Section 3010 of RCRA or 105.A. (These requirements do not apply to products which contain these recyclable materials under the provisions of LAC 33:V.4139.A.2.)**

Response
This section does not apply as Exide does not use materials in a manner that constitutes disposal.

4. **The use of waste or used oil or other material that is contaminated with dioxin or any other hazardous waste (other than a waste identified solely on the basis of ignitability) for dust suppression or road treatment is prohibited.**

Response
Exide acknowledges this requirement and will comply.

§4143. Recyclable Materials Utilized for Precious Metal Recovery

A. **Applicability. The regulations of this Section apply to recyclable materials that are reclaimed to recover economically significant amounts of gold, silver, platinum, palladium, iridium, osmium, rhodium, ruthenium, and any combination of these.**

Response
This section does not apply as Exide does not reclaim recyclable materials for precious metals.

B. **Requirements for Persons who Generate, Transport, or Store Recyclable Materials. Persons who generate, transport, or store recyclable materials that are regulated under this Section are subject to the following requirements:**

1. **notification requirements under LAC 33:V.105.A;**

2. **generators must manifest all loads in accordance with LAC 33:V.1107;**

3. **transporters must manifest all loads in accordance with LAC 33:V.1307 and 1309;**

4. persons who store must manifest all loads in accordance with LAC 33:V.905 and 907;

5. generators are subject to the requirements of Subchapter B of this Chapter; and

6. precious metals exported to or imported from designated OECD member countries for recovery are subject to the requirements of LAC 33:V.Chapter 11.Subchapter B and LAC 33:V.4311. Precious metals exported to or imported from non-OECD countries for recovery are subject to the requirements of LAC 33:V.1113 and 1123.

C. Requirements for Persons who Store Recycled Materials. Persons who store recycled materials regulated under this Section must keep the following records to document that they are not accumulating these materials speculatively:

1. records showing the volume of these materials stored at the beginning of the calendar year;

2. the amount of these materials generated or received during the calendar year; and

3. the amount of materials remaining at the end of the calendar year.

D. Recyclable materials that are regulated under LAC 33:V.4111 that are accumulated speculatively are subject to all applicable provisions of these regulations.

Response
Exide acknowledges this requirement and will comply.

§4145. Spent Lead-Acid Batteries Being Reclaimed

A. Applicability. Are spent lead-acid batteries exempt from hazardous waste management requirements? If you generate, collect, transport, store, or re-generate lead-acid batteries for reclamation purposes, you may be exempt from certain hazardous waste management requirements. Use the following table to determine which requirements apply to you. Alternatively, you may choose to manage your spent lead-acid batteries under the Universal Waste rule in LAC 33:V.Chapter 38.

If Your Batteries	And If You	Then You	And You
1. will be reclaimed through regeneration (such as by electrolyte replacement);		are exempt from LAC 33:V. Subpart 1 except for LAC 33:V. Chapters 1, 31.Table 1, and 49, and LAC 33:V.1103, and the notification requirements at Section 3010 of RCRA;	are subject to LAC 33:V. Chapters 1, 31. Table 1, and 49 and LAC 33:V.1103.
2. will be reclaimed other than through regeneration;	generate, collect, and/or transport these batteries;	are exempt from LAC 33:V. Subpart 1 except for LAC 33:V.Chapters 1, 31.Table 1, and 49, and LAC 33:V.1103, and the notification requirements at Section 3010 of RCRA;	are subject to LAC 33:V. Chapter 1, 31. Table 1, and 49 and LAC 33:V.1103 and applicable provisions under LAC 33:V.Chapter 22.
3. will be reclaimed other than through regeneration;	store these batteries, but you aren't the reclaimer;	are exempt from LAC 33:V. Subpart 1 except for LAC 33:V.Chapters 1, 31.Table 1, and 49, and LAC 33:V.1103, and the notification requirements at Section 3010 of RCRA;	are subject to LAC 33:V. Chapters 1, 31. Table 1, and 49 and LAC 33:V.1103 and applicable provisions under LAC 33:V.Chapter 22.
4. will be reclaimed other than through regeneration;	store these batteries before you reclaim them;	must comply with LAC 33:V.4145.B and, as appropriate, other regulatory provisions described in LAC 33:V.4145.B;	are subject to LAC 33:V. Chapters 31. Table 1 and 49 and LAC 33:V.1103 and applicable provisions under LAC 33:V.Chapter 22.
5. will be reclaimed other than through regeneration;	don't store these batteries before you reclaim them;	are exempt from LAC 33:V. Subpart 1 except for LAC 33:V. Chapters 1, 31.Table 1, and 49 and LAC 33:V.1103, and the notification requirements at Section 3010 of RCRA;	are subject to LAC 33:V. Chapters 31. Table 1 and 49 and LAC 33:V.1103 and applicable provisions under LAC 33:V.Chapter 22.

<u>Response</u>
Exide acknowledges this requirement and will comply. Exide reclaims spent lead-acid batteries other than through regeneration and may store the batteries before they are reclaimed. Exide will comply with LAC 33:V.4145.B, LAC 33:V.Chapter 31, Table1, LAC 33:V.Chapter 49, LAC 33:V.1103 and applicable provisions of LAC 33:V.Chapter 22.

B. **Requirements. If I store spent lead-acid batteries before I reclaim them, but not through regeneration, which requirements apply? The requirements of this Subsection apply to you if you store spent lead-acid batteries before you reclaim them, but you don't reclaim them through regeneration. The requirements are slightly different depending on your RCRA permit status.**

1. **For interim status facilities, you must comply with:**

Response
Exide stores spent lead-acid batteries in the Truck/Trailer Storage area and the Whole Battery Storage area. These areas are permitted units and are not subject to interim status; therefore this section does not apply. Only the Containment Building is under interim status, but the Containment Building stores paste, battery components and lead-bearing material in feed piles prior to reclaiming. The Containment Building does not store spent lead-acid batteries.

a. **notification requirements under Section 3010 of RCRA;**

b. **all applicable provisions in LAC 33:V.4301-4306;**

c. **all applicable provisions in LAC 33:V.Chapter 43.Subchapter A, except LAC 33:V.4313 (waste analysis);**

d. **all applicable provisions in LAC 33:V.Chapter 43.Subchapters B and C;**

e. **all applicable provisions in LAC 33:V.Chapter 43.Subchapter D, except LAC 33:V.4353 and 4355 (dealing with the use of the manifest and manifest discrepancies);**

f. **all applicable provisions in LAC 33:V.Chapter 43.Subchapters E-K; and**

g. **all applicable provisions in LAC 33:V.Chapters 3, 5, and 7.**

2. **For permitted facilities, you must comply with:**

a. **notification requirements under Section 3010 of RCRA;**

Response
Exide acknowledges this requirement and will comply. Exide stores spent lead-acid batteries in the Truck/Trailer Storage area and the Whole Battery Storage area. These areas are permitted units and are not subject to interim status.

b. **all applicable provisions in LAC 33:V.1501;**

Response
Exide acknowledges this requirement and will comply.

c. **all applicable provisions in LAC 33:V.1503, 1504, 1507, 1509, 1515, and 1517;**

Response
Exide acknowledges this requirement and will comply.

d. **all applicable provisions in LAC 33:V.1511 and 1513;**

Response
Exide acknowledges this requirement and will comply.

e. **all applicable provisions in LAC 33:V.Chapter 9, but not LAC 33:V.905 or 907 (dealing with the use of the manifest and manifest discrepancies);**

Response
Exide acknowledges this requirement and will comply.

f. **all applicable provisions in LAC 33:V.1505, and Chapters 19, 21, 23, 29, 33, 35, and 37; and**

Response
Exide acknowledges this requirement and will comply.

g. **all applicable provisions in LAC 33:V.Chapters 3, 5, and 7.**

Response
Exide acknowledges this requirement and will comply.

43. *LAC 33:V.Chapter 51, The Permittee must respond to all the regulatory requirements of Chapter 51.*

Responses have been provided to the regulatory requirements of Chapter 51, Fee Schedules as follows:

Chapter 51. Fee Schedules

§5101. Applicability

A. **The regulations in this Chapter apply to generators of hazardous waste as well as treaters, storers, and disposers of hazardous waste except as provided in LAC 33:V.1101 and LAC 33:V.1501.**

Response
Exide acknowledges the applicability of this Chapter and will comply.

§5103. Scope and Purpose

A. **It is the purpose of these regulations to establish a fee system for funding the monitoring, investigation, and other activities required to be conducted for the maintenance of a safe and healthful environment by the Department of Environmental Quality in accordance with the Louisiana Environmental Quality Act (R.S. 30:2014 et seq.). Fees are required for all permits, licenses, registrations, and variances authorized by the Act.**

Response
Exide acknowledges this citation and will comply.

§5105. Authority

A. These regulations provide fees as required by R.S. 30:2014.

Response
Exide acknowledges this citation and will comply.

§5107. Definitions See LAC 33:V.109)

Response
Exide acknowledges the definitions and will comply.

§5109. Application Fees

Treaters, Storers, and/or Disposers

A. A one-time application fee is charged to cover application, evaluation, and other related program costs.

Response
Exide acknowledges this requirement and will comply.

B. Each application thereto for which a fee is prescribed shall be accompanied by a remittance in the full amount of the fee. No application or amendments thereto shall be accepted or processed prior to payment of the full amount specified unless approved by the administrative authority. Major amendments of applications for operating permits, closure/post-closure permits, and modifications o f p ermits m ay be considered as separate applications for purposes of calculating fees.

Response
Exide acknowledges this requirement and will comply.

§5111. Calculation of Application Fees

A. The applicant is required to calculate the appropriate application fee, research and development fee, and if applicable, siting fee according to the schedule included in the permit application form. Payment of this fee must be attached to the application.

Response
Exide acknowledges this requirement and will comply.

B. **Application Fee Schedule**

Item		Fee
Site analysis—per acre site size	**$**	**250[1]**
Process and plan analysis	**$**	**1,000**
Facility analysis—per facility[2]	**$**	**500**
Management/financial analysis	**$**	**1,000**

[NOTE: Fee equals total of the four items.]
[1] Up to 100 acres, no additional fee thereafter.
[2] Incinerator, land farm, treatment pond, etc. each counted as a facility.

Response
Exide has calculated the application fee schedule as follows:
Site Analysis Fee = ($250/acre) (70.43 acres) = $17,608
Facility Analysis = ($500/facility) (5) = $2,500
(Whole Battery Storage, Truck/Trailer Storage, K060/D008 storage, Containment Building and Slag Stabilization Unit)
Management/Financial Analysis = $1,000
Total Application Fee = $21,108

C. **Initial Research and Development Fee Schedule**
Application Fee x 0.25 = Initial Research and Development Fee

Response
The Baton Rouge Smelter is an existing facility and research and development will not be conducted. This fee does not apply.

D. **(Fee per site + fee per facility + fee based on volume) x 0.30 = Administrative Cost Fee**

Response
The administrative cost fee is ($21,108) (0.30) = $6,332.

E. **Siting Fee. This fee will be applicable to new commercial hazardous waste treatment, storage, and disposal facilities. This fee will be used to assess the impact of the location of the facility on the citizens in the surrounding area, the local infrastructure, and on the environment. A portion of this fee shall be allocated to the local governmental subdivision for the preparation of an infrastructure assessment report as determined by the secretary. When siting a commercial facility, the secretary shall determine whether the local governmental subdivision should be compensated for any reasonable and necessary cost for preparation of the infrastructure report:**

Application Fee x 0.05 = Siting Fee

Response
Exide is not proposing a new hazardous waste treatment, storage or disposal facility; therefore this fee does not apply.

§5113. Provision for Collection of Additional Fees Should Application Fees Paid be Less Than Program Costs

A. Operators who paid an application fee of $15,000 will be assessed an additional fee equaling the deficit, apportioned equally, provided that no operator pays more than the calculated fee of LAC 33:V.5111.

Response
Exide acknowledges this requirement and will comply.

§5115. Provision of Funds Collected in Excess of Program Costs

A. Excess funds over program cost generated by this fee shall be credited to the following year's budget.

Response
Exide acknowledges this requirement and will comply.

§5117. Annual Monitoring and Maintenance Fees—Treaters, Storers, and/or Disposers

A. All annual fees provided by this Chapter shall be paid within 30 days from receipt of billing.

Response
Exide acknowledges this requirement for annual fees and will comply.

§5119. Calculation of Annual Maintenance Fees

Formula to apportion fees:
Annual Maintenance Fee = fee per site + fee per facility + fee based on volume + annual research and development fee + administrative cost fee + land disposal prohibitions fee + groundwater protection annual fee + incineration inspection and monitoring fee + boiler/industrial furnace inspection and monitoring fee + annual landfill inspection and monitoring fee + annual land treatment unsaturated zone monitoring inspection fee.

Response
Exide acknowledges this requirement for annual fees and will comply.

A. Fee per site:

Off-Site Disposer (Commercial)	**$79,800**
Reclaimer (compensated for waste removed)	**$35,000**
Reclaimer (uncompensated for waste removed or pays for waste removed)	**$25,000**
Off-Site Disposer (Non-commercial)	**$20,000**
On-Site Disposer	**$10,000**

[NOTE: The higher fee for off-site disposal is due to the cost of the manifest system and emergency response to transport spills (neither cost is applicable to on-site disposers).]

Response
Exide acknowledges this section and is a reclaimer (uncompensated for waste removed or pays for waste removed) with an annual fee of $25,000.

B. Fee per Hazardous Waste Facility Type

Unit Type	Fee
Storage Container/Tank/Waste Pile/etc.	**$ 3,273**
Treatment Incinerator/Boiler/Industrial Furnace/Filtration Unit/etc.	**$ 5,270**
Disposal Landfill/Miscellaneous Unit/etc.	**$ 8,270**

Response

Exide has the following storage units:

Truck/Trailer Storage Area	$3,273
Whole Battery Storage Area	$3,273
K069/D008 Storage Area	$3,273
Containment Building	$3,273
Exide has the following treatment units:	
Slag Stabilization Unit	$5,270
Exide has the following disposal units:	
Closed Haz. Waste Pile #1	$8,270
Closed Haz. Waste Pile #2	$8,270
	Total $34,902

C. Fee Based on Volume

Less than 1,000 tons	**$ 1,952**
Less than 10,000 tons	**$ 4,904**
Less than 100,000 tons	**$ 7,856**
Less than 1,000,000 tons	**10,808**
More than 1,000,000 tons	**13,760**

Response
Exide manages 396,250 tons per year. The fee is $10,808.

D. Annual Research and Development Fee

(Fee per site + fee per facility + fee based on volume) x 0.25 = annual research and development fee

Response
The Baton Rouge Smelter is an existing facility and does not conduct research and development. This fee does not apply.

E. Administrative Cost Fee

(Fee per site + fee per facility + fee based on volume) x 0.30 = Administrative Cost Fee

Response
Exide acknowledges this section.

F. **Land Disposal Prohibitions Fee. Treatment, processing (including use, reuse, recycling), and/or disposal facility annual fee (not on storage facilities). This fee applies to facilities handling wastes subject to the land disposal prohibitions in LAC 33:V.Chapter 22.**

On-Site	**$1,000**
Off-Site Non-commercial	**$2,000**
Reclaimer	**$2,500**
Off-Site Commercial	**$5,000**

Response
Exide does not land dispose waste; therefore this fee does not apply.

G. **Groundwater Protection Fee (applies only to sites with groundwater monitoring) in accordance with LAC 33:V.5139.**

Response
Exide acknowledges this requirement and will comply.

H. **Incinerator and Boiler/Industrial Furnace Inspection and Monitoring Fee in accordance with LAC 33:V.5141.**

Response
Exide does not operate an incinerator or boiler/industrial furnace; therefore this fee does not apply.

I. **Annual Landfill Inspection and Monitoring Fee in accordance with LAC 33:V.5143.**

Response
Exide does not operate a hazardous waste landfill; therefore this fee does not apply.

J. **Annual Land Treatment Unsaturated Zone Monitoring Inspection Fee in accordance with LAC 33:V.5145.**

Response
Exide does not conduct land treatment; therefore this fee does not apply.

§5120. Land Disposal Prohibition Petition Fees

A. **Petitions submitted in accordance with R.S. 30:2193(E)(2) and/or LAC 33:V.Chapter 22 are subject to additional fees as noted below for each petition submitted. These fees must be submitted at the time a petition is submitted.**

Response
Exide does not land dispose of hazardous waste; therefore this fee does not apply.

Variance	$10,000
Exemption	45,000
Extension	5,000
No-Alternatives Determinations	
Original Petition	10,000
Renewal Petition/Request	10,000
Request for determination for addition of a hazardous waste(s) not covered by existing determination	1,000

§5121. Generators of Hazardous Waste

A. All generators of hazardous waste must file or have on file a notification of that facility, using Notification Form HW-1 available from the administrative authority (See LAC 33:V.303.A).

Response
Exide acknowledges this citation and will comply.

B. For generators of hazardous waste, the Notification Form HW-1 shall be deemed a registration upon acceptance and approval by the administrative authority.

Response
Exide acknowledges this citation and will comply.

§5123. Registration Fees, HW-1

A. An initial registration fee is charged for each generator, transporter, or TSD facility obtaining an EPA Identification Number from the department. There is no fee for modifying an existing registration based on any change of information submitted on Notification Form HW-1.
Initial Fee $9.46

Response
The Baton Rouge Smelter has already obtained an EPA identification number and this fee does not apply.

§5125. Annual Monitoring and Maintenance Fee

A. Fee will annually be $283.65, plus the prohibited waste fee.

Response
Exide acknowledges this fee and will comply.

B. Annual prohibited waste fee is $100 for each generator who generates for land disposal as provided in LAC 33:V.Chapter 22. The generator will be subject to

this fee if any waste generated is prohibited from disposal at any time during the year for which the fee is assessed.

Response
Exide does not generate for land disposal; therefore, this fee does not apply.

C. **All annual fees provided by this Chapter shall be paid by the due date indicated on the invoice.**

Response
Exide acknowledges this requirement and will comply.

§5127. Payment

A. **All fee payments shall be made by check, draft, or money order payable to the Department of Environmental Quality and mailed to the department at the address provided on the invoice.**

Response
Exide acknowledges this requirement and will comply.

§5129. Late Payment Fee

A. **Payments not received within 15 days of the due date will be charged a late payment fee. Any late payment fee shall be calculated from the due date indicated on the invoice.**

Response
Exide acknowledges this requirement and will comply.

1. **Payments not received by the department by the fifteenth day from the due date will be assessed a five percent late payment fee on the original assessed fee.**
2. **Payments not received by the department by the thirtieth day from the due date will be assessed an additional five percent late payment fee on the original assessed fee.**
3. **Payments not received by the department by the sixtieth day from the due date will be assessed an additional five percent late payment fee on the original assessed fee.**

§5131. Failure to Pay

A. **Failure to pay the prescribed application fee or annual fee as provided herein, within 90 days after the due date, will constitute a violation of these regulations and shall subject the person to applicable enforcement actions under the act including, but not limited to, revocation or suspension of the applicable permit, license, registration, or variance.**

Response
Exide acknowledges this requirement and will comply.

§5133. Effective Date

A. The application fees prescribed herein shall be required for all applications filed on or after these fee regulations are published in the *Louisiana Register* as adopted.

Response
Exide acknowledges this requirement and will comply.

B. The annual fees prescribed herein shall be effective for the state fiscal year in which these fee regulations are published in the *Louisiana Register* as adopted and each state fiscal year thereafter. Fees submitted to the department in accordance with previous fee regulations for the state fiscal year in which these fee regulations are published in the *Louisiana Register* as adopted shall be credited against the fees and due and payable under these fee regulations.

Response
Exide acknowledges this requirement and will comply.

§5135. Transporter Fee

A. All transporters of hazardous waste with a facility in Louisiana shall pay a fee of $200 per year to the department. There will be only one fee regardless of the number of vehicles in the service of the transporter.

Response
Exide is not a waste transporter and this fee does not apply.

B. All transporters of hazardous waste which do not have a facility in Louisiana shall pay a fee of $10 per vehicle when traveling through or into the state.

Response
Exide is not a waste transporter and this fee does not apply.

§5136. Manifest Form Fee

These fees cover the costs associated with printing, handling, data entry, and other administrative activities.

A. The fee for manifest forms acquired according to LAC 33:V.1107.A.9 and LAC 33:V.Chapter 40 shall be $1.50 per form.

Response
Exide is acknowledges this requirement and will comply.

B. The fee for continuation sheets acquired according to LAC 33:V.1107.A.9 shall be $2.50 per form.

Response
Exide is acknowledges this requirement and will comply.

§5137. Conditionally Exempt Small Quantity Generator Fee

A. **Conditionally exempt small quantity generators (see LAC 33:V.108) shall pay a fee of $50 per year to the department.**

Response
Exide is not a small quantity generator and this fee does not apply.

§5139. Groundwater Protection Permit Review Fee

A. **Permit Review Fee. This fee covers the cost of reviewing permits for geology, geotechnical design, and groundwater protection aspects.**

Hazardous Waste Facilities (1 time)	**$ 5,000 each**
Permit Modifications	
Class 1 and 2	**$ 200 each**
Class 3	**$ 750 each**
Solid Waste Facilities (1 time)	**$ 5,000 each**
Permit Modifications	
Major	**$ 500 each**
Minor	**$ 200 each**

Response
Exide is not submitting a groundwater protection permit for review; therefore this fee does not apply. Exide conducts a groundwater detection monitoring program in accordance with an existing Post-Closure Permit for the hazardous waste piles.

B. **Oversight of Abandonment Procedures. This fee covers the cost of reviewing plans to plug and abandon all permitted groundwater monitoring systems (monitoring wells, piezometers, observations wells, and recovery wells) to ensure that they do not pose a potential threat to groundwater.**

Casing pulled	**$ 100 each**
Casing reamed out	**$ 200 each**
Casing left in place	**$ 500 each**

Response
Exide is not proposing to abandon any wells; therefore this fee does not apply.

C. **Groundwater Monitoring Systems Installation Permit. This fee covers the cost of reviewing the geology and design of proposed groundwater monitoring systems to ensure compliance with department specifications for units subject to permitting under these regulations.**
Each Well $ 500

Response
Exide is not proposing to install a groundwater monitoring system; therefore, this fee does not apply.

D. **Groundwater Monitoring Systems Inspection Fee (Annual). This fee covers the cost of inspecting monitoring systems for units subject to permitting under these regulations, to ensure that they are functioning properly and continue to maintain their integrity.**
Each Well $ 250

Response
Exide does not maintain a groundwater monitoring system under this hazardous waste permit. Exide does maintain a detection monitoring system under the Post-Closure Permit for the hazardous waste piles.

§5141. Incinerator and Boiler/Industrial Furnace Inspection and Monitoring Fee

A. **Trial Burn or Test Burn Observer Fee. This is a special fee charged at a daily rate to cover the cost to the department of providing and placing on site a regulatory observer team during incinerator trial burns, boiler/industrial furnace trial burns or other types of test burns required by regulations or the administrative authority when an observer team is required by regulations, specified by permit conditions, or considered necessary to ensure that human health and the environment are adequately protected.**

Response
Exide does not conduct trial burns; therefore this fee does not apply.

1. **This fee will be $500 for each day of the test burn or trial burn.**

2. **This fee will be billed following completion of the trial burn or test burn and must be paid by the due date indicated on the invoice.**

B. **Annual Monitoring and Maintenance Fee for Incinerators, Boilers, Industrial Furnaces and Commercial Recycling Furnaces. This is an annual fee applied to defray the cost to the Hazardous Waste Division of annually inspecting the required continuous monitors and recording devices for each incinerator, boiler or industrial furnace to determine whether they are being properly maintained and calibrated.**
This fee will annually be a flat $1,000.

Response
Exide does not operate incinerators, boilers, industrial furnaces or commercial recycling furnace; therefore this fee does not apply.

§5143. Annual Landfill Inspection and Monitoring Fee

A. **An annual fee shall be charged for the inspection of the regulatory requirement for leak detection and leachate collection systems associated with hazardous waste landfills to determine operational status and degree of proper maintenance.**

For each landfill unit or cell with a separate leak detection and leachate collection system, the annual fee will be $100.

Response
Exide does not maintain landfills; therefore this fee does not apply.

§5145. Annual Land Treatment Unsaturated Zone Monitoring Inspection Fee

A. Semiannual Zone of Incorporation (ZOI) Inspection Fee. This fee covers the cost of inspection and random sampling and laboratory analysis of the zone of incorporation.

ZOI soil samples	**$1,000 each acre**
Soil-pore liquid monitors (Lysimeters)	**$2,500 each monitor**

Response
Exide does not operate land treatment units; therefore this fee does not apply.

B. Annual Land Treatment Unit Report Review Fee. This fee covers the cost of reviewing the report required by final permits for land treatment.
Included in the annual land treatment unit report are the results of the unsaturated zone monitoring. Included are the semiannual soil core sample analyses and the quarterly soil-pore liquid quality analyses from below the treatment zone. Also included are soil moisture tensiometer readings of the ZOI.
Hazardous Waste Facilities $1,000 each report

Response
Exide does not operate land treatment units; therefore, this fee does not apply.

C. Permit Review Fee. This fee covers the cost of reviewing permits for geology, geotechnical design, and hydrological separation requirements of these regulations.

Initial Permit	**$5,000 each**
Permit Modifications	
Class 1	**$ 200 each**
Class 2 and 3	**$ 750 each**

Response
Exide does not operate land treatment units; therefore this fee does not apply.

44. *Appendix 4 (Waste Analysis Plan), Section 3.2, The Permittee must provide the number of shifts that samples are collected for analysis.*

Samples of reverberatory slag and blast furnace slag are collected once per shift. The facility typically operates 24 hours per day in three shifts. This information has been included in the Waste Analysis Plan.

The Permittee must explain procedures for sampling the slag from the reverberatory and the blast furnace and number of samples taken; how the slag is sorted and the criteria for determining recycling or disposal; and the process of slag stabilization and disposal.

Reverberatory and blast furance slag are both sampled once per shift. Samples are collected as grab samples which are representative of the slag. The reverberatory and blast furnace slags are produced at different locations within the facility and remain segregated through sampling. The materials remain segregated until they are returned to the blast furnace to recover the lead content; therefore, sorting of the slag is not required. Recycling or disposal of the blast furnace slag is determined using the lead content determined during sample analysis. The recycle fraction has a high enough lead content to warrant further recycling. The disposal fraction does not have a lead content high enough for recycling to occur. The disposal fraction is crushed into small pieces and feed into the slag stabilization unit (i.e., pugmill) where it is treated with Portland cement and sodium silicate. Treatment occurs on a batch basis by mixing the slag with the cement and sodium silicate. The pugmill mixes the slag until it is treated evenly. The treated material is a granular soil-like material. The stabilized slag is disposed of in Exide's permitted on-site solid waste landfill. The stabilized slag is transported to the landfill in trucks. A representative sample of the stabilized slag is collected at least once per quarter and sent to a contract laboratory for TCLP analysis. This information is included in the Waste Analysis Plan.

45. *Appendix 4 (Waste Analysis Plan), Section 5.0, The Permittee must provide certification of the Waste Analysis Plan. The Plan must be signed by a registered Louisiana Professional Engineer and by the facility Operator or Owner.*

The Waste Analysis Plan has been certified by Paul G. Stratman, P.E. and Steve Krul, the Environmental Manager for the Baton Rouge Smelter.

46. *Appendix 6 (RCRA Contingency Plan and Emergency Response Plan), Section 1.3, The Permittee must provide a summary of the training each employee receives, the specific duties or responsibilities an employee will have and the additional training for these employees.*

A summary of the training each employee receives and the specific responsibilities of employees and their associated additional training has been included.

47. *Appendix 6 (RCRA Contingency Plan and Emergency Response Plan), Section 1.5, The Permittee must establish the criteria for hazards in areas that may pose a danger in an emergency or natural disaster.*

The areas that may pose a danger in an emergency or natural disaster have been provided.

48. *Appendix 6 (RCRA Contingency Plan and Emergency Response Plan), Section 2.0, The Permittee must provide the names and addresses of the key personnel (i.e., Asst. Chief Officer, Safety Office, Communication Officer, etc.).*
The names of key personnel and the address of the Chief Officer have been included in Appendix 6.

49. *Appendix 6 (RCRA Contingency Plan and Emergency Response Plan), Section 3.0, The Permittee should list, by unit, the response criteria and response procedures and provide a*

breakdown of the procedures for each potential emergency at each unit should be established.

This information has been included in Appendix 6.

The order of personnel notification should be established for each type of emergency and response for each unit and casualty controls measures should be established.

The order of personnel notification has been provided in Section 3.1 of Appendix 6.

The Permittee must explain and document on a facility map or diagram the locations of the internal alarms.

The location of internal alarms has been provided on Figure 3 of Appendix 6.

50. *Appendix 6 (RCRA Contingency Plan and Emergency Response Plan), Section3.3, The Permittee should establish evacuation criteria and procedures for implementing the Contingency Plan and Emergency Response Plan.*

Evacuation will be ordered by the Chief Officer when conditions obviously warrant. Evacuation procedures have been provided in Appendix 6.

The Permittee should state the type of personnel alert system used during an evacuation.

Evacuation will be communicated to employees using the telephone pager system, the plant alarm system and/or two-way radios.

The Permittee should indicate the notification process for on-scene coordinators, law enforcement, firefighters etc.

Notification will be conducted in accordance with Table 1 of Appendix 6.

The Permittee should establish the primary and secondary emergency equipment and provide a description and function of the emergency equipment.

An Emergency Equipment List has been provided in Appendix D of Appendix 6.

The Permittee should provide the process for activating the sprinkler system and provide a diagram indicating the locations of the sprinkler systems.

The sprinkler systems are located at the two process baghouses (No. 1 and No. 4). The sprinkler system is triggered by a sensor and the system automatically starts.

The Permittee should explain the notification procedures for cleanup and completion of spills and provide the name, address and telephone number of the Officer in charge.

Detailed instructions for notification, containment, clean-up and reporting of spills is included in the Spill Prevention, Control and Countermeasures Plan. The name, address and telephone number of the Chief Officer is provided in Appendix 6.

The Permittee should provide a map or diagram indicating the location of the baghouses, the fire protection equipment, the PPE (i.e., Changehouse), the emergency locker (i.e., Maintenance Shop) and the class D fire extinguishers (i.e., Phosphorous Building and the Chemical Warehouse).

Locations of emergency response equipment are provided on Figure 3 of Appendix 6.

The Permittee must include information concerning the record keeping requirements.

This information is provided as Section 1.5 in Appendix 6.

51. *Appendix 6 (RCRA Contingency Plan and Emergency Response Plan), Section 4.0, The Permittee must indicate the on-site locations of the Contingency Plan and Emergency Response Plan.*

The Contingency and Emergency Response Plan is maintained at the Plant Safety Office, the Plant Environmental Office, the Plant Manager's Office, the Battery Breaker Control Room, the Production Control Room, the Guard House and the on-site laboratory.

The Permittee should establish criteria and procedures for dealing with hurricanes, tornadoes and flooding for each unit at the facility.

Procedures for dealing with hurricanes, tornadoes, and flooding have been provided.

The Permittee should provide the medical training, the continued training of personnel for chemical emergencies, the comprehensive training and the continued training of the Chief Officer. The Permittee should explain if training is conducted in-house or from an outside source.

The information is provided in Section 1.3 of Appendix 6.

The Permittee must submit as part of the Emergency Response and Contingency Plans the documented arrangements with local authorities (i.e., police, hospitals, fire, etc.).

This information has been provided in Appendix A of Appendix 6.

The Permittee should include the criteria and procedures for decontamination of personnel and equipment. The Permittee should indicate the Officer responsible for decontamination procedures.

Decontamination will include any spilled waste material, segregating materials for disposal by recycling in one of the plant furnaces, the plant wastewater treatment system or by off-site disposal. Affected areas, personnel and equipment will be washed down using a high-pressure washer or wash down hose. The Chief Officer will direct decontamination efforts. The Liaison Officer will ensure that decontamination is properly completed and that all decontamination byproducts and wash water are properly disposed of.

The Permittee must provide on a map or diagram indicating the location of all fire extinguishers, sprinkler systems and fire emergency equipment.

The location of all fire extinguishers, sprinkler systems and fire emergency equipment is provided in Figure 3 of Appendix 6.

The Permittee must provide a list indicating the primary and secondary fire department responders. Documentation of arrangements made with the local fire departments must be provided.

The primary fire department is Alsen Fire Department. The secondary fire department is Baker Fire Department. Documentation of arrangements has been provided in Appendix A of Appendix 6.

The Permittee should provide a description of the preventive measures for explosions, procedures used in the event of an explosion at each unit and for bomb threats the procedures for handling bomb threats called in, written or discovered.

Preventative measures for explosions and procedures to be used in the event of an explosion or bomb threat have been provided.

52. *Appendix 6 (RCRA Contingency Plan and Emergency Response Plan), Section 5.0, The Permittee must provide and explain the lock out tag out procedures.*

Lock out/tag out procedures for the Blast Furnaces, Reverberatory Furnace and Baghouses have been provided.

53. *Appendix 6 (RCRA Contingency Plan and Emergency Response Plan), Section 6.0, The Permittee must provide on the "Siren Alarm System" table, the location of the alarms.*

The siren alarm system table has been provided in Section 6.0 of Appendix 6. The location of the alarms has been provided on Figure 3 of Appendix 6.

54. *Appendix 6 (RCRA Contingency Plan and Emergency Response Plan), Table 1, The Permittee must provide the area codes for each employee on the emergency notification telephone list. The list must also include a column identifying each employee's acting position during an emergency.*

The area code and employee positions have been provided.

55. *Appendix 6 (RCRA Contingency Plan and Emergency Response Plan), Table 2, The Permittee must include the area codes for each of the emergency services.*

The area codes have been provided.

56. *Appendix 6 (RCRA Contingency Plan and Emergency Response Plan), Figure 2, The Permittee should establish an Emergency Response Plan and Contingency Plan implementation logic diagram.*

The Emergency Response Organization Chart has been provided as Figure 2 of Appendix 6.

57. *Appendix 6 (RCRA Contingency Plan and Emergency Response Plan), Figure 3, The Permittee should include a diagram indicating the primary and secondary evacuation routes, emergency equipment, sprinkler systems, buildings, fire extinguishers, PPE, alarms, communication systems, etc. This diagram should include a legend representative of the items on the diagram.*

The location of requested information has been provided on Figure 3 of Appendix 6.

58. *Appendix 6 (RCRA Contingency Plan and Emergency Response Plan), Appendix B, The Permittee should list the Emergency Equipment in a table format.*

A table containing emergency equipment has been included as Appendix D of Appendix 6.

59. *Appendix 9 (Closure and Post-Closure Plan), Section 3.3, The Permittee must revise the containment building closure procedures to include the upgrades.*

The closure procedures for the upgraded Containment Building have been modified to include additional sampling and the associated costs with boring through acid brick and concrete. The changes have been included in the Closure and Post-Closure Plan (Appendix 9).

60. *Appendix 9 (Closure and Post-Closure Plan), Table 1 and Table 1B, The Permittee must revise the closure cost estimates for the containment building to include the upgrades.*

The closure cost estimates for upgraded Containment Building have been revised and are included in the Closure and Post-Closure Plan.

61. *Appendix 10 (Surety Bond), The Permittee must revise the surety bond to include the revisions in the cost estimates.*

The surety bond has been revised and is included.

62. *Appendix 12 (Containment Building Certification Document), The Permittee must submit a revised certification of the containment building. The certification document should contain information pertaining to the design, structure, upgrade, repairs, operational functions, etc. The document must be certified by a registered Louisiana Professional Engineer.*

Available information regarding the design and structural details of the Containment Building is provided in the Containment Building Certification Document in Appendix 12. Additional information is not available; therefore a revised certification has not been provided. Information regarding the proposed upgrades is provided in Appendix 20, Containment Building Upgrades.

The closure plan contained in the certification document must indicate the upgrades to the containment building.

The closure plan included with the certification document is dated February 1999. The February 1999 closure plan has been removed from the certification document as it is not the most current version. The most current closure plan dated May 2003 has been included with these revisions. The May 2003 closure plan has been revised to include the Containment Building upgrades.

63. *Appendix 13 (Dust Suppression Operational Procedure), The Permittee must revise the operational procedures for dust suppression and the feed piles to include the upgrades to the containment building.*

The c ontainment b uilding u pgrades w ill n ot c hange d ust s uppression p rocedures. The operational procedures for dust suppression have been revised to indicate that upgrades will be conducted at the Containment Building.

64. *Appendix 16 (Spill Prevention, Control and Countermeasure Plan), The Table of Contents for the Spill Prevention, Control & Countermeasure Plan did not include the figures and tables.*

The table of contents for the Spill Prevention, Control and Countermeasures Plan has been revised to include the figures and tables.

65. *Appendix 16 (Spill Prevention, Control and Countermeasure Plan), The Permittee must explain why the regulatory requirements are not applicable.*

The responses have been revised to indicate why the regulatory requirements are not applicable.

The Permittee must provide a response to each regulatory requirement and provide a brief summary of the information referenced in the responses.

The responses have been revised to include a brief summary of the information referenced in the responses.

66. *Appendix 16 (Spill Prevention, Control and Countermeasure Plan), Figure 2, The Permittee should provide a topographic map, to scale, indicating the location of the facility and its boundaries.*

A topographic map indicating facility features and property boundaries has been provided.

67. *Appendix 16 (Spill Prevention, Control and Countermeasure Plan), Figure 3, The Permittee must provide a facility plot plan and a legend identifying the hatched areas.*

Figure 3 has been removed from the SPCC plan as the figure is not referenced within the document.

68. *Appendix 16 (Spill Prevention, Control and Countermeasure Plan), Appendix B, The Permittee must provide the addresses for the emergency contacts.*

Addresses for the emergency contacts have been provided in Appendix B of the Spill Prevention, Control and Countermeasure Plan.

69. *Appendix 16 (Spill Prevention, Control and Countermeasure Plan), Appendix C, The Permittee should include a list of the spill cleanup kits and their contents and provide a diagram or map indicating the locations of these kits.*

Spill cleanup kits include drums and pallets of absorbent material with shovels. Exide also has an oil spill cleanup kit and neutralization chemicals at designated locations at the facility. This information has been added to the SPCC Plan. The locations of spill cleanup kits, oil spill cleanup kits and neutralization chemicals have been added to Figure 3 of Appendix 16.

The Permittee should provide a breakdown of the procedures for an oil spill.

A breakdown of the procedures for an oil spill have been included in Appendix C of the SPCC plan.

The Permittee should explain in detail the corrective measures taken in stopping a continued release. Explain the procedures and the equipment used in containing the material. Identify the team leader and their training.

The corrective measures taken to stop a continued release has been included in Appendix C of the SPCC Plan. The team leader and their required training has also been included.

70. *Appendix 17 (Waste Minimization Plan), The Permittee must include any waste minimization plan revisions as a result of the upgrades to the containment building.*

The Waste Minimization Plan has not been revised as the upgrades to the Containment Building do not warrant revisions to the plan.

71. *General Comments, IT Questions, The Permittee must address the regulatory requirements and provide specific, detailed information concerning the facility, units, waste handled, processes, procedures and protection of human health and the environment.*

REVISED EXPANDED "IT DECISION" QUESTIONS

Environmental permit application modifications (both new and existing facilities) are required to provide relevant information in response to questions commonly referred to as "IT Questions", which address the potential for facilities to adversely impact the human and natural environment in the vicinity of the proposed or existing facility. These responses must be considered by the Louisiana Department of Environmental Quality, LDEQ, during the decision-making process on environmental permits pursuant to the Louisiana Supreme Court decision in the case of Save Our Selves, Inc. vs. Louisiana Environmental Control Commission. While this ruling was designed to address impacts associated with new facilities, existing facilities must consider the impact of continued operations versus the impacts of constructing a new facility at a different location. Exide Technologies, (Exide) Baton Rouge Smelter has been operating in East Baton Rouge Parish since 1969. During this time the facility has demonstrated an excellent record of environmental compliance and continues to provide economic benefits to the parish from a facility where the primary environmental impacts involved the facility footprint established over 30 years ago. The following responses clearly demonstrate that potential adverse environmental impacts resulting from continued operation of the facility have been appropriately addressed and pale in comparison to the alternative of constructing a new facility in East Baton Rouge Parish to provide this service.

I. **Have the potential and real adverse environmental effects of the proposed facility been avoided to the maximum extent possible?**

The Exide Baton Rouge Smelter is an existing recycling facility, where spent lead-acid batteries and lesser quantities of other lead-bearing materials are processed to recover their lead content. This facility has been in operation since 1969.

The facility includes a hazardous waste Containment Building that is currently regulated under interim status provisions of the LDEQ Regulation, and is in substantial compliance with all applicable regulations. A permit modification including upgrades to portions of the Containment Building that will provide for further protection of the environment was submitted to LDEQ on October 17, 2001. Exide is responding to comments on that permit modification submittal received from the LDEQ on March 18, 2003. LDEQ has not yet approved the permit modification. This submittal requests a renewal of the hazardous waste permit and includes the Containment Building as a RCRA permitted unit. The potential and real adverse environmental effects of the hazardous waste Containment Building have been avoided to the maximum extent, by the design of the facility and by its operation and maintenance programs.

In an effort to control adverse environmental impact and to comply with environmental, health and safety regulations, Exide has developed several compliance programs at the Baton Rouge facility including:

- A detailed personnel training program, outlined in the Training Manual lists all required training for health, safety and environmental training required, Hazardous Communications, Work Practice Controls, Personal Protective Equipment, Chemical Handling, and Emergency Response and Spill Prevention.

- A spill prevention program, detailed in the Spill Prevention Control and Countermeasure Plan (SPCC) that outlines activities to be followed to reduce the potential for spills or release of hazardous materials.

- A waste screening program specified in the Waste Analysis Plan, that outlines the requirements for receiving material at the Baton Rouge smelter. This program helps to insure that the facility receives only material listed in our operating permit.

- An emergency response program specified in our RCRA Contingency Plan and Emergency Response Plan (CP). This program specifies emergency procedures that will be followed in the event of a fire, accident, environmental release or natural disaster.

Through the implementation of these programs, the Baton Rouge smelter has seen a 95% reduction in recordable accident rates, there have been no reportable spills within the last 4-years and the TRI-reported releases have decreased by 84%.

What are the potential environmental impacts of the permittee's proposed facility?

The Exide Baton Rouge facility is a secondary lead smelter and refinery, which recycles spent lead-acid batteries and inorganic lead-bearing wastes into metallic lead, in the form of lead pig and block ingots, which are sold as products.

1. What wastes will be handled?

Exide receives materials classified as hazardous, non-hazardous, and exempt materials that are recycled on site. Approximately 85% of the material recycled at the Baton Rouge smelter is spent lead-acid batteries, including automotive batteries, military batteries and large industrial batteries. Additional material recycled at the facility includes lead-bearing scrap generated in the battery manufacturing process, purchased lead-bearing drosses, lead scrap, firing range sands, material from lead paint remediation projects and other lead-bearing material that meets the Exide screening criteria as outlined in the Waste Analysis Plan. The Waste Analysis Plan outlines the requirements for receiving material at the Baton Rouge smelter.

Exide does not accept any material that contains organic constituents, PCBs, organic lead, or metallic aluminum. Additionally, material is not accepted that contains any free liquids.

As a part of the recycling process, the facility generates waste. Generated wastes include baghouse dust, refractory brick, spent personal protective equipment, blast furnace slag, used oil, nickel-cadmium batteries, and spent solvent from parts washing operations.

a. Classes of chemicals

Exide handles characteristic hazardous waste (D008, D002, D004, D006, D007, D010, and D011), listed hazardous waste (K069), and industrial solid waste (exempt lead-bearing material for recycling). The classes of chemicals are solid inorganic metals, including lead-bearing wastes.

b. Quantities (hazardous and non hazardous)

Exide handles approximately 330,000 tons of hazardous and non-hazardous waste annually.

The facility receives approximately 25,000 tons of hazardous waste lead-bearing material in drums, including 1,000 tons with other metals in addition to lead. The facility generates approximately 20,000 tons per year of hazardous blast furnace slag. The facility also generates approximately 1,000 tons per year of hazardous emission control dust that are recycled on site.

Approximately 250,000 tons of spent lead-acid batteries are received by the facility. Approximately 30,000 tons of non-hazardous recyclable lead-bearing material in drums is received per year.

c. Physical and chemical characteristics

Lead-acid batteries are constructed of a plastic case, conductive plates (metallic lead grids coated with lead oxide paste), separators, a sulfuric acid/water electrolyte solution, and metallic lead posts or terminals. Industrial and military batteries are constructed in the same manner, except that the casing is made of different material and the size of the batteries is greater.

The battery plant scrap, received from either other Exide facilities or from other customers, is typically in the form of metallic lead that has been stamped into grids, lead oxide paste and battery plates. The grids are solid metal and are recycled. The lead oxide paste is a solid material, typically with a moisture content of less than 5%, with the potential to contain free liquid. It is reddish brown in color and has a very high density. The lead oxide is placed in feed piles and smelted in the reverberatory furnace. The battery plates received are grids that have been pasted with lead oxide. They are solid, with a very high density and low moisture content. The plates are typically recycled in the blast furnace.

The Baton Rouge smelter also receives lead dross and baghouse dust from both Exide facilities and other customers. Lead dross is a solid material generated by the melting of metallic lead. The dross is composed primarily

of lead with trace metals such as arsenic and antimony. The baghouse dust is a dry powdery solid that contains primarily lead with other trace metals. Both the dust and the dross are stored in feed piles and recycled in the furnaces.

Exide periodically receives shipment of metallic lead scrap for recycling. This material is usually in the form of wheel weights, lead pipe or other scrap lead metal. This material is recycled.

Other recyclable materials received by the Baton Rouge smelter include lead-bearing ceramics, spent blasting sand with lead paint chips, spent pasting boards and lead scrap from firing range remediation.

As part of the lead recycling, a blast furnace slag is generated. The blast furnace slag exits the furnace in a molten state and is cast into iron pots. The slag solidifies and is cooled to room temperature. It is then dumped from the pots, broken up and separated for either further recycling or stabilization and disposal.

The blast furnace slag is characteristically hazardous because it leaches lead, when subjected to TCLP testing, at concentrations greater than the regulatory threshold limit of 5 mg/L. The slag is rock-like in physical appearance and engineering properties. The chemical composition of the blast furnace slag is 30-35% iron oxide (FeO), 25-30% silicon dioxide (SiO_2), 15-35% calcium oxide (CaO), and less than 0.5% lead (Pb). The specific gravity of the stabilized blast furnace slag as deposited in the on-site landfill is approximately 1.3 tons/cubic yard. The slag melting point is 2100 to 2400°F. The slag is neither ignitable, corrosive, nor reactive.

Additional wastes generated by the Baton Rouge smelter include used oil, refractory bricks, and spent nickel-cadmium batteries.

d. Hazardous waste classification (listed, characteristic, etc.)

Exide handles characteristic hazardous waste (D008, D002, D004, D006, D007, D010, and D011), listed hazardous waste (K069), and industrial solid waste (exempt lead-bearing material for recycling).

2. How will they be handled?

Generally, material is received by Exide at the receiving area where it is inspected and sampled if required. Material is stored in designated areas based upon the material type

Lead-acid batteries arriving in tractor-trailers are weighed in, and sent to the Battery Breaker Unit. Typically, the batteries are unloaded and immediately processed by the breaker unit. The batteries are loaded onto the unit where they are broken down into component parts. The sulfuric acid is neutralized and crystallized to form a sodium sulfate salt that is sold as a product. The plastic from the battery casings is

washed and shipped off-site to make new batteries. The lead paste is recycled on-site to produce metallic lead for making new batteries.

If the batteries are not immediately recycled, they are stored in two permitted storage areas.

The majority of other recyclable materials such as battery plates, lead oxide, metallic lead, drosses, baghouse dust, metallic lead waste and scrap are received in either in steel drums or Gaylord boxes. The material is weighed in at the Exide scale and sent to the loading dock to be unloaded. Drums are taken to the feed pile area where they are dumped and the contents inspected. The empty drums are washed, crushed and sent off-site to be recycled. The lead-bearing material is processed in the blast furnace or the reverberatory (reverb) furnace. Slag generated by the reverb furnace is then refined to further recover lead.

The blast furnace slag, generated as part of the lead recycling process is broken up and separated for either further recycling or stabilization and disposal. Visual and chemical analyses are used to separate the slag into fractions. One portion, the recyclable fraction, is returned to the furnace and re-smelted to further recover lead. The other portion, the disposal fraction, does not have enough lead content for further recycling. It is stored in a separate area, stabilized and disposed on-site.

The disposal portion of the blast furnace slag is treated with Portland cement and sodium silicate in the slag stabilization unit. A sample of the stabilized slag is collected and sent to a contract laboratory for Toxicity Characteristic Leaching Potential (TCLP) toxicity analysis in accordance with EPA approved procedures. This stabilized slag is disposed of in Exide's permitted on-site solid waste landfill. The recycled lead is shipped off-site as ingots, blocks, or billets.

Used oil is stored in an onsite tank. International Petroleum Corporation periodically collects this material and recycles it for reuse. Refractory brick generated from repairs to furnaces onsite is either recycled onsite or shipped off-site for proper disposal. Nickel-cadmium batteries cannot be recycled by Exide. They are sent to a permitted nickel-cadmium recycling facility.

Any accidental spills will be immediately remediated according to the SPCC, and the wash water will be directed to the wastewater treatment plant prior to discharge.

Figure 2 provides a flow diagram showing the reclamation process utilized by Exide.

a. Treatment

Exide recycles the lead from spent batteries and other lead-bearing materials for reuse. The recycled lead is shipped off-site as ingots, blocks, or billets.

The only waste that is treated is blast furnace slag. Treatment involves crushing the slag into small diameter particles and chemical stabilizing it using Portland cement and sodium silicate.

As previously discussed, a sample of the stabilized slag is collected and sent to a contract laboratory for TCLP toxicity analysis in accordance with EPA

approved procedures. The slag is disposed in Exide's permitted on-site solid waste landfill.

b. Storage

Exide stores hazardous waste on-site in one interim status Containment Building and three permitted container storage areas. All materials are stored in their designated areas in accordance with applicable state and federal regulations.

The Truck/Trailer Storage Area is used to hold spent batteries in trailer. It has a permitted capacity 85,000 batteries.

The Whole Battery Storage Area is used to hold batteries on pallets. It has a permitted capacity of 81,000 batteries.

The K069/D008 Storage Area is used to hold drums of listed or characteristic hazardous waste. It has a permitted capacity of 544 drums.

The Containment Building (currently in interim status) is used to hold lead-bearing raw materials prior to recycling. The building has an engineered capacity of 3,333 tons of blast furnace slag that is stored prior to on-site stabilization and disposal. Additionally, the building has the capability to hold 12,080 tons of lead material for recycling, including battery plates, lead oxide paste, reverberatory furnace slag, lead dross, and purchased scrap.

These areas are maintained to meet all applicable environmental regulatory requirements. The purpose of this hazardous waste permit application is to renew the existing hazardous waste permit.

c. Disposal

Exide does not dispose of any hazardous waste on-site. All hazardous waste is disposed of off-site at an approved disposal facility. Incoming hazardous materials that do not meet the incoming material strict screening process are returned to the material generator or disposed of off-site at an approved facility.

Exide occasionally generates hazardous wastes D006/D008 (refractory bricks) from maintenance and/or replacement of firebricks in the furnace inner lining. Refractory bricks that are generated are either recycled in the blast furnace or sent off-site to be disposed of in a permitted commercial hazardous waste landfill. The bricks are not stored prior to shipment off-site, but are taken out of the furnace and loaded directly onto a truck roll off container for off-site commercial disposal. If the bricks are to be recycled on-site, they are containerized for storage prior to recycle.

Exide also generates used motor oil that is recycled by International Petroleum Corp. Exide intermittently receives spent nickel-cadmium (D006) batteries intermingled with lead-acid batteries. The spent nickel-cadmium

batteries are accumulated and stored in drums prior to shipment off-site to a permitted recycling facility.

Exide does generate stabilized blast furnace slag, a non-hazardous solid waste, which is disposed of on-site in a permitted solid waste landfill. The stabilized slag is sampled in accordance with the Waste Analysis Plan to ensure the waste meets federal and state non-hazardous waste regulations.

3. Sources of waste

a. On-site generation (type and percentage of total handled)

Exide generates approximately 21,450 tons of waste per year. Blast furnace slag, generated as a part of the recycling process, makes up approximately 96% of the waste generated on-site. The refractory bricks from furnace maintenance make up approximately 1% of the waste generated on-site. Exide intermittently receives spent nickel-cadmium (D006) batteries intermingled with lead-acid batteries. The nickel-cadmium batteries make up approximately 2% of the waste generated by Exide. The used oil makes up approximately 1% of the waste generated by Exide.

b. Off-site generation (type and percentage of total handled)

Lead bearing materials for recycling are the only off-site generated hazardous wastes received by Exide. Typically the Baton Rouge smelter will receive 25,000 batteries per day, (250,000 tons per year) for recycling. Exide typically receives approximately 56,000 tons per year of other lead-bearing material for recycling.

4. Where will the wastes be shipped if not handled at this site?

Exide does not dispose of hazardous waste on-site. Any hazardous waste generated is shipped for disposal at a permitted hazardous waste management facility. Exide contracts with International Petroleum to remove used oil. Due to the intermittent accumulation of the refractory bricks (D006/008) and spent nickel-cadmium batteries (D006), Exide will contract with a permitted hazardous waste disposal facility on an as needed basis to dispose of these materials.

5. What wastes will remain on-site permanently?

No hazardous wastes will remain on-site permanently. The disposal portion of the blast furnace slag will be stabilized in the slag stabilization unit using Portland cement and sodium silicate. The stabilized blast furnace slag does not exhibit the characteristics of a hazardous waste. The stabilized blast furnace slag and construction debris that are generated by the facility will be disposed of in an on-site permitted solid waste landfill.

A. By which of the following potential pathways could releases of hazardous materials from the proposed facility endanger local residents or other living organisms?

1. **Air**

The potential exists that lead-containing dust could be released through the air. Exide minimizes this potential by maintaining compliance with state air permit Number 0840-00004-00. The Containment Building is equipped with a ventilation system that keeps a constant inward airflow (negative pressure) on all of the emission sources, which minimizes the potential for any fugitive emissions. Additionally, Exide maintains a dust suppression program for the lead-bearing material that is stored in the Containment Building. These controls prevent the exposure of the lead bearing materials within the Containment Building to the elements, and ensure their containment.

2. **Water**

The potential exists that hazardous materials could be released through surface water discharge. Exide minimizes this potential by maintaining compliance with state water permit LA00004464. All on-site storm, wastewater and contact cooling water is routed through the plant's wastewater treatment system prior to discharge through a permitted outfall. Water samples are collected weekly to insure that the requirements of Exide's LPDES permit are met.

3. **Soil**

The potential exists for soils in the immediate vicinity of Exide to be impacted by hazardous materials. Exide minimizes this potential through the implementation of environmental controls including a lined, self-contained building for the storage of hazardous material, and a composite lined landfill for the storage of solid waste. Furthermore, Exide maintains a groundwater monitoring system designed to monitor and detect subsurface impact. This system provides early detection of releases thereby further protecting any local residents or other living organisms.

4. **Food**

No food production or handling occurs in the vicinity of the Exide facility. Therefore, food is not a recognized pathway for the release of hazardous materials.

B. What is the likelihood or risk potential of such releases?

The risk potential for releases to air, water, or soil exist. However, each of the potentials are minimized by the use of control technology. The facility has a personnel training program, a Waste Analysis Plan, a Spill Prevention, Control & Countermeasures Plan, a Closure Plan, etc., all developed to minimize the impact of spills and releases on the environment by the facility.

C. What are the real adverse environmental impacts of the permittee's proposed facility?

1. **Short term effects**

a. **Land area taken out of system**

The land area at this facility was taken out of the natural system when the facility was built approximately 30 years ago. Therefore, impacts to land have already been realized. The proposed modifications to the existing Containment Building and this permit renewal do not involve an expansion of the existing footprint of the facility and consequently, will not impact further land area.

2. Long term effects

Environmental controls are in place at the facility to try to minimize the potential impact of the facility to the surrounding environment. Exide previously sought a modification to upgrade the floor of an existing storage area (Area 2 of the Containment Building) to further reduce potential environmental impact. This submittal requests renewal of the Hazardous Waste Permit.

II. Does a cost benefit analysis of the environmental impact costs balanced against the social and economic benefits of the proposed facility demonstrate that the latter outweighs the former?

The social and economic benefits of the Exide facility, by any reasonable measure, far outweigh any environmental costs. In fact, the recovery of lead from spent batteries for reuse, compared to the alternative of disposing of spent batteries in waste piles or landfills, is very beneficial to the environment. Related potential impacts to the environment such as spills, are minimized by the design, maintenance and operation of the facility.

The Exide facility is located in a sparsely populated industrialized area, remote from commercial or residential centers. The facility employs approximately 120 people, mostly from the greater Baton Rouge and Baker areas. Additionally, Exide contributes significantly to the financial well being of local suppliers and vendors.

In contrast, the environmental costs, are generally very small. As mentioned before, the recycling of lead batteries is beneficial to the environment. With respect to spills or releases that could adversely affect the environment, the Exide facility is designed so that K069, D008 and other Group I hazardous wastes are received and stored in permitted container storage areas. These materials are packaged in sealed containers placed on pallets. The materials are neither ignitable, reactive, or incompatible and do not contain free liquids. Exide adheres to applicable regulations. Exide also employs a strict screening process to ensure that the incoming hazardous materials are segregated and stored in the appropriate locations.

The lids are kept on containers at all times, except when adding to or removing contents from the containers. Leaking or structurally unsound containers are corrected immediately. Battery plates/oxide/lugs are received and stored in the Containment Building. The area is under a roof, on an impervious base, and does not contain free liquids. Run on and run off is prevented by building design construction.

Group II recyclable materials are received in containers and stored on pallets on an impervious concrete base, under a roof. Run on and run off is prevented by building design and construction. These materials are neither ignitable, reactive, or incompatible and do not contain free liquids. The covers are kept on containers at all times except when adding to or

removing contents from the containers. Leaking or structurally unsound containers are repaired or replaced immediately.

On an infrequent basis, furnace refractory bricks are replaced. The old bricks are either recycled in the blast furnace or sent off-site to be disposed of in a commercial hazardous waste landfill. The bricks are not stored prior to shipment off-site, but are taken out of the furnace and loaded directly onto a truck roll off container for off-site commercial disposal. If the bricks are to be recycled on site, they are containerized for storage prior to recycle. This storage is exempt under LAC 33:4105.B.15.

On a small portion of lead battery shipments, nickel-cadmium batteries may be integrated within the load. These batteries cannot be recycled by the Baton Rouge smelter, but are accumulated and stored in drums in van trailers on the Truck Trailer Container Storage Area prior to shipment off-site. The containers are shipped off-site in a truckload quantity to a recycling facility to be reclaimed.

A. How was it determined that this facility was needed?

The Baton Rouge smelter is the only lead recycling facility in the Gulf South. At the time of the facility construction, 1969, there was a high demand for a facility that could recycle lead-acid batteries. When the facility was purchased by Exide, it was integrated into Exide's overall battery manufacturing and recycling plan.

1. Local or regional survey

This facility is a recycling facility already in existence. The facility began operation approximately 30 years ago and serves the entire southeast United States. This location was originally selected to service the industrial areas of Baton Rouge and the surrounding Gulf South.

2. On-site or off-site needs

The current location was chosen based on the proximity to industry that required recycling of lead-bearing materials. Onsite needs included water wells, natural gas lines and space for development. Offsite needs included close proximity to clients and to suppliers.

3. Regional solid waste management benefit

There is a great need and benefit for a facility to recycle batteries. The alternative to recycling used batteries is to dispose of them in a landfill, which is a much less desirable method of handling batteries.

4. Generic survey of solid waste needs (compatibility with master plan)

Exide does generate stabilized blast furnace slag, a non-hazardous solid waste, which is disposed of in a permitted solid waste landfill. The stabilized slag is sampled in accordance with the waste analysis plan to ensure the waste meets federal and state non-hazardous waste regulations. A small quantity of office (municipal) solid waste is generated through daily business

operations. This municipal solid waste is disposed off-site at a permitted facility.

B. What will be the positive economic effects on the local community?

1. How many permanent jobs will be created?

The facility currently has approximately 120 full time employees.

2. What is the expected annual payroll?

The facility's current annual payroll is approximately $4,512,000.

3. What is the expected economic multiplier from item B2?

The expected economic multiplier is 2.5.

4. What is the expected tax base and who will receive benefits?

Since the Exide facility is existing there will be no change in tax base. The current primary tax base is in East Baton Rouge and surrounding parishes.

C. What will be the potential negative economic effects on the local community?

1. What are the possible effects on property values?

Exide is an existing facility, the requested renewal of the permit will not change the current market value of the surrounding properties.

2. Will public costs rise for:

a. Police protection

b. Fire protection

c. Medical facilities

d. Schools

e. Roads (also see below)

As an existing facility, the costs associated with the above items already exist. Permit renewal would not increase the costs associated with the items over the present value. Additionally, Exide pays federal, state, and local taxes which help in the maintenance of upkeep of the referenced public sectors.

3. Does the prospective site have the potential for precluding economic development of the area by business or industries because of risk

associated with establishing such operations adjacent to the proposed facility?

The existing Exide facility is located in a highly industrialized area. Therefore, the facility does not have the potential for precluding economic development.

D. Was transportation a factor in choosing the proposed site?

The site is located adjacent to U.S. Highway 61, which at the time of site construction, 1969, was the main industrial artery in the Baton Rouge area.

1. What mode(s) of transportation will be used for the site?

a. Truck

The lead-bearing materials are usually brought in on truck trailers. The materials are relocated from the truck trailer parking area by forklift to the container storage area for processing. They are palletized in their original containers and are properly labeled.

Wastes transported for off-site disposal are stored in DOT approved containers. The wastes are compatible with the containers, and properly labeled and manifested in accordance with LAC and DOT regulations.

The commercial transporters used by Exide are responsible for transportation of hazardous waste (D006/D008) to the hazardous waste disposal facility. Exide is responsible for distribution and transportation of lead-bearing material to internal facilities. All trucks are properly manifested and labeled prior to release from Exide.

Exide schedules the receipt of lead-bearing materials and spent lead-acid batteries to minimize and prevent the storage time needed prior to recycling.

The routes have existed for many years and are the responsibility of the transporters. Effects on area traffic and road conditions are negligible.

b. Rail

Exide uses rail transportation to bring in process material and to ship products. Rail transportation makes up only 5% of the traffic at the Baton Rouge Smelter.

c. Barge

Barges are not used for transportation at the facility.

d. **Other**

No other forms of transportation are used at the site.

2. **What geographical area will it serve?**

The Exide Baton Rouge Smelter receives spent lead-acid batteries and lead bearing materials from the entire Southeastern United States.

3. **By how much will local road traffic volume increase?**

The Exide facility is existing and the current road network is sufficient. Exide has no plans for upgrades at this time; therefore, no increase in traffic volume over the current level is expected.

a. **Can local roads handle the traffic volume expected?**

As stated previously, due to the current existence and operation of the facility, the roads associated with the facility can handle the traffic volume.

b. **Can local roads handle the weight of trucks?**

As stated previously, due to the current existence and operation of the facility, the roads associated with the facility can handle the weight of trucks associated with the facility.

4. **What are the long-term expectations of the proposed site?**

The long-term expectations of the site are to remain in operation until the closure of the facility.

The procedures for partial closure of the container storage areas and final closure of the facility is given in the Closure Plan. Exide is not seeking a permit for a hazardous waste land disposal facility.

Exide is not seeking a permit for land disposal that requires post-closure care monitoring. The closed hazardous waste piles at the site are governed under an existing Post-Closure Permit.

1. **Longevity of the facility**

The facility has been in the current location since 1969. The final closure date of the facility has not been determined. For permitting purposes, the approximate timeframe that the facility is expected to continue operation is until the year 2021.

2. **Who owns the facility?**

Exide Technologies is the facility owner.

3. **Are the owners financially backed by others?**

Financial responsibility belongs solely to Exide Technologies.

4. **When is closure anticipated?**

The container storage areas are expected to continue to exist in conjunction with the facility until about the year 2021 or at the end of the life expectancy of the facility, whichever is later.

5. **Who is responsible for the site after closure?**

Exide Technologies will retain responsibility for the site after closure.

6. **What assurances will there be that the site will be closed in accordance with the plan?**

Exide maintains a surety bond for financial assurance obligations, to ensure the facility will be properly closed.

7. **What financial assurances will be established to demonstrate the ability to handle problems after closure?**

Exide maintains a surety bond for financial assurance obligations, to ensure the facility will be properly managed after closure.

8. **Who certifies that the site is properly closed?**

Exide, with the assistance of a certified professional engineer, will certify that the site has been closed in accordance with LAC 33:V.Chapter 37.

9. **How are people protected from unwittingly buying land after closure?**

Exide will file a document with the Baton Rouge Clerk of Court's office that will notify any potential purchaser of the property that the land has been used to manage hazardous waste and its use is restricted under LAC 33:V.Chapter 35.

a. **Is the closed facility recorded in the deed?**

The Containment Building will be clean closed. However, Exide will record any facilities closed in place into the mortgage and conveyance records.

b. **What future uses are possible?**

Due to the area surrounding the facility, future uses of the property have a high probability of being industrial related.

III. Are there alternative projects which would offer more protection to the environment than the proposed facility without unduly curtailing nonenvironmental benefits?

There are no known alternatives to the Exide recycling facility, which would offer more protection to the environment. Also, this is the only facility providing this service in the state of Louisiana, and in the Gulf South.

A. Why was this technology chosen (e.g., incineration over landfilling?)

Recovery of lead from spent lead batteries and other lead-bearing material for reuse, compared to the alternative of disposing of spent batteries in a waste pile or landfill, is very beneficial to the environment and fulfill the general waste minimization program through reuse/recycling of hazardous waste materials.

1. Are other technologies available?

There are no known alternatives to the Exide recycling process, which would offer more protection to the environment.

2. Describe the engineering design and operating techniques used to compensate for any site deficiencies.

There are no deficiencies at Exide's site that require any specific engineering design and operating techniques.

B. Is the proposed technology an improvement over that presently available?

Exide is involved in recycling rather than disposing of lead and lead-bearing materials. This technology is more environmental friendly than disposing and/or landfilling spent batteries and other lead-bearing materials. The proposed modification to the Containment Building will incorporate state-of-the-art technology involving waste handling, liner systems, liquids management and ventilation. The permit renewal application does not propose any additional modifications.

C. Describe the reliability of technology chosen.

Exide processes spent lead and lead-bearing materials into lead ingots so that the lead can be reused instead of being disposed. Exide has been in operation for over 30 years utilizing lead recycling processes. The process track record shows that the process is a proven and reliable process.

1. Past experiences.

In 2000, the Baton Rouge Smelter recycled 59,700 tons of lead.

2. Environmental Impacts

While the potential exists for environmental impacts in the vicinity of the facility, the overall benefits from the recycling process used by Exide greatly benefit the environment by eliminating many batteries from disposal in landfills.

D. Describe the sequence of technology used from arrival of wastes to the end process at the facility (flow chart).

1. Analysis of waste – material is analyzed for chemical and physical content prior to being accepted at the Baton Rouge smelter.

2. Unloading – material is received in tractor-trailers and unloaded with fork-lifts.

3. Storage – the material may be stored in permitted storage areas prior to recycling.

4. Treatment - Batteries are processed through the Battery Breaker unit. The sulfuric acid is neutralized and crystallized to form a sodium sulfate salt that is sold as a product. The plastic from the battery casings is washed and shipped off-site to make new batteries. The lead paste is recycled on-site in the reverberatory furnace. Other lead-bearing materials are smelted in the blast furnace. The metallic lead is refined in kettles to meet client specifications and then cast into blocks or bars. Residual material, blast furnace slag crushed to a small diameter, treated with Portland cement and sodium silicate and disposed in an onsite landfill.

5. Monitoring – Groundwater monitoring wells are located at the perimeter of the facility. These wells are sampled following the specifications of Exide's Groundwater Sampling and Analysis Plan. This plan includes the well network, sampling procedures, documentation, decontamination, cross-contamination control, analytical parameters, field and laboratory QA/QC, well maintenance and reporting.

6. Closure – The Closure Plan for the Exide facility specifies clean-closure. The plan includes closure procedures for each hazardous waste unit, post-closure procedures for the closed hazardous waste piles and cost estimates for closure and post-closure.

7. Post-closure – Any required post-closure work, such as groundwater monitoring or cap inspections will be completed.

A process flow diagram is included as Figure 2 of this document.

E. Will this facility replace an outmoded/worse polluting one?

The Baton Rouge smelter is an existing facility, and will not replace any outmoded facility. The modification to the Containment Building will also provide for an upgrade that will be more protective of the environment. The permit renewal application does not propose any additional modifications.

F. What consumer products are generating the waste to be disposed? Are there alternative products that would entail less hazardous waste generation?

The lead recovered from the lead-bearing materials is the primary consumer product generated. However, the lead product is not sold to the general public, but rather to

manufacturing companies that turn them into consumer products. For example, in 1997, Exide Technologies (nation wide) recycled over 20 million batteries and sold over 25 million new batteries manufactured from recycled materials. In 2000, the Baton Rouge Smelter recycled 59,700 tons of lead.

IV. Are there alternative sites which would offer more protection to the environment than the proposed facility site without unduly curtailing nonenvironmental benefits?

The Baton Rouge smelter is the only lead recycling facility in the Gulf South region. Exide is an existing facility and the cost of relocating the facility would be prohibitive. Alternative sites, would not offer more protection to the environment, and would adversely impact non-environmental benefits. The existing site is located in a relatively remote industrial area, apparently ideally situated for this type operation. The local geology and topography has also proven to be suitable for the facility. A good transportation infrastructure (river, highway, and railroad) system is already in place that allow for Exide to effectively serve the region.

A. Why was this site chosen?

This location of the site was initially chosen because it was in the vicinity of the major industrial area of Baton Rouge and within easy access to road and railway transportation to the entire Southeastern United States.

1. Specific advantages of the site;

As stated previously, the site is existing and is located in a relatively remote industrial area, apparently ideally situated for this type operation. The local geology and topography has also proven to be suitable for the facility. A good transportation infrastructure (river, highway, and railroad) system is already in place that allow for Exide to effectively serve the region.

2. Were other sites considered and rejected?

Evaluation of the site may have been considered in the 1960's during the initial planning and construction of the facility. Since the site is an existing facility in operation, no other specific sites were evaluated.

3. Is the location of the site irrevocable; i.e., would denial of permit based on site preclude the project?

Yes, if the facility was forced to move from its location, the cost associated with rebuilding the facility and infrastructure would prohibit the construction of the facility at another site.

B. Is the chosen site in or near environmentally sensitive areas?

No. The site is not in a wetland, estuary, shoreline, flood-prone area, aquifer recharge zone, endangered species critical habitat, hurricane storm surge area, prime agricultural area, historical or culturally significant area, and is not in close proximity to residences or schools. The Exide facility is located at the end of East Baton Rouge Parish Road Brooklawn Drive which provides access from Highway 61

to industrial facilities, primarily Reynolds Metals, Union Tank Car, and the Old Petro Processors. The Irene and Alsen Communities and the State Industrial School for Boys are outside the two-mile radius of the facility.

C. What is the zoning and existing land use of the prospective site and nearby area?

The zoning of the site is industrial. The nearest communities (Irene and Alsen) are over two miles away from the facility.

1. Is the site located near existing heavy industrial, chemical process or refinery operations?

The site is located in a highly industrialized area.

2. Is there a precedent for chemical contamination near the site or is the soil and water pristine?

The Petro-Processors site is a Superfund site that is located within 100-feet of the Baton Rouge smelter. Reynolds Metals Corporation, also located with 100-feet of the Baton Rouge smelter is an industrial facility that process petroleum coke.

3. Is the area particularly noted for its esthetic beauty?

The area is developed industrially and is not noted for its esthetic beauty.

D. Is the site flood prone?

Based on the most recent Flood Insurance Rate Map (Revised May 17, 1993), Exide is an existing facility located in Zone X, an area of minimal flooding. The developed site is above the 100-year flood plain. The elevation of the active portion of the site is between 85- and 75-feet above mean sea level (MSL). Site records indicate that there have been no flooding incidents in the active portion of the facility.

1. Is the site in a flood plain?

a. How current are the maps used to make flood plain determinations?

The active portion of the facility in not located within the 100-year flood plain. Figure 9 of this permit modification presents a Flood Plain Map, developed from Federal Emergency Management Agency maps.

b. What is the elevation of the site?

The facility is located on a parcel of land about approximately 75- to 80-feet above MSL, except for the western and northern undeveloped edges of the property. The western and northern sides of the facility slope to an elevation of approximately 35 feet MSL.

c. **Is diking required or desired to provide flood protection?**

Diking is not required to provide flood protection. Exide is located in Zone X, indicating that the facility is located outside of the 100-year flood area.

2. **Is the site hurricane vulnerable?**

Although the facility is located in an area subject to hurricanes, they are infrequent and have resulted in minimal damage. Exide facilities have been designed and constructed to withstand normal forces associated with storms and hurricanes.

a. **Is the site in an area subject to storm surge?**

No, the site is not subjected to storm surge.

b. **What are the design storm specifications?**

The facility was constructed in the late 1960s and early 1970s and much of the specific design information and engineering criteria are not available. The facility's stormwater system is reported to have been designed to manage a 24-hour 25-year storm event. However, the facility, in its current form, has withstood several hurricane and tropical storm events with little or no damage including Tropical Storm Isidore and Hurricane Lili in 2002.

c. **Should damage from wave action be considered?**

No, the facility is not located in an area likely to receive damage from wave action.

d. **For what levels of wind speed is the facility designed?**

The facility was constructed in the late 1960s and early 1970s and much of the specific design information and engineering criteria are not available. However, the facility, in its current form, has withstood several hurricane and tropical storm events with little or no damage including Tropical Storm Isidore and Hurricane Lili in 2002.

E. **Is groundwater protected?**

1. **Are aquifers or recharge area underlying the site used for drinking water?**

The uppermost water-bearing zone at the site is not used for drinking water. The uppermost water aquifer that is used for drinking water at the site is the '400-foot sand' that is laterally continuous in the vicinity of the facility, according to published groundwater data. Exide does not use the "400-foot sand" for drinking water. Exide has two deep wells that are used for potable water and non-contact cooling water for operations at the Baton Rouge smelter. The primary well (No. 3 well) is 2,447 feet deep and screened from

1,870-feet to 2,434-feet. The backup well (No. 1 well) is 1278 feet deep and screened from 1,228-feet to 1,278-feet. Both of these wells are tested periodically for water quality by Exide. Additionally, the Louisiana Department of Health and Hospitals tests the two drinking water wells for water quality parameters every three years. Previous sampling events indicate that constituents of concern have not been detected in either of the wells.

According to Map No. 13 of the Aquifer Recharge Atlas ("Aquifer Recharge Potential of the Baton Rouge Quadrangle," 1988), prepared for the LDEQ Ground Water Protection Division, the Exide site and areas within 1,000 feet of the site are located in an area mapped with either a low to moderate recharge potential for the Southeast Louisiana Aquifer System, or no recharge potential for the Alluvial Aquifer System.

2. What is the relationship of the site to the water table?

Groundwater from the site's uppermost water bearing zone discharges to Baton Rouge Bayou.

3. What wells exist in the area?

Exide has seven groundwater monitoring wells (upgradient well MW-1R, and downgradient wells MW-4R, MW-12R, MW-13R, MW-16, MW-17 MW-18) that are placed to monitor the two closed hazardous waste piles located in the north and west sections of the facility. Exide has three wells that monitor the closed solid waste landfill to the north of the property (MW-1A, MW-14A and MW-15A). There are also three wells set to monitor the New Landfill, an active solid waste landfill on the western portion of the Exide site. The wells are MW-19 that is upgradient, MW-20 and MW-21 that are downgradient of the landfill. All of these wells are screened in the first water-bearing unit encountered at the site.

Exide also has two deep wells at the Baton Rouge smelter for supplying potable water and non-contact cooling water for operations. The primary well (No. 3 well) is 2,447 feet deep and screened from 1,870-feet to 2,434-feet. The backup well (No. 1 well) is 1278 feet deep and screened from 1,228-feet to 1,278-feet.

4. What is the flow rate and direction of the groundwater flow?

Hydro-geologic testing of the upper permeable zone indicates an average hydraulic conductivity of 1.257 feet per day and an average transmissivity of 17.52 square feet per day. Groundwater flow at the site is primarily to the northwest with a typical groundwater velocity of 20 feet per year. This flow rate and direction of groundwater flow have been consistent for approximately 15 years.

5. **What is the groundwater quality in the underlying aquifers?**

The uppermost water-bearing zone at the site is not used for drinking water. The zone is monitored by Exide on a semiannual basis. Groundwater reports are submitted to LDEQ on a semiannual basis. To this date, there has been no impact to groundwater believed to be from the Baton Rouge smelter.

6. **Is there a hydraulic connection between the aquifers?**

Based on published information, the aquifers in the upper 100-feet at the site are hydraulically connected. Between the upper water table zone and the first usable aquifer (400-foot sand) there is a clay confining layer.

F. **Does prospective site pose potential health risks as defined by proximity to:**

1. **Prime agricultural area (crop or pasture land)**

The facility is not located in or adjacent to crop or pasture land. The nearest pasture land is located 1.5-mile from the facility.

2. **Residential area**

The facility is not located in a residential area. The nearest resident is located 2 miles from the facility.

3. **Schools or day care centers**

The nearest school in the vicinity of the site is located in Baker Louisiana, at least 5-miles from the site.

4. **Hospitals or prisons**

The nearest prison is the Jetson Correctional Center, located approximately 2.5-miles from the facility. The nearest hospital to the site is Lane Memorial Hospital in Zacary, LA, which is located approximately 10-miles from the site.

5. **Public buildings or entertainment facilities**

The nearest public building is the Alsen Community Center, located approximately 4-miles from the Exide site.

6. **Food storage area**

The facility is not located near any food storage areas.

7. **Existing community health problems that may be aggravated by operation of additional hazardous waste disposal capacity**

The facility is currently in operation. The permit renewal will not change facility operations and, therefore, will not create additional impacts to the

community. The proposed modification to the Containment Building will be an upgrade and will be more protective of the environment.

G. Is air quality protected?

1. Is the site within an ozone or non-attainment area?

Yes, the site is within an ozone non-attainment area.

2. What contaminants are likely to be generated at the site?

Lead particulate matter is likely to be generated at the site.

3. What protection is afforded from each contaminant generated by the site?

Exide will comply with applicable state and federal air emission regulations. Additionally, all identified sources of airborne lead are vented to baghouses to capture airborne particles. Water suppression is used in the Containment Building to reduce dust and potential airborne particles from the recycled materials.

4. What is the potential for unregulated emissions?

The potential for unregulated emissions is very low. All identified sources of airborne lead particulate are vented to baghouses. Water suppression is used to reduce dust and potential airborne particles from the recycled materials.

5. What plans are implemented to provide for odor control?

The lead-bearing material being recycled does not generate any bad odor.

6. Who will be affected by emissions?

There are no schools or residential communities within the 2-mile radius to be affected by emission.

a. What is the direction of the prevailing winds?

The prevailing wind is from the east/southeast.

b. Describe the expected frequency of "bad air" conditions.

The secondary lead smelting process does not generate any noticeable odor or "bad air" conditions.

7. Describe the control of vapors at various stage of process.

All of the possible air emission points are vented to control devices.

H. Have physical site characteristics been studied; what has been done in terms of a geotechnical investigation?

Approximately 35 soil borings have been installed to identify stratigraphy and geotechnical characteristics. The Baton Rouge smelter has thirteen groundwater monitoring wells set in the uppermost water bearing zone.

1. Site Geology

Based on soil borings completed throughout the site, the Baton Rouge smelter is underlain by natural soils of low permeability with some interbedded units of clayey sands, sandy clays, and sands. The top of the uppermost aquifer (first competent permeable zone) is encountered at elevations of approximately 28 to 32 feet msl, and the base of is encountered at elevations of approximately 20 to 25 feet msl. The thickness of this zone ranges from approximately 3 to 25 feet.

2. Hydrogeology

The uppermost aquifer at the site consists of interbedded fine-grained sand, sandy clay, clayey sand, and silty sand. Hydrogeologic testing of the upper permeable zone indicates an average hydraulic conductivity of 1.257 feet per day and an average transmissivity of 17.52 square feet per day. Groundwater flow at the site is primarily to the northwest with a typical groundwater velocity of 20 feet per year.

3. Topography

The majority of the site is relatively flat except for the northern and western edges of the proper, which are undeveloped. Surface elevations at the site range from 75 to 80 feet MSL. The western and northern sides slope to an elevation of 35 feet MSL.

4. Soil properties

The soils underlying the site are comprised mainly of stiff to very stiff tan and gray clays, silty clays and firm tan clayey silts. Moisture content of the soils in the upper 10-feet at the facility range from 19% to 30%. Deeper soils from 10 to 30-feet below ground surface show slightly higher moisture contents. During the geotechnical investigation of the New Landfill site, seven soil borings were drilled and soil samples collected for screening using an Organic Vapor Analyzer (OVA). The results of the OVA screening were reported as 0 part per million.

5. Aquifer location

The site is underlain by natural soils of low permeability with some interbedded units of clayey sands, sandy clays, and sands. The top of the uppermost aquifer (first competent permeable zone) is encountered at elevations of approximately 28 to 32 feet MSL, and the base of is encountered at elevations of approximately 20 to 25 feet MSL. The thickness of this zone ranges from

approximately 3 to 25 feet. This zone was encountered in all soil borings completed at the facility, indicating that it is laterally continuous. Hydraulic testing indicates that the uppermost water bearing zone at the site has an average hydraulic conductivity of 1.257 feet per day and an average transmissivity of 17.52 square feet per day. Groundwater flow at the site is primarily to the northwest with a typical groundwater velocity of 20 feet per year. This flow rate and direction of groundwater flow have been consistent for approximately 15 years.

The uppermost aquifer is underlain by a lower confining unit consisting of a hard gray to tan clay approximately 15 to 40 feet thick. The permeability of this unit was measured with a falling head permeability test yielding a result of 9.1 x 10^{-8} centimeters per second (cm/sec). This zone was encountered in all soil borings completed at the facility, indicating that it is laterally continuous.

A second permeable zone was encountered in two deep soil borings. This zone consists of fine- to coarse-grained sand and silty sand. The top of this unit was encountered at an elevation of approximately -28 feet MSL, and the base of this unit was encountered at elevations of approximately -35 to -54 feet MSL. The thickness of this zone ranges from approximately 5 to 20 feet.

6. Subsidence problems

No subsidence problem has been found.

7. Climatic conditions

Climatic conditions for the site average annual rainfall in the region is approximately 63 inches. According to the State Office of Climatology, the prevailing wind direction is from the east and south east, with occasional north and south winds. Occasional heavy winds, associated with tropical storms and hurricanes can occur in the vicinity of the Baton Rouge smelter.

V. Are there mitigating measures which would offer more protection to the environment than the facility as proposed without unduly curtailing nonenvironmental benefits?

No. The facility is designed, maintained, and operated in a manner to protect the environment. All reasonable measures to protect the environment are taken. The Exide facility is regulated by the LDEQ and in compliance with the regulations applicable to this type of facility.

Exide is an existing facility and has been in operation since 1969, it is in compliance with the regulations as a recycler.

The container storage areas are existing facilities for storage of spent lead-acid batteries and lead-bearing materials for lead recovery.

A. Is this facility part of a master plan to provide waste management? Whose plan?

No, this facility is not part of a formalized master plan for waste management. However, the effects of the facility are beneficial to any waste management plan by virtue of the fact that the Exide process recycles lead from spent batteries, rather than disposing of the batteries into a landfill.

1. How does it fit into the plan?

Not applicable.

2. What geographical area is served by the plan?

Not applicable.

B. Does this facility fit into an integrated waste management system? (reduction, recovery, recycling, sales tax, exchange, storage, treatment, disposal).

1. On-site

Yes. The facility is an integrated system for waste management. Each waste element is strategically stored in a location that maximizes facility efficiency, minimizes handling, maximizes worker and environmental safety and provides the largest potential environmental and financial gain for Exide and the community.

2. Regional

Yes. This facility represents a key component to an integrated waste management system by recycling/recovering the lead from spent batteries, minimizing/reducing the volumes of waste to be disposed of in a landfill and providing a tax base for the local economy.

C. Can waste be disposed in another fashion (way)?

The Exide facility is a secondary lead smelter that recycles lead-acid batteries and other lead-bearing material. There are no other technologies that offer better protection to the environment. The alternative to recycling would be disposal of the waste, which would not be beneficial to the environment.

1. Technology limitations

Not applicable.

2. Cost factors

Not Applicable.

3. Other reasons

Not applicable.

D. **What quality assurance control will be utilized to protect the environment?**

Exide does not dispose of hazardous waste onsite. Exide also schedules the receipt of recyclable lead-bearing materials (D008) spent lead and batteries, and emission baghouse dust (K069) to minimize storage time, prior to recycling for lead recovery. Exide maintains and follows a SPCC Plan and employee training to minimize or reduce the likelihood of spills occurring on the site. The SPCC plan outlines activities to be followed to reduce the potential for spills or release of hazardous materials. In addition, Exide will comply with all applicable state and federal waste handling regulations.

Plans for lab work

The Baton Rouge smelter has a multi-function analytical laboratory. This laboratory is used to insure that product lead is cast to meet client specifications. Additionally, the on-site laboratory performs characterization testing on incoming materials and slags generated by the furnaces. The laboratory is also used to analyze sodium sulfate salt produced by neutralization of spent battery acid prior to the salt being shipped to clients. The on-site laboratory is operated following the specifications set forth in Exide's Comprehensive Quality Assurance Manual.

Exide uses outside contract laboratory services for all permit analytical testing. This testing includes:

- Semi-annual groundwater samples from monitor wells located at the closed hazardous waste cells and the solid waste landfill,
- Weekly samples of treated process water from Outfall 001,
- Quarterly samples of stabilized blast furnace slag, analyzed for TCLP metals, and
- Stormwater runoff samples from Outfalls 002 and 003.

The Baton Rouge smelter uses approved laboratories for this outside analytical work. A copy of an approved QA/QC protocol is included in Appendix D of Exide's Waste Analysis Plan. The plan outlines the requirements for receiving material at the Baton Rouge smelter.

1. **How are out-of-spec wastes handled**

Exide has a strict screening process that lead bearing material generators must comply with prior to the material being accepted by the Baton Rouge smelter. This screening process includes the analysis and review of new waste streams prior to receipt, to verify chemical and physical characteristics, and the completion of waste profiles. Exide does not accept any material that contains organic constituents, PCBs, organic lead, or metallic aluminum. Additionally, material is not accepted that contains any free liquids. If the incoming material is not received in accordance with the chemical and physical characteristics purchase contract, the material generator is contacted and the discrepancy is reconciled or the material is returned.

2. **What happens to rejected wastes**

As stated previously, if the incoming material is not received in accordance with the chemical and physical characteristics purchase contract, the material generator is contacted and the discrepancy is reconciled or the material is returned. Additionally, materials that cannot be recycled at this facility (*i.e.*, spent nickel-cadmium batteries) will be stored in an appropriate manner for disposal at an approved off-site facility.

3. **Treatment stabilization**

In the lead recycling process, slag is produced from the blast furnaces. Based on the lead content, the blast furnace slag is sorted into a recycle fraction and a disposal fraction. The recycle fraction is charged in the blast furnace to further recover the lead. The disposal fraction is fed into the slag stabilization unit were it is treated with Portland cement and sodium silicate prior to disposal in Exide's permitted on-site solid waste landfill.

The stabilized slag is disposed of in Exide's permitted on-site, solid waste landfill. A representative sample of the stabilized slag is collected at least once per quarter and sent to a contract laboratory for a TCLP toxicity analysis in accordance with EPA approved procedures.

4. **Segregation of non-compatible wastes**

On-site generated wastes and lead-bearing materials obtained from generators will be inspected, screened, and handled in accordance with EPA and state regulations and Exide's Waste Analysis Plan. The plan outlines the requirements for receiving material at the Baton Rouge smelter. The screening process is employed to ensure that incoming waste is characterized and that incompatible materials are separated.

5. **Handling of containerized wastes**

Containerized waste is stored in permitted areas at the facility. The material will be sampled upon receipt as specified in Exide's Waste Analysis Plan. The waste will be recycled in either the blast furnace or the reverbatory furnace. Spill response for the container storage areas are addressed in the SPCC plan. The SPCC plan outlines activities to be followed to reduce the potential for spills or release of hazardous materials.

E. **Innovative techniques used to control release of waste or waste constituents into the environment.**

Exide is an existing secondary lead smelter and is seeking a permit renewal for hazardous waste operations.

Surface impoundment

Exide does not operate a surface impoundment.

1. **Land application treatment**

Exide does not use land application treatment.

2. **Landfill (burial)**

Exide operates a permitted Type I solid waste landfill. The landfill is permitted to receive stabilized blast furnace slag and construction debris.

3. **Incinerator**

Exide does not use incinerators to treat or store hazardous waste.

4. **Container storage**

Exide currently has permitted multiple container storage areas that are designed to protect the environment, and minimize the potential for a hazardous waste release.

5. **Tanks**

Exide does not use tanks to treat or store hazardous waste.

ATTACHMENT 1
Hazardous Waste Materials Received

Type Material	Code	Estimated Annual Quantity Handled
Spent Lead-Acid Batteries	D002, D008	250,000 tons
Lead residues, sludges, plant scraps & other Group I lead bearing hazardous waste	D008	24,000 tons
Lead residues, sludges, slags, and other Group I lead bearing hazardous waste with impurity-level other metal content	D008 (D004, D006, D007, D010, D011)	1,000 tons
Emission control dust from Secondary Lead Smelters	K069	1,000 tons
Group II Recyclable lead bearing non-hazardous materials	D008	30,000 tons
Refractory Brick (exempt from permit)	D006, D008	200 tons
Spent nickel-cadmium batteries	D006	250 tons
Battery Components	D008	100,000 tons
Blast Furnace Slag	D008	20,000 tons

72. *The Permittee must respond to each question and provide a brief explanation as to why a question is not applicable.*

Responses have been provided to each question and a brief explanation has been provided in the response to comment 71.

73. *The Permittee must provide a brief summary of all Figures, Tables and Appendices referenced.*

A brief summary of all figures, tables and appendices has been provided in the response to comment 71.

FIGURES

Reference Sheet

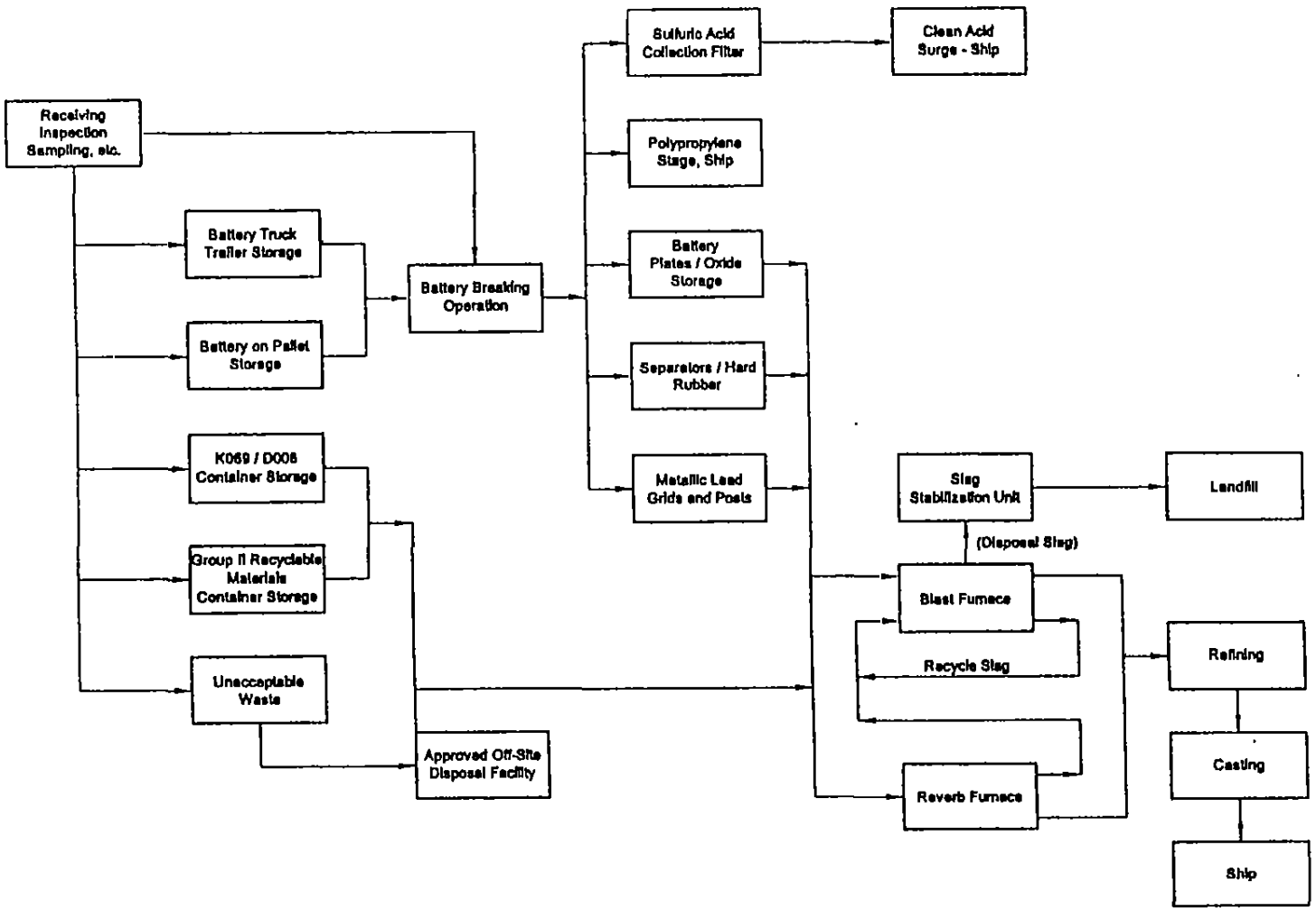
REF+156418

Printed: 07/30/2003 6:32 am

Reference Sheet

REF+156419

Printed: 07/30/2003 6:32 am



NOTES

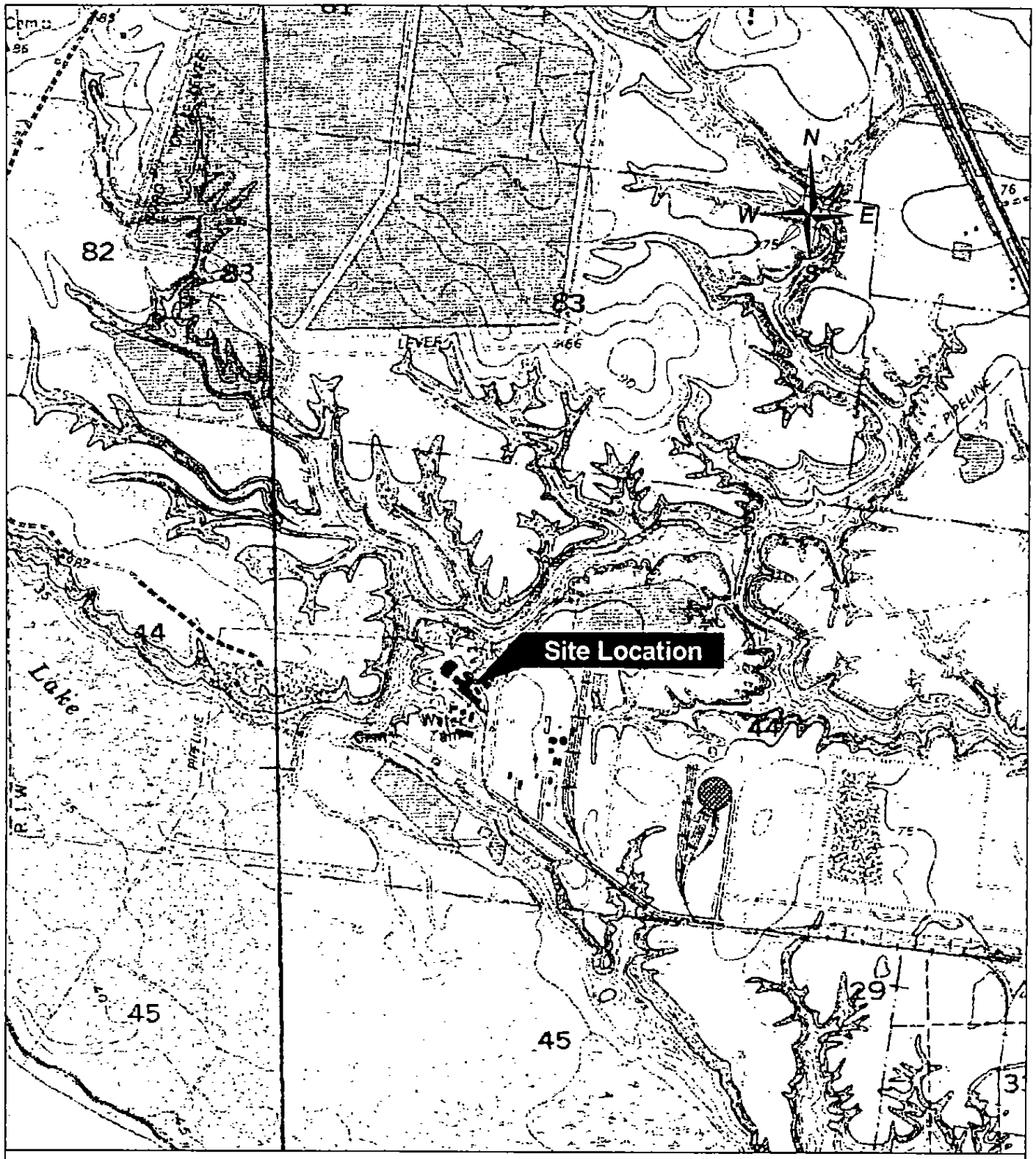
TAKEN FROM PROVIDENCE PART B PERMIT MODIFICATION DRAWING 028 001-A005 DATE 05/08/01

EXIDE TECHNOLOGIES

BATON ROUGE, LOUISIANA

Scale N.T.S.	PROCESS FLOW DIAGRAM
Originated By K.A.W.	
Drawn By P.S.G.	Advanced GeoServices Corp.
Checked By J.W.P.	Chadds Ford Business Campus Rte 202 & 1
Project Mgr P.G.S.	Brandywine One Suite 202
Dwg No 2003-1058-01-05	Chadds Ford Pennsylvania 19317
JUL 2 3 2003	Project No 2003-1058-01 — FIGURE 2

J:\EXIDE\DRAWINGS\BATON ROUGE\2003-1058 01\2003-1058-01-05



NOTE.

BASE MAP COMPRISED OF U.S.G.S. 7.5 MINUTE TOPOGRAPHIC MAPS, "WALLS, LA" DATED 1963, REVISED 1994 AND "SCOTLANDVILLE, LA" DATED 1963, REVISED 1994. IMAGE IS REFERENCED TO UTM NAD 27 ZONE 15

BATON ROUGE SMELTER

BATON ROUGE, LOUISIANA

Scale 1"=2000	SITE LOCATION PLAN
Originated By JWP	
Drawn By PSC	
Checked By JWP	Advanced GeoServices Corp. Chadds Ford Business Campus Rts 202 & 1 Brandywine One Suite 202 Chadds Ford, Pennsylvania 19317
Project Mgr PGS	
Dwg No 2003-1058-01-14	
JUL 2 3 2003	Project No 2003-1058-01 FIGURE 3

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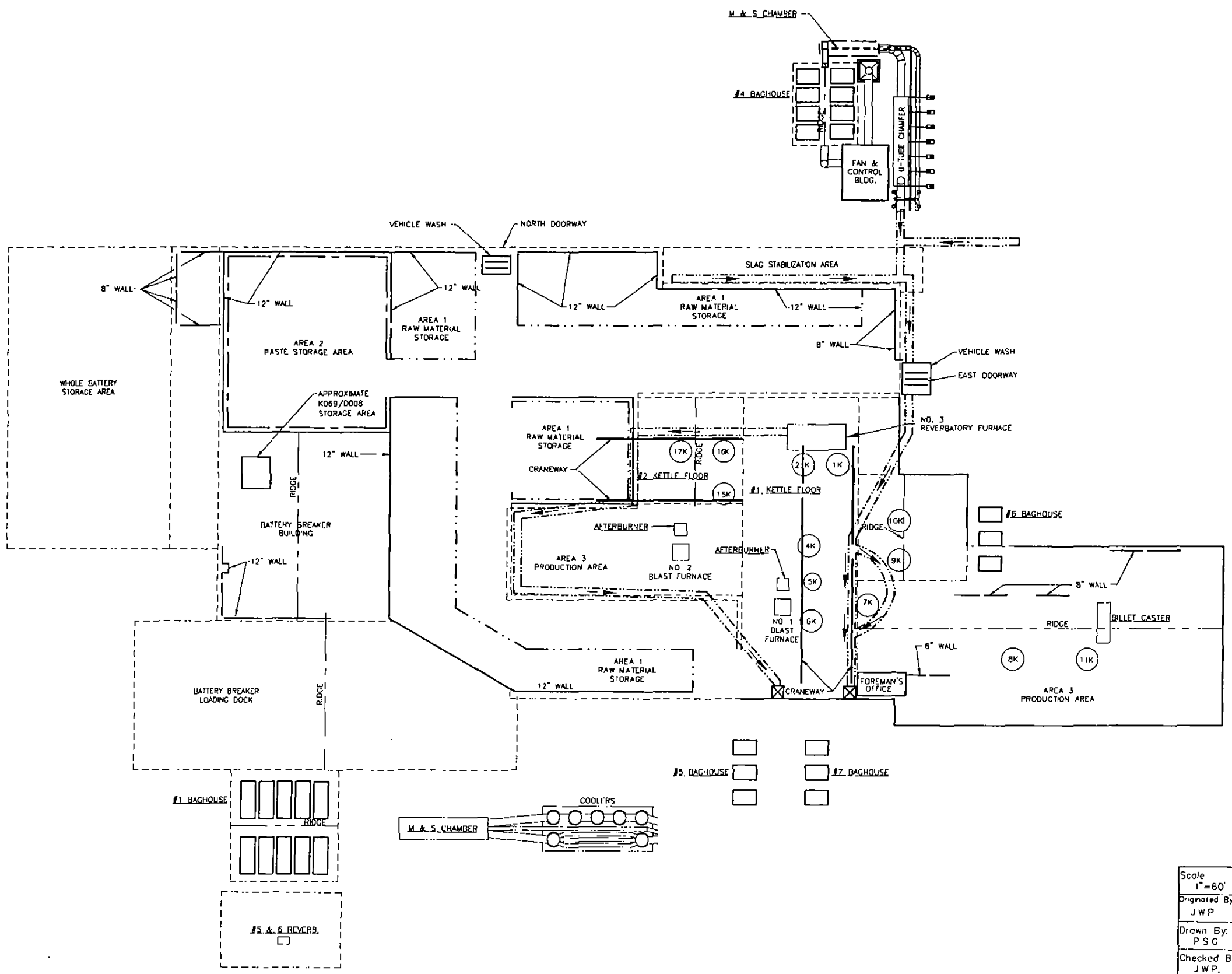

Legend

- Area 1 Raw Material Storage Areas
- Area 2 Paste Storage Area
- Area 3 Production Area
- Water Collection Sump
- Floor Drain
- Water Flow

Notes:

1. Base map comprised from Exide Corporation drawing titled "Containment Building" for the Hazardous Waste Containment Building Certification drawing no. B24-810-01 drawn by C-K Associates, Inc. dated 11/03/99.
2. Proposed Containment Building renovations not shown.

60 0 60

Scale: 1" = 60'

EXIDE TECHNOLOGIES

BATON ROUGE, LOUISIANA

Scale 1"=60'	CONTAINMENT BUILDING MAP
Originated By: JWP	
Drawn By: PSG	
Checked By: JWP	Advanced GeoServices Corp. Chadds Ford Business Campus, Rts 202 & 1 Brandywine One, Suite 202 Chadds Ford, Pennsylvania 19317
Project Mgr. PGS	
Dwg No 2003-1058-01-08	Project No 2003-1058-01
Issued JUL 2 3 2003	FIGURE: 4

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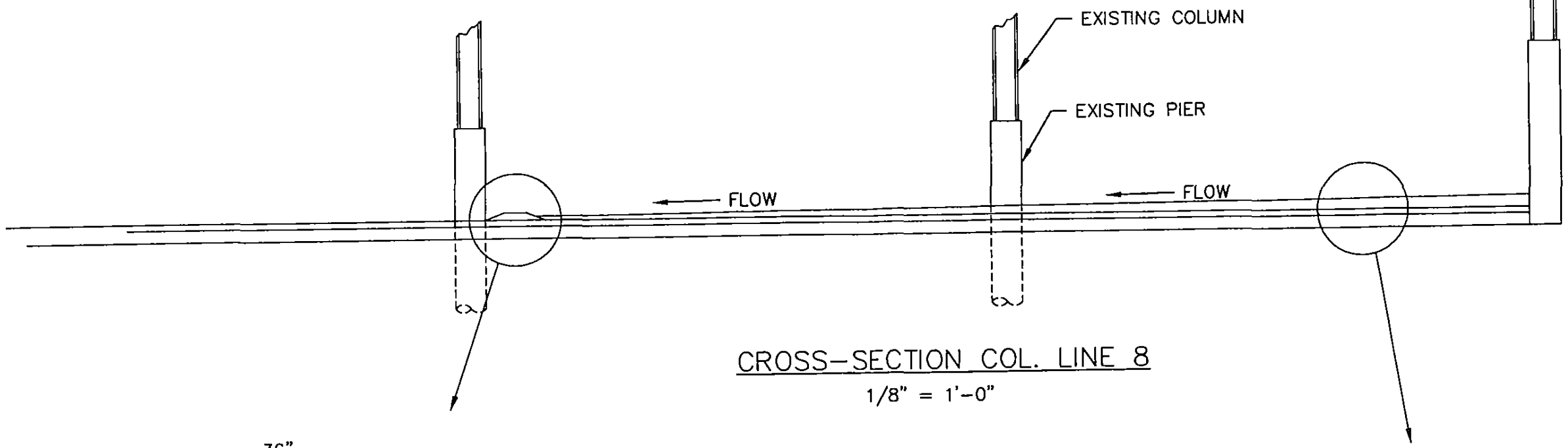
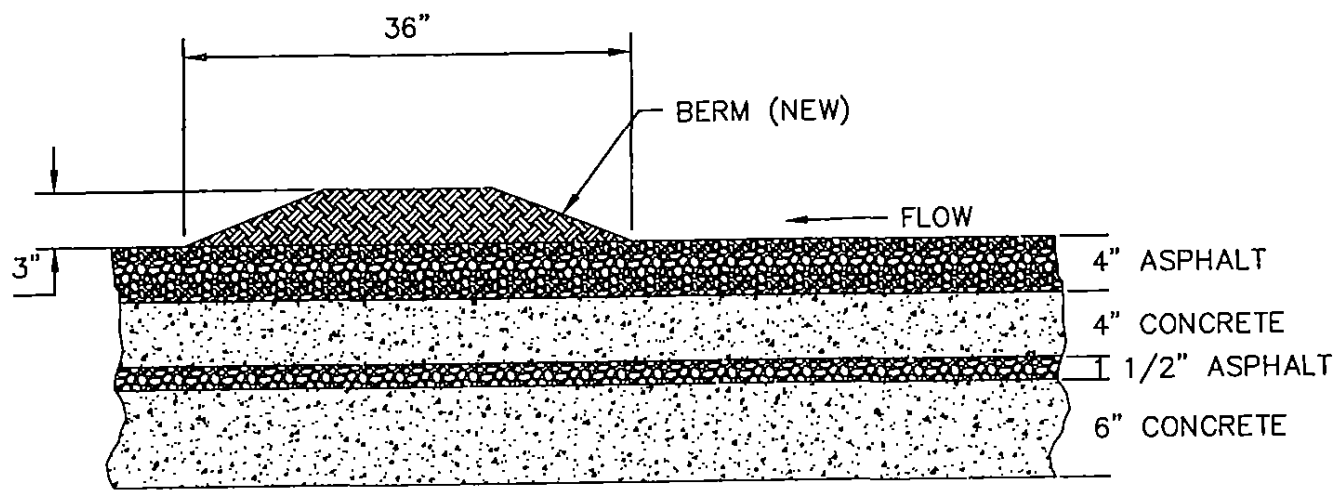


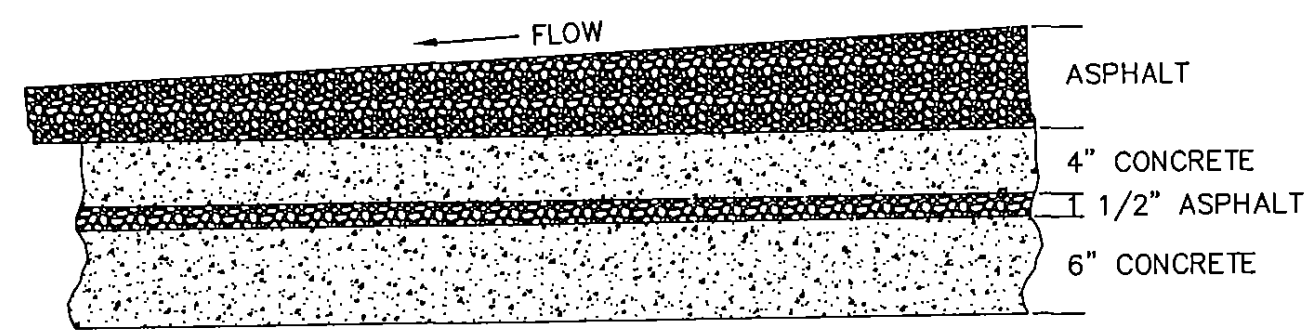
CROSS-SECTION COL. LINE 8

1/8" = 1'-0"



TYPICAL BERM CROSS-SECTION

1" = 1'-0"



TYPICAL FLOOR CROSS-SECTION

1" = 1'-0"

EXIDE TECHNOLOGIES

BATON ROUGE, LOUISIANA

NOTES:

1. ORIGINAL DRAWING BY PAT B. ROY DATED MAY 1991, DRAWING NO. MS-2L.

Scale AS SHOWN	K069 / D008 CONTAINER STORAGE AREA
Originated By: J W P	
Drawn By: P.S.G.	Advanced GeoServices Corp. Chadds Ford Business Campus, Rts. 202 & 1 Brandywine One, Suite 202 Chadds Ford, Pennsylvania 19317
Checked By J W P	
Project Mgr P G S	
Dwg No 2003-1058-01-09	Project No 2003-1058-01
JUL 2 3 2003	FIGURE: 5

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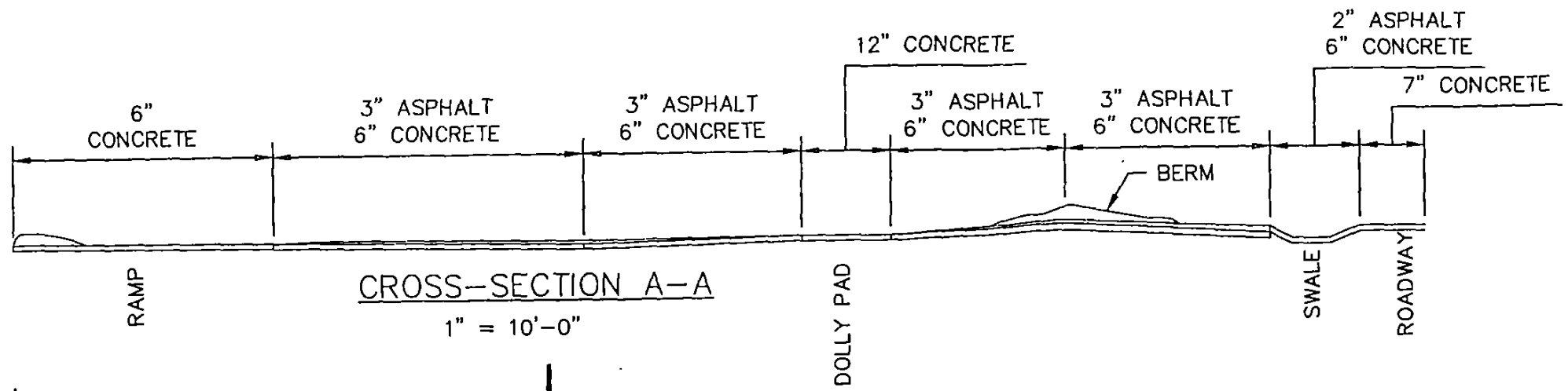
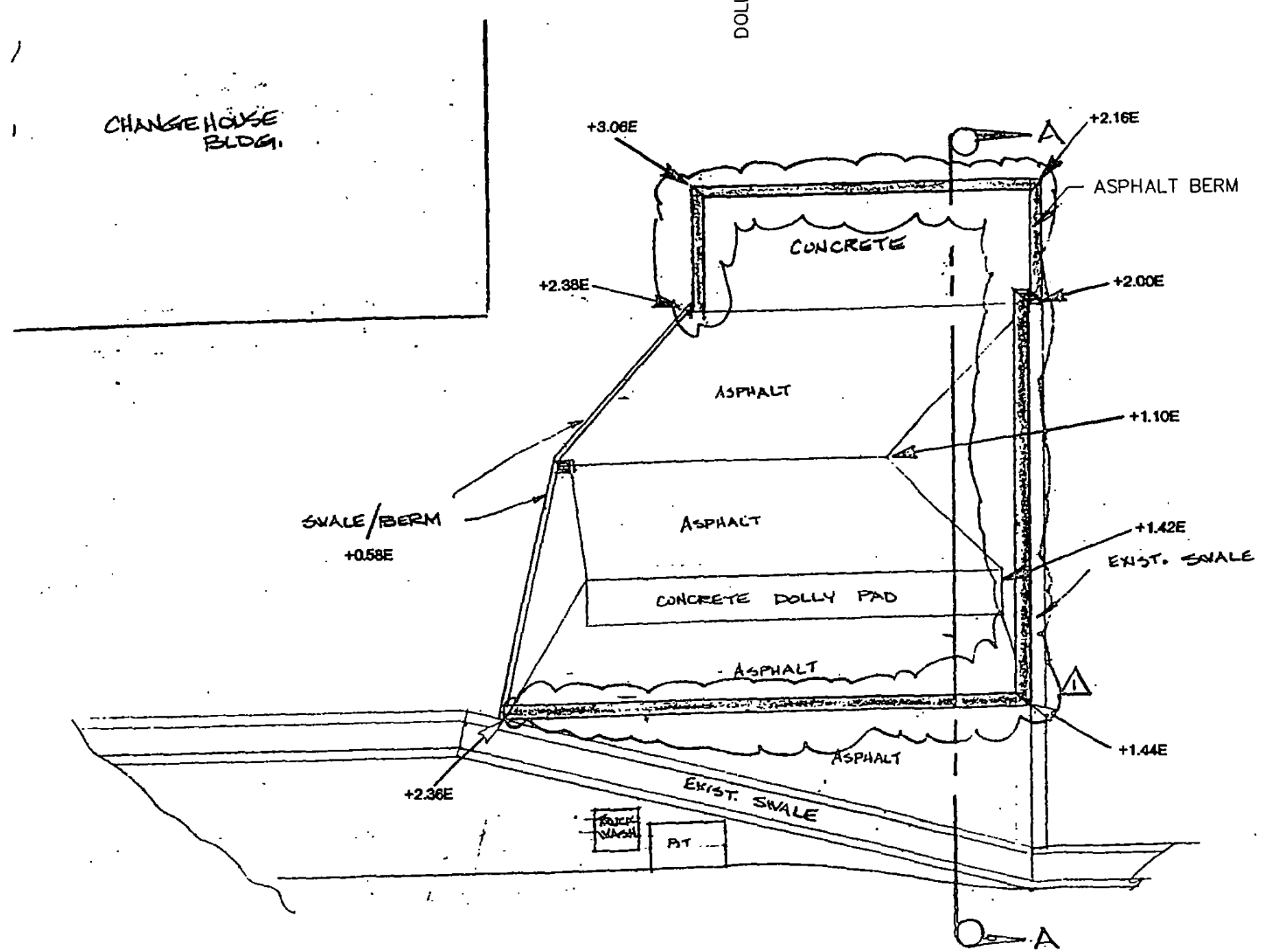


CROSS-SECTION A-A

1" = 10'-0"



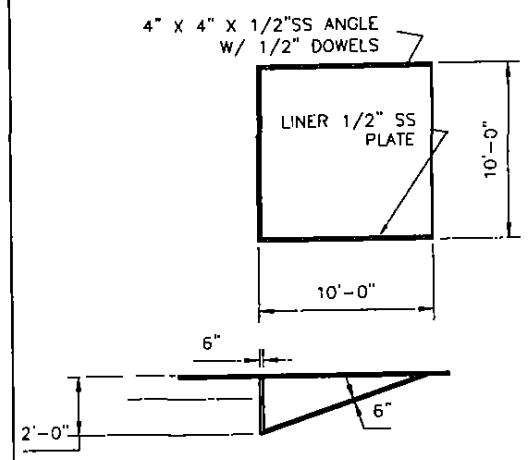
NOTES:

1. ASPHALT BERM WAS CONSTRUCTED PER DRAWING. TO CONTAIN 12" RAINFALL AND 10% OF TOTAL BATTERY ACID STORED WITHIN BERMED AREA. BERM IS 2.5 ft ABOVE 0.0' REFERENCE ELEVATION AT COLLECTION SUMP.
2. ORIGINAL DRAWING BY PAT B. ROY DATED MAY, 1998 AND REVISED MAY 1991, DRAWING NOS LTP-1R AND LTP-2R.
3. ALL MEASUREMENTS ARE IN FEET

EXIDE TECHNOLOGIES
BATON ROUGE, LOUISIANA

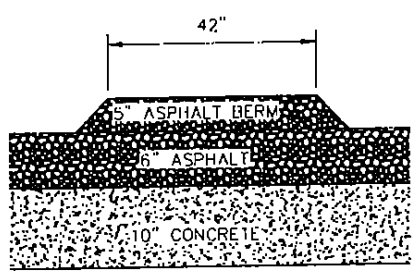
Scale AS SHOWN	TRUCK TRAILER STORAGE AREA
Originated By J.W.P	
Drawn By P.S.G	Advanced GeoServices Corp. Chadds Ford Business Campus, Rts 202 & 1 Brandywine One, Suite 202 Chadds Ford, Pennsylvania 19317
Checked By J.W.P.	
Project Mgr P.G.S	
Dwg No 2003-1058-01-09	Project No 2003-1058-01
Issued JUL 2 3 2003	FIGURE 6

\EXIDE\DRAWINGS\baton rouge\2003-1058-01\2003-1058-01-09



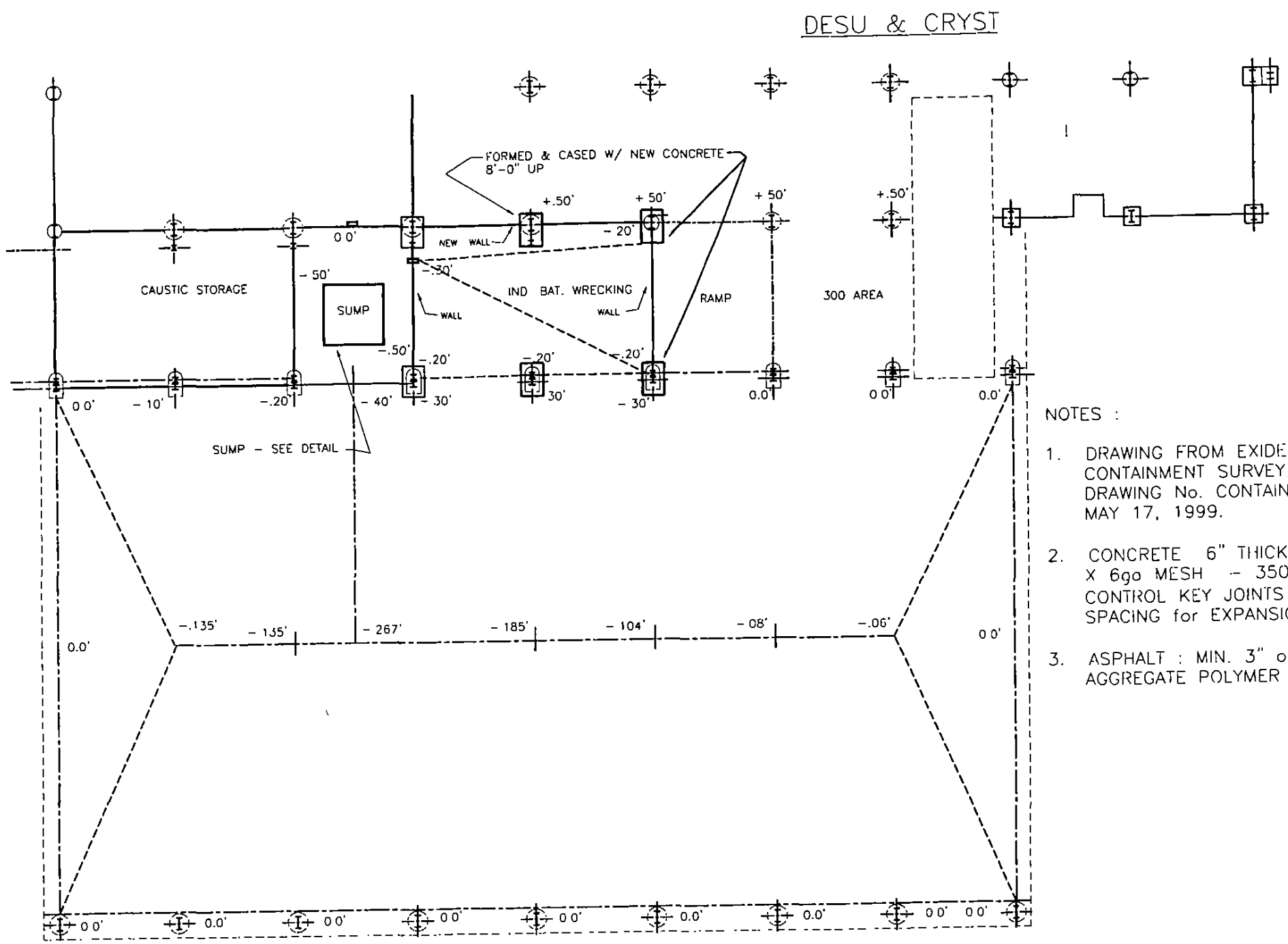
SUMP DETAIL

NOT TO SCALE



FLOOR AND BERM DETAIL

NOT TO SCALE



NOTES :

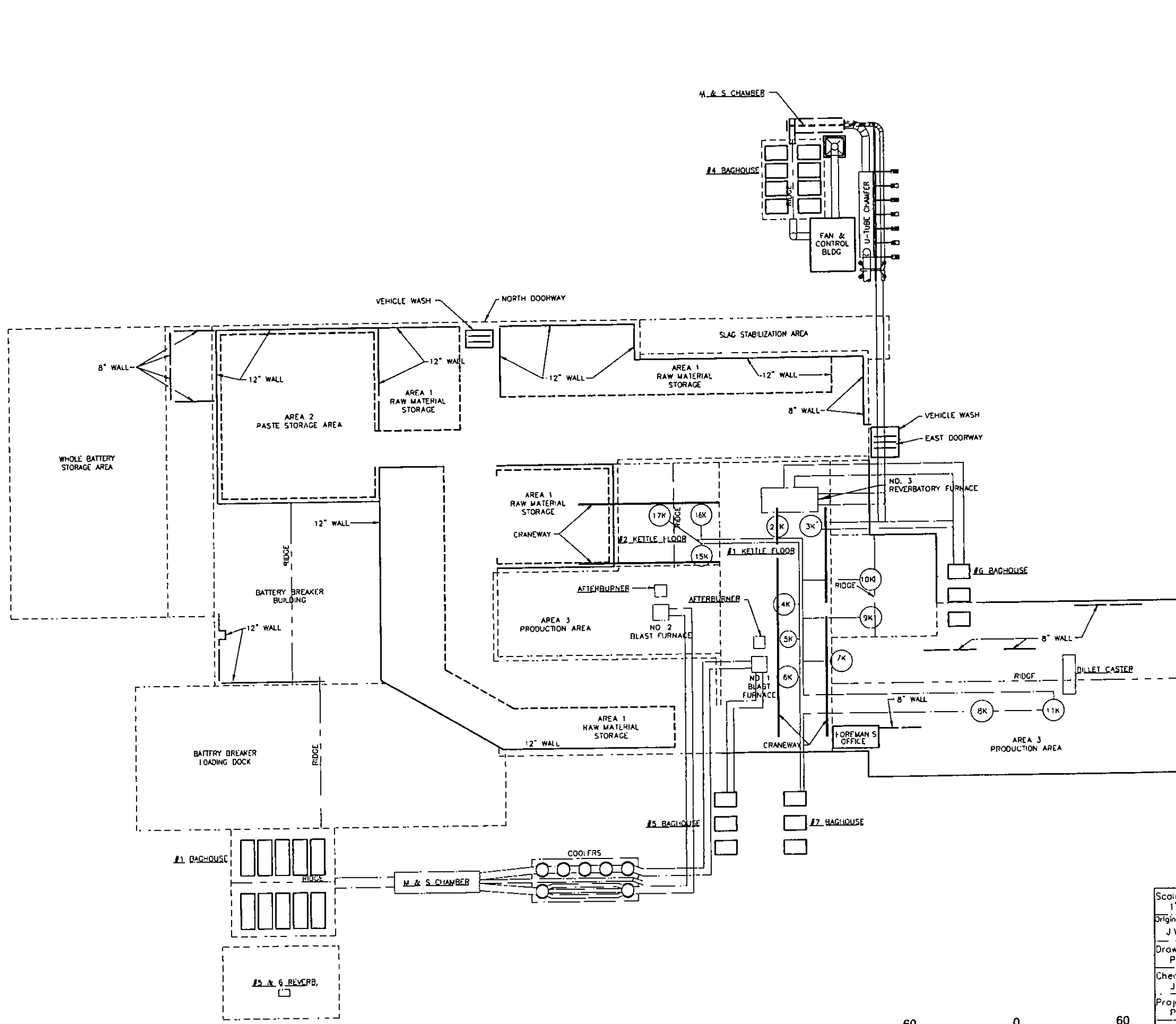
1. DRAWING FROM EXIDE SCHUYLKILL METALS, CONTAINMENT SURVEY, LOCATION DIAGRAM, DRAWING No. CONTAIN -- 1A DATED MAY 17, 1999.
2. CONCRETE 6" THICK W/ 6" X 6" X 6go MESH -- 3500 psi MIX -- CONTROL KEY JOINTS AT 20'-0" SPACING for EXPANSION CONTROL
3. ASPHALT : MIN. 3" of SILICA BASED AGGREGATE POLYMER per SPECS.

EXIDE TECHNOLOGIES

BATON ROUGE, LOUISIANA

Scale: NTS	WHOLE BATTERY STORAGE AREA
Originated By: JWP	
Drawn By: PSG	
Checked By: JWP	Advanced GeoServices Corp. Chadds Ford Business Campus, Rts. 202 & 1 Brandywine One, Suite 202 Chadds Ford, Pennsylvania 19317
Project Mgr: PGS	
Dwg No 2003-1058-01--17	Project No 2003-1058-01
Issued: JUL 23 2003	FIGURE: 7

J:\EXIDE\DRAWINGS\baton rouge\2003-1058-01\2003-1058-01-17



Legend

- Area 1 Raw Material Storage Areas
- Area 2 Paste Storage Area
- Area 3 Production Area

Reference:

Base map comprised from Exide Corporation drawing titled "Containment Building" for the Hazardous Waste Containment Building Certification drawing no. B24-810-01 drawn by C-K Associates, Inc. dated 11/03/99.

60 0 60

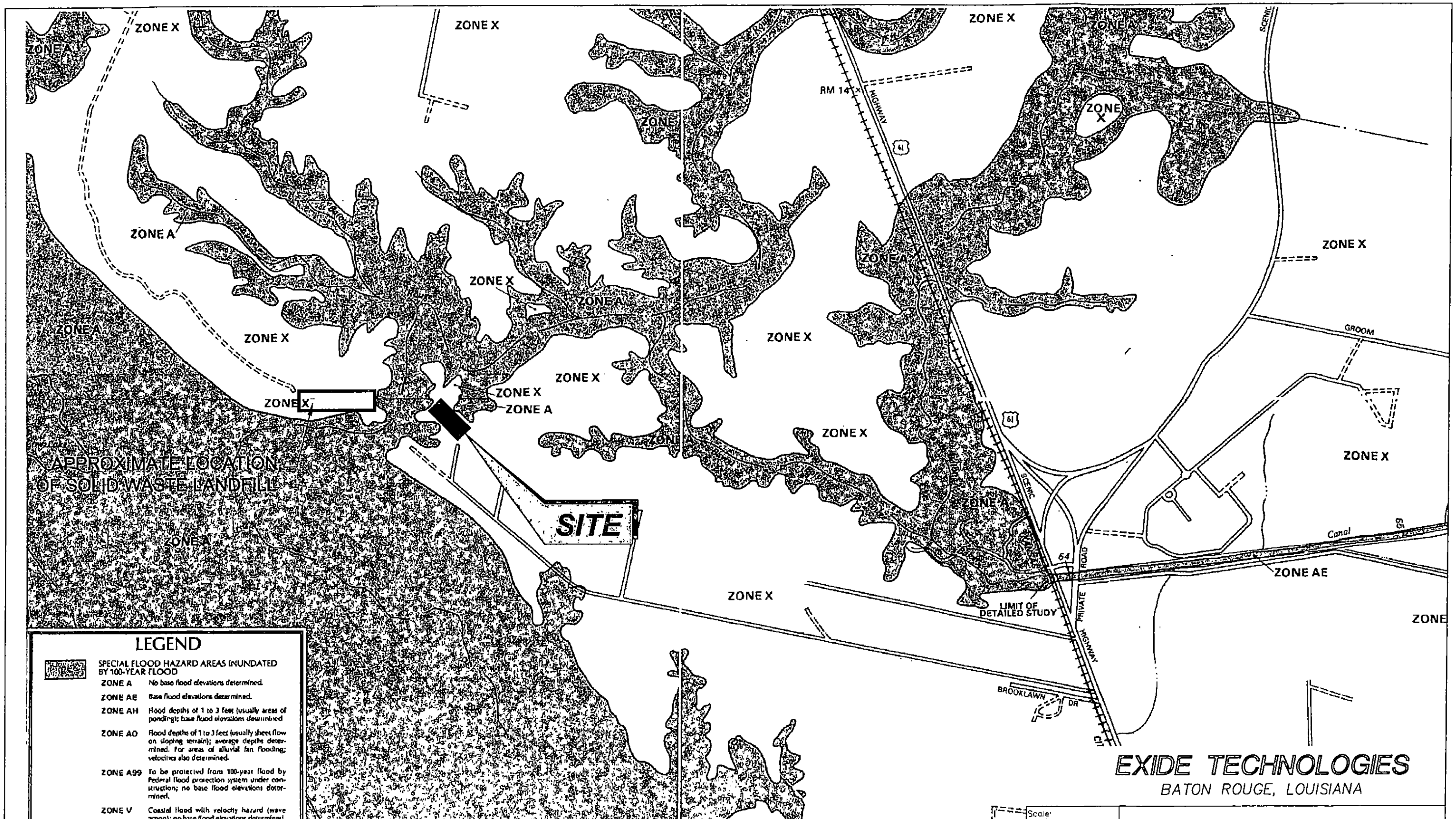
Scale: 1" = 60'

EXIDE TECHNOLOGIES

BATON ROUGE, LOUISIANA

Scale 1"=60'	AIR HANDLING SYSTEM
Originated By J.W.P.	
Drawn By: P.S.G.	
Checked By: J.W.P.	Advanced GeoServices Corp. Chadds Ford Business Campus, Rts. 202 & 1 Brandywine One, Suite 202 Chadds Ford, Pennsylvania 19317
Project Mgr P.G.S.	
Dwg No 2003-1058-01-15	Project No 2003-1058-01
Issued JUL 23 2003	FIGURE: 8

J:\EXIDE\DRAWINGS\baton rouge\2003-1058-01\2003-1058-01-15



NOTE: FLOOD MAPPING FROM FEMA FLOOD INSURANCE RATE MAPS, EAST BATON ROUGE PARISH, LOUISIANA, PANELS 35 AND 60 OF 125 DATED MAY 17, 1993

EXIDE TECHNOLOGIES

BATON ROUGE, LOUISIANA

Scale: 1"=1200'	FLOOD PLAIN MAP
Originated By: JWP	
Drawn By: PSG	Advanced GeoServices Corp. Chadds Ford Business Campus, Rts 202 & 1 Brandywine One, Suite 202 Chadds Ford Pennsylvania 19317
Checked By: JWP	
Project Mgr: P.G.S	
Dwg No: 2003-1058-01-01	
Issued: JUL 2 3 2003	Project No: 2003-1058-01 — FIGURE: 9

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APPENDICES

APPENDIX 4

WASTE ANALYSIS PLAN

WASTE ANALYSIS PLAN

EXIDE TECHNOLOGIES
BATON ROUGE SMELTER
BATON ROUGE, LOUISIANA

EPA ID NUMBER: LAD 008184137

Revision 2 – May 2003

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1.0 INTRODUCTION

The Exide Technologies, Baton Rouge Smelter is located in Baton Rouge, East Baton Rouge Parish, Louisiana. This facility is a secondary lead smelter and refinery, which recycles, spent lead-acid batteries and inorganic lead-bearing wastes into product lead, in the form of lead pig and block ingots. The product lead is sold to customers for use in making batteries, weights, bearings, ammunition, and chemicals.

This Waste Analysis Plan provides the procedures for testing and analysis of the materials handled by the Baton Rouge Smelter. The plan meets the requirements set forth in the Louisiana Department of Environmental Quality, Hazardous Waste Regulations, Section 33:V.1519.

The purpose of this plan is to document the procedures that will be used to characterize incoming material and to determine that incompatible materials are separated. Included in this Waste Analysis Plan are an introduction, a background section describing the general operation of the Baton Rouge Smelter, a procedures section, describing the analytical procedures used at the facility, and a section describing outside laboratory services.

2.0 BACKGROUND

Exide process lead bearing raw materials, including spent lead acid batteries, emissions control dust, sludges and by products into metalic lead for resale and reuse. Some of the raw materials used in the process and stored on site are classified as hazardous wastes by regulation. Exide was issued a Hazardous Waste Permit (LAD008184137) to operate three container storage areas (the Truck/trailer Storage area, the K069/D008 Storage area and Whole Battery Storage area). A hazardous waste treatment unit, the Slag Stabilization unit, is also permitted under LAD008184137. Exide also operates a Containment Building. A permit modification is being submitted to LDEQ to add the Containment Building to Exide's existing operating permit.

Most of the raw materials used by the Baton Rouge Smelter to produce lead are purchased off-site. The lead-bearing raw materials are delivered to the facility in trucks or trailers and are unloaded at the loading dock. If the material is classified as hazardous, it will be received under manifest, as specified in the Louisiana Department of Environmental Quality (LDEQ), Hazardous Waste Division Environmental Regulatory Code. Other nonhazardous and exempt materials are received under bill of ladings. Some of these lead-bearing materials are received in drums. These drums will either be emptied directly into a feedstock pile in the containment building or held temporarily in a storage area.

Lead acid batteries are either fed directly into the battery breaker or are stored temporarily at one of the storage areas. Lead acid batteries are processed in the battery breaker unit, by cutting the batteries, and hydraulically separating the individual components. The plastic is thoroughly washed to remove residual acid and lead. It is then

loaded into trailers and shipped offsite for recycling. The battery acid, a weak sulfuric acid solution, is neutralized with sodium hydroxide and crystallized to form sodium sulfate salt. The salt is sold as a product. The lead material from the batteries is processed to convert lead sulfate to lead oxide. The lead oxide paste is then stored in the paste storage area of the containment building, prior to recycling.

The facility operates one blast furnace and one reverbatory furnace that are used to smelt the lead-bearing raw materials. The molten lead refined in kettles to meet client specifications and then is cast either into ingots using two casting machines or blocks using molds. The finished lead is tested to determine if it is within specifications and is then loaded into trucks and transported off-site for reuse.

As a part of the lead recycling, a blast furnace slag is generated. This slag contains mostly iron, silica and calcium oxides, with typically less than 1% lead. However, the slag is classified as a hazardous material due to the lead content since it typically cannot pass a TCLP. The slag is allowed to cool, crushed to small diameter, and treated using a mixture of cement and sodium silicate, as specified in the Hazardous Waste Permit. The stabilized slag is rock-like in appearance and engineering properties. After treatment, the slag is placed in a permitted onsite Solid Waste landfill.

3.0 IN-HOUSE WASTE SAMPLING AND ANALYTICAL PROCEDURES

The Baton Rouge Smelter has a multi-function analytical laboratory onsite. This laboratory is used to insure that product lead is cast to meet client specifications. Additionally, the onsite laboratory performs characterization testing on incoming materials, and slags generated by the furnaces. The laboratory is also used to analyze sodium sulfate salt produced by neutralization of spent battery acid prior to the salt being shipped to clients.

The onsite laboratory is operated following the specifications set forth in Exide's Comprehensive Quality Assurance Manual. All of the equipment and instrumentation in the laboratory is calibrated following the reference method and the specifications. Calibrations are documented and recorded in calibration log books kept in the laboratory. All of the glass ware used in the laboratory is cleaned following specific procedures based on use. Chemicals and reagents are stored and handled following the requirements of the material safety data sheets. Laboratory personnel are trained in hazardous material handling practices along with chemical handling and Exide safety procedures.

Analytical methods are performed following Standard Operating Procedures (SOPs). Whenever possible the onsite laboratory uses EPA SW-846 analytical methods. However, some of the SOPs have been developed or refined by Exide, based on years of experience working with lead bearing materials such as slags, drosses and lead ash. Appendix A presents the SOP for Slag Analysis and Appendix B contains the SOP for Incoming Material Analysis.

3.1 Incoming Lead-Bearing Material

The Baton Rouge smelter receives lead bearing materials such as drosses, spent blasting sand, spent range sand, lead plates and grids from battery manufacturing, lead ash from wire manufacturing, lead piping, and waste ceramics. Exide has a strict screening process that the generators must comply with prior to the material being accepted by the Baton Rouge Smelter. A copy of the Qualification of Recycle/Reclaim Materials Procedure is included in Appendix C. This screening procedure included analysis and review of new wastes streams prior to receipt to verify chemical and physical characteristics and completing waste profiles.

Exide does not accept any material that contains organic constituents, PCBs, organic lead, or metallic aluminum. Additionally, material is not accepted that contains any free liquids. If the incoming material is not received in accordance with the purchase contract, the generator is contracted and the discrepancy is reconciled or the material is returned.

Exide's Scale Operators strictly monitor receipt of incoming material. The entrance is monitored by a guard on a 24-hour basis to prevent entry of unrecorded or unanalyzed wastes. Wastes are accepted from 7 am to 4 pm. Once an incoming load of lead bearing material arrives at the smelter, it is analyzed to determine lead content and compatibility. Each receipt of lead-bearing raw materials is weighed and visually inspected to verify the purchase contract and shipping papers. The visual inspection will include labels, color, texture and homogeneity. If any foreign materials (such as trash or aluminum cans) are in the shipment, they will be removed prior to recycling. Each load is inspected thoroughly for content and foreign materials. Inspection is conducted before, during and after the unloading of materials.

The incoming material is sampled by qualified laboratory personnel. Sampling consists of collection of a 2- to 3-pound composite sample that is representative of the total shipment. The sample is then taken to the onsite laboratory where it is recorded in a log book and analyzed for total lead content. The parameter total lead along with the visual inspection is typically all that is required to match the incoming material to the approved profile for the material and to determine the proper recycling method.

The analytical procedure for determining total lead content of the incoming material is included in Appendix B.

3.2 Furnace Slag Analysis

In the lead recycling process, slag is produced from both the reverbatory furnace and the blast furnaces. This slag exits the furnace in a molten state into cast iron pots. The slag is cooled to room temperature in the pots and is then manually broken. The reverberatory and blast furnace slags are produced at different locations within the facility and remain segregated through sampling. The materials remain segregated until they are returned to the blast furnace to recover the lead content As the materials are physically segregated, sorting of blast slag versus reverberatory slag is not required. A representative sample of

each slag is collected by the furnace operators. Sampling is conducted as a grab sample which is representative of the slag. Typically, one sample of reverberatory slag and one sample of blast furnace slag are collected per shift for analysis. Typically, the facility operates 24 hours per day in three shifts. The slag samples are analyzed at the onsite laboratory for several parameters including lead, calcium, iron, antimony and salt content. These analyses are important diagnostic tools in the proper operation of the furnaces and production of lead. Slag from the reverbatory furnace is typically high in lead content. This slag will be run through the blast furnace to recover this lead content.

Appendix A presents the SOP for analysis of blast furnace slag for lead content.

Based on the lead content, the blast furnace slag is sorted into a recycle fraction and a disposal fraction. The recycle fraction is segregated from the disposal fraction using the lead content determined by sample analysis. The recycle fraction has a high enough lead content to warrant further recycling. The disposal fraction does not have a lead content high enough for recycling to occur. The recycle fraction is charged in the blast furnace to further recover the lead. The disposal fraction is crushed into small pieces and feed into the slag stabilization unit (i.e, pugmill) where it is treated with Portland cement and sodium silicate. Treatment occurs on a batch basis by mixing the slag with the cement and sodium silicate. The pugmill mixes the slag until it is treated evenly. The treated material is a granular soil-like material. The stabilized slag is disposed of in Exide's permitted onsite solid waste landfill. The stabilized slag is transported to the landfill in trucks. A representative sample of the stabilized slag is collected at least once per quarter and sent to a contract laboratory for TCLP toxicity analysis in accordance with EPA approved procedures.

4.0 CONTRACT LABORATORY ANALYSIS

Exide uses outside, contract laboratory services for all permit required analytical testing. This testing includes:

- Semiannual groundwater samples from seven monitor wells located at the closed hazardous waste cells for pH, specific conductivity, dissolved lead, dissolved cadmium, iron, manganese, sodium, chloride, and sulfate.

- Semiannual groundwater samples from six monitor wells located at the solid waste landfills for pH, specific conductivity, lead, cadmium, manganese, selenium, sodium, antimony, chloride, and sulfate.

- Weekly samples of treated process water from Outfall 001, for lead arsenic, antimony, zinc, total suspended solids, oil and grease, and TOC.

- Quarterly samples of stabilized blast furnace slag, analyzed for TCLP metals.

- Stormwater runoff samples from Outfalls 002 and 003.

The Baton Rouge Smelter uses Pace Analytical of New Orleans, LA, for this outside analytical work. A copy of Pace Analytical's QA/QC protocol is included in Appendix C. Pace Analytical has received accreditation through the Louisiana Department of Environmental Quality Environmental Laboratory Accreditation Program. A copy of this LELAP certification is included in Appendix C.

In the event that Pace can not handle the sample volume, Exide has arranged for a second contract laboratory to perform analytical work, Gulf Coast Analytical of Baton Rouge. The QA/QC protocol and LELAP certification for Gulf Coast is included in Appendix C.

5.0 CERTIFICATION

I hereby certify the I have examined this Waste Analysis Plan, and familiar with the provisions of The Louisiana Hazardous Waste Rules and Regulations section LAC 33:V.1519, attest that this Waste Analysis Plan has been prepared in accordance with the guidelines presented therein and sound engineering practices. Additionally, I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Paul G. Stratman, P.E.
Advanced GeoServices Corp.
P.E. Number: 29150

Steven A. Krul
Environmental Manager
Exide Technologies, Baton Rouge Smelter

5.0 CERTIFICATION

I hereby certify the I have examined this Waste Analysis Plan, and familiar with the provisions of The Louisiana Hazardous Waste Rules and Regulations section LAC 33:V.1519, attest that this Waste Analysis Plan has been prepared in accordance with the guidelines presented therein and sound engineering practices. Additionally, I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Paul G. Stratman, P.E.
Advanced GeoServices Corp.
P.E. Number: 29150

Steven A. Krul
Environmental Manager
Exide Technologies, Baton Rouge Smelter

APPENDIX A

STANDARD OPERATING PROCEDURES FOR SLAG ANALYSIS

EXIDE TECHNOLOGIES

Standard Operating Procedures
For
Reverbatory (Reverb) Furnace Slag

EXIDE TECHNOLOGIES

Baton Rouge Smelter

EXIDE-BR-SOP001
Rev/Lead

Revision #: 2
Revision Date: 7/20/01
Reviewed By: TCL

1.0 Scope and Application

1.1 This Standard Operating Procedure (SOP) provides guidance for the determination of lead in high concentrations.

1.2 This SOP is applicable to mixtures of solid materials lead has been removed from or thought to contain lead in percent concentrations.

2.0 Safety

2.1 All work should be done in a hood and standard safety procedures should be followed. Protective clothing, safety glasses, and gloves should be worn at all times. **Note: Remember to always add acid to water.**

3.0 Equipment

3.1 Pulverizer or grinder
3.2 35 – mesh sieve
3.3 Analytical balance, capable of accurately weighing to the nearest 0.0001 gram
3.4 400mL beaker
3.5 watch glass
3.6 50mL and 100mL graduated cylinders
3.7 Buchner funnel (d = 5.5 cm)
3.8 #40 Whatman filter paper (d = 5.5 cm)
3.9 Side arm filtration flask
3.10 Vacuum source
3.11 50mL burret with 0.1 divisions
3.12 spot plate
3.13 Fisher burner or equivalent heat source

4.0 Reagents and Standards

4.1 Ammonia Acetate solution ($NH_4C_2H_3O_2$) - 264.6g of Ammonia Acetate, 132.3 mL Acetic Acid, bring to final volume of 1L with DI H_2O
4.2 Ammonia Molybdate solution ($(NH_4)_6Mo_7O_{24}$ $4H_2O$) – 2.7g Ammonia Molybdate, bring to final volume of 1L with DI H_2O
4.3 Hydrochloric Acid (HCl), concentrated

4.4 Lead (Pb) metal std. – Fisher Scientific Lead Metal, Lot # 914168, A.C.S. Certified @ 99.9%
4.5 Nitric Acid (HNO_3), concentrated
4.6 Sulfuric Acid (H_2SO_4), concentrated
4.7 Potassium Pyrosulfate ($K_2O_7S_2$)
4.8 Tannic Acid indicator solution ($C_{76}H_{52}O_{46}$) – 0.42g of Tannic Acid, bring to final volume of 100 mL with DI H_2O.
4.9 Tartaric Acid ($HOOC(CHOH)_2COOH$)

5.0 Procedure

5.1 Pulverize or grind the slag sample
5.2 Sift the sample through a 35-mesh sieve. Collect the sample that goes through the sieve to use as your sample.
5.3 Weigh 0.25g of sample and put into a 400mL beaker
5.4 Add 15ml of concentrated HNO_3 and 30mL of concentrated HCL
5.5 Put a watchglass on the beaker and bring the sample to a boil. Continue heating the sample until there is approximately 5 to 10mL left in the beaker.
Remove from heat and cool. **Note: Do not let the solution go dry. Remove the solution if it begins to pop.**
5.6 After the sample has cooled, add 15mL of concentrated H_2SO_4 and 8.14g of Potassium Pyrosulfate.
5.7 Heat sample with watchglass on top of beaker until dense fumes begin to roll in the top portion of the beaker. Remove from heat and let cool.
5.8 After the sample has cooled, add 100mL of DI H_2O and 7.75g of Tartaric Acid. Put watchglass on beaker and heat sample until it begins to boil then remove from heat and let cool.
5.9 After cooling, filter the sample using a Buchner funnel, side arm flask, and a vacuum source. Wash three times with 1mL portions of DI H_2O.
5.10 Discard the filtrate (aqueous portion) and place the precipitate and filter paper back into the original 400mL beaker.
5.11 Add 30mL of Ammonium Acetate solution and 70mL DI H_2O to the beaker.
5.12 Bring to a boil and titrate while hot.
5.13 Titrate with Ammonium Molybdate until a yellow color. Put a few drops of Tannic Acid indicator solution into each indentation on the spot plat.

5.14 Slowly add Ammonium Molybdate in small increments to the beaker checking for the end point between additions by putting a small portion of the titrant/sample solution to an indentation with indicator solution in it. Continue adding and checking until the sample turns light yellow when mixed on the spot plate. Check the end point by adding another drop of titrant and check for a darker yellow color. If a darker yellow is observed, then the end point was correct. If there was no color change observed, then it was a false end point and continue the titration.

6.0 Calculations

6.1 Standardization of Ammonium Molybdate

6.1.1 Weigh 0.1500g of Pb metal std

6.1.2 Add 10mL of concentrated Sulfuric Acid (H_2SO_4) and 8.14g of Potassium Pyrosulfate

6.1.3 Boil until fumes begin to roll in top portion of beaker, remove from heat and cool

6.1.4 Add 100mL of DI H_2O and 7.75g of Tartaric Acid. Bring to a boil then remove from heat and let cool.

6.1.5 Filter and discard filtrate (liquid) and keep the precipitate (solid) and filter paper.

6.1.6 Add 30ml of Ammonium Acetate and 70ml DI H_2O then bring to a boil

6.1.7 Titrate while hot with Ammonium Molybdate to yellow end point using a spot plate.

6.1.8 Calculate: $\frac{\text{weight of Pb sample * \% Pb in metal STD}}{\text{mL titrant used}}$ = 1g Pb factor

Example: $\frac{0.1500*99.9}{42.7}$ = .3509 1g factor

6.2 % Pb = mL Titrant * (1g factor*4)

7.0 Quality Control

7.1 A Process blank (PB) is to be analyzed with every batch of samples to determine if any contamination is being added during the analysis. The process blank should be carried out through the entire procedure and subtracted from the sample results to correct for any contamination.

7.2 A sample duplicate shall consist of an additional aliquot of sample to be analyzed with the original sample aliquot. Analyze a minimum of one sample duplicate every twenty samples in order to demonstrate analyst consistency.

1.0 Scope and Application

1.1 This Standard Operating Procedure (SOP) provides guidance for the determination of antimony in high concentrations.

1.2 This SOP is applicable to mixtures of solid materials antimony has been removed from or thought to contain antimony in percent concentrations.

2.0 Safety

2.1 All work should be done in a hood and standard safety procedures should be followed. Protective clothing, safety glasses, and gloves should be worn at all times. **Note: Remember to always add acid to water.**

3.0 Equipment

3.1 Pulverizer or grinder
3.2 35 – mesh sieve
3.3 Analytical balance, capable of accurately weighing to the nearest 0.0001 gram
3.4 500mL narrow mouth flask
3.5 25mL and 200mL graduated cylinders
3.6 50mL burret with 0.1 divisions
3.7 Fisher burner or equivalent heat source

4.0 Reagents and Standards

4.1 Hydrochloric Acid (HCl), concentrated
4.2 NBS Lead-Base Bearing Metal, 53e, Sb certified at 5.81%
4.3 Potassium Permanganate ($KMnO_4$) – 1.43g Potassium Permanganate and bring to final volume of 1L with DI H_2O
4.4 Potassium Pyrosulfate ($K_2O_7S_2$)
4.5 Sulfuric Acid (H_2SO_4)

5.0 Procedure

5.1 Pulverize or grind the slag sample.
5.2 Sift the sample through a 35-mesh sieve. Collect the sample that goes through the sieve to use as your sample.

5.3 Weigh 1.00g of sample and put into a 500mL narrow mouth flask.
5.4 Add 10mL of H_2SO_4 and 8.14g Potassium Pyrosulfate.
5.5 Heat sample to boiling. Continue heating until fumes are rolling in the top portion of the flask. Remove flask and let cool.
5.6 After cooling, add 200mL of DI H_2O and 20mL of HCl.
5.7 Bring to a boil then cool in water bath
5.8 Titrate with Potassium Permanganate to a light pink end point. Note: After turning pink the solution will continue to react and will begin to fade. Do not continue to add titrant since you have already reached the end point.

6.0 Calculations

6.1 Standardization of Potassium Permanganate

6.1.1 Weigh 1.000g of Sb NBS metal std.
6.1.2 Add 10mL of concentrated Sulfuric Acid (H_2SO_4) and 8.14g of Potassium Pyrosulfate
6.1.3 Boil until fumes begin to roll in top portion of flask, remove from heat and cool
6.1.4 Add 200mL of DI H_2O and 20mL HCl. Bring to a boil and remove and let cool.
6.1.5 Titrate with Potassium Permanganate

6.1.6 Calculate: $\frac{\text{weight of Sb sample * \% Sb in NBS sample}}{\text{mL titrant used}}$ = 1g Sb factor

Example: $\frac{0.9874*4.62}{15.1}$ = 0.3021 1g Sb factor

6.2 % Sb = mL Titrant * 1g Sb factor

7.0 Quality Control

7.1 A Process blank (PB) is to be analyzed with every batch of samples to determine if any contamination is being added during the analysis. The process blank should be carried out through the entire procedure and subtracted from the sample results to correct for any contamination.

7.2 A sample duplicate shall consist of an additional aliquot of sample to be analyzed with the original sample aliquot. Analyze a minimum of one sample duplicate every twenty samples in order to demonstrate analyst consistency

EXIDE TECHNOLOGIES

Baton Rouge Smelter

EXIDE-BR-SOP003

BF/Lead

Revision #: 2

Revision Date: 7/20/1

Reviewed By: [illegible]

1.0 Scope and Application

1.1 This Standard Operating Procedure (SOP) provides guidance for the determination of lead in high concentrations.

1.2 This SOP is applicable to mixtures of solid materials lead has been removed from or thought to contain lead in percent concentrations.

2.0 Safety

2.1 All work should be done in a hood and standard safety procedures should be followed. Protective clothing, safety glasses, and gloves should be worn at all times. **Note: Remember to always add acid to water.**

3.0 Equipment

3.1 Pulverizer or grinder
3.2 35 – mesh sieve
3.3 Analytical balance, capable of accurately weighing to the nearest 0.0001 gram
3.4 400mL beaker
3.5 watch glass
3.6 50mL and 100mL graduated cylinders
3.7 Buchner funnel (d = 5.5 cm)
3.8 #40 Whatman filter paper (d = 5.5 cm)
3.9 Side arm filtration flask
3.10 Vacuum source
3.11 50mL burret with 0.1 divisions
3.12 spot plate
3.13 Fisher burner or equivalent heat source

4.0 Reagents

4.1 Ammonia Acetate solution ($NH_4C_2H_3O_2$) - 264.6g of Ammonia Acetate, 132.3 mL Acetic Acid, bring to final volume of 1L with DI H_2O
4.2 Ammonia Molybdate solution ($(NH_4)_6Mo_7O_{24}$ $4H_2O$) – 2.7g Ammonia Molybdate, bring to final volume of 1L with DI H_2O
4.3 Hydrochloric Acid (HCl), concentrated

4.4 Lead (Pb) metal std. – Fisher Scientific Lead Metal, Lot # 914168, A.C.S. Certified @ 99.9%
4.5 Nitric Acid (HNO_3), concentrated
4.6 Sulfuric Acid (H_2SO_4), concentrated
4.7 Potassium Pyrosulfate ($K_2O_7S_2$)
4.8 Tannic Acid indicator solution ($C_{76}H_{52}O_{46}$) – 0.42g of Tannic Acid, bring to final volume of 100 mL with DI H_2O.
4.9 Tartaric Acid ($HOOC(CHOH)_2COOH$)

5.0 Procedure

5.1 Pulverize or grind the slag sample
5.2 Sift the sample through a 35-mesh sieve. Collect the sample that goes through the sieve to use as your sample.
5.3 Weigh 1.00g of sample and put into a 400mL beaker
5.4 Add 15ml of concentrated HNO_3 and 30mL of concentrated HCL
5.5 Put a watchglass on the beaker and bring the sample to a boil. Continue heating the sample until there is approximately 5 to 10mL left in the beaker.
Remove from heat and cool. **Note: Do not let the solution go dry. Remove the solution if it begins to pop.**
5.6 After the sample has cooled, add 15mL of concentrated H_2SO_4 and 8.14g of Potassium Pyrosulfate.
5.7 Heat sample with watchglass on top of beaker until dense fumes begin to roll in the top portion of the beaker. Remove from heat and let cool.
5.8 After the sample has cooled, add 100mL of DI H_2O and 7.75g of Tartaric Acid. Put watchglass on beaker and heat sample till it begins to boil then remove from heat and let cool.
5.9 After cooling, filter the sample using a Buchner funnel, side arm flask, and a vacuum source. Wash three times with 1mL portions of DI H_2O.
5.10 Discard the filtrate (aqueous portion) and place the precipitate and filter paper back into the original 400mL beaker.
5.11 Add 30mL of Ammonium Acetate solution and 70mL DI H_2O to the beaker.
5.12 Bring to a boil and titrate while hot.
5.13 Titrate with Ammonium Molybdate until a yellow color. Put a few drops of Tannic Acid indicator solution into each indentation on the spot plat. Slowly add Ammonium Molybdate in small increments to the beaker checking for the end point between additions by putting a small portion of

the titrant/sample solution to an indentation with indicator solution in it. Continue adding and checking until the sample turns light yellow when mixed on the spot plate. Check the end point by adding another drop of titrant and check for a darker yellow color. If a darker yellow is observed, then the end point was correct. If there was no color change observed, then it was a false end point and continue the titration.

6.0 Calculations

6.1 Standardization of Ammonium Molybdate

6.1.1 Weigh 0.1500g of Pb metal std

6.1.2 Add 10mL of concentrated Sulfuric Acid (H_2SO_4) and 8.14g of Potassium Pyrosulfate

6.1.3 Boil until fumes begin to roll in top portion of beaker, remove from heat and cool

6.1.4 Add 100mL of DI H_2O and 7.75g of Tartaric Acid. Bring to a boil then remove from heat and let cool.

6.1.5 Filter and discard filtrate (liquid) and keep the precipitate (solid) and filter paper.

6.1.6 Add 30ml of Ammonium Acetate and 70ml DI H_2O then bring to a boil

6.1.7 Titrate while hot with Ammonium Molybdate to yellow end point using a spot plate.

6.1.8 Calculate: $\frac{\text{weight of Pb sample * \% Pb in metal STD}}{\text{mL titrant used}}$ = 1g Pb factor

Example: $\frac{0.1500*99.9}{42.7}$ = .3509 1g factor

6.2 % Pb = mL Titrant * 1g factor

7.0 Quality Control

7.1 A Process blank (PB) is to be analyzed with every batch of samples to determine if any contamination is being added during the analysis. The process blank should be carried out through the entire procedure and subtracted from the sample results to correct for any contamination.

7.2 A sample duplicate shall consist of an additional aliquot of sample to be analyzed with the original sample aliquot. Analyze a minimum of one sample duplicate every twenty samples in order to demonstrate analyst consistency.

1.0 Scope and Application

1.1 This Standard Operating Procedure (SOP) provides guidance for the determination of insoluble materials and lime (CaO) concentrations.

1.2 This SOP is applicable to mixtures of solid materials such as slag.

2.0 Safety

2.1 All work should be done in a hood and standard safety procedures should be followed. Protective clothing, safety glasses, and gloves should be worn at all times. **Note: Remember to always add acid to water.**

3.0 Equipment

3.1 Pulverizer or grinder
3.2 35 – mesh sieve
3.3 Analytical balance, capable of accurately weighing to the nearest 0.0001 gram
3.4 Two 500mL beaker
3.5 10mL, 50mL, and 100mL graduated cylinders
3.6 Buchner funnel (d = 5.5 cm)
3.7 #41 Whitman filter paper (d = 9.0 cm)
3.8 Side arm filtration flask
3.9 Vacuum source
3.10 50mL burrito with 0.1 divisions
3.11 Crucible
3.12 Fisher burner or equivalent heat source

4.0 Reagents

4.1 Ammonium Chloride (NH_4Cl)
4.2 Ammonium Hydroxide (NH_4OH)
4.3 Ammonium Oxalate ($(NH_4)C_2O_4 \ H_2O$), saturated solution
4.4 Nitric Acid (HNO_3), concentrated
4.5 Sulfuric Acid (H_2SO_4), concentrated
4.6 Tartaric Acid ($HOOC(CHOH)_2COOH$)

5.0 Procedure

5.1 pulverize or grind the slag sample
5.2 Sift the sample through a 35-mesh sieve. Collect the sample that goes through the sieve to use as your sample.
5.3 Weigh 0.25g of sample and put into a 500mL beaker
5.4 Add 10ml of concentrated HNO_3 and 20mL of concentrated HCL
5.5 Bring to a boil. When there is almost no liquid, take the beaker off the heat and let the hot beaker finish removing the rest of the liquid.
5.6 Add 5mL of concentrated HNO3 and 7.65g of ammonium chloride
5.7 Add 100mL of DI H2O
5.8 Bring to a boil and let cool
5.9 After cooling, filter the sample. Keep the precipitate and the filtrate for further analysis

5.9.1 Insoluble Determination

5.9.1.1 Put the filter that contains the precipitate from step 5.9 into a preweighed crucible.
5.9.1.2 Put the crucible on the burner and heat until the filter paper is completely burned, then cool.
5.9.1.3 Reweigh the crucible after cooling

5.9.2 Lime (CaO) Determination

5.9.2.1 Put the filtrate (liquid) portion into a 500mL beaker
5.9.2.2 Add 30mL of Ammonium Oxalate, 30mL of Ammonium Hydroxide, and 7.75g of Tartaric Acid
5.9.2.3 Bring solution to a boil and filter while hot
5.9.2.4 Place precipitate back into the 500mL beaker
5.9.2.5 Add 200mL of DI H_2O and 10mL concentrated Sulfuric Acid
5.9.2.6 Bring solution to a boil then remove from heat and immediately titrate while hot with potassium permanganate

6.0 Calculations

6.1 Insoluble calculation

6.1.1 $(C_F - C_{Int}) * 4 * 100 = \%$ Insolubles

Where: C_F – final crucible weight in grams
C_{Int} – Initial crucible weight in grams

6.2 Standardization of Potassium Permanganate

6.2.1 Weigh 1.000g of Sb NBS metal std.
6.2.2 Add 10mL of concentrated Sulfuric Acid (H_2SO_4) and 8.14g of Potassium Pyrosulfate
6.2.3 Boil until fumes begin to roll in top portion of flask, remove from heat and cool
6.2.4 Add 200mL of DI H_2O and 20mL HCl. Bring to a boil and remove and let cool.
6.2.5 Titrate with Potassium Permanganate

6.2.6 Calculate: $\frac{\text{weight of Sb sample} * \text{\% Sb in NBS sample}}{\text{mL titrant used}}$ = 1g Sb factor

6.3 Lime (CaO) calculation

6.3.1 CaO factor = $\frac{2.8039 * \text{Sb factor} * 4}{6.088}$

where: 2.8039 = milliequivilants of Ca
6.088 = milliequivilants of Sb

6.3.2 % CaO = CaO factor * mL titrant

7.0 Quality Control

7.1 A Process blank (PB) is to be analyzed with every batch of samples to determine if any contamination is being added during the analysis. The process blank should be carried out through the entire procedure and subtracted from the sample results to correct for any contamination.

7.2 A sample duplicate shall consist of an additional aliquot of sample to be analyzed with the original sample aliquot. Analyze a minimum of one sample duplicate every twenty samples in order to demonstrate analyst consistency.

1.0 Scope and Application

1.1 This Standard Operating Procedure (SOP) provides guidance for the determination of iron (FeO) in high concentrations.

1.21 This SOP is applicable to mixtures of solid materials such as slag.

2.0 Safety

2.1 All work should be done in a hood and standard safety procedures should be followed. Protective clothing, safety glasses, and gloves should be worn at all times. **Note: Remember to always add acid to water.**

3.0 Equipment

3.1 Pulverizer or grinder
3.2 35 – mesh sieve
3.3 Analytical balance, capable of accurately weighing to the nearest 0.0001 gram
3.4 500mL beaker
3.5 25mL, and 100mL graduated cylinders
3.6 50mL burret with 0.1 divisions
3.7 Fisher burner or equivalent heat source
3.8 Water bath

4.0 Reagents

4.1 Hydrochloric Acid (HCl), concentrated
4.2 Potassium Permanganate ($KMnO_4$) solution – 1.43g Potassium Permanganate and bring to a final volume of 1L with DI H_2O
4.3 Sulfuric Acid (H_2SO_4), concentrated
4.4 Zinc metal, 30 mesh (granular)

5.0 Procedure

5.1 Pulverize or grind the slag sample
5.2 Sift the sample through a 35-mesh sieve. Collect the sample that goes through the sieve to use as your sample.
5.3 Weigh 0.25g of sample and put into a 500mL beaker

5.4 Add 25mL of DI H_2O
5.5 Add 25mL of concentrated HCl
5.6 Add 10mL of concentrated H_2SO_4
5.7 Bring solution to a boil then remove from the heat
5.8 Add 300mL of DI H2O and 0.5g of Zinc metal
5.9 Bring to a boil and remove from heat, an obvious reaction will have began
5.10 Cool in the water bath until the reaction stops
5.11 Titrate with potassium permanganate until a light pink endpoint

6.0 Calculations

6.1 Standardization of Potassium Permanganate

6.1.1 Weigh 1.000g of Sb NBS metal std.
6.1.2 Add 10mL of concentrated Sulfuric Acid (H_2SO_4) and 8.14g of Potassium Pyrosulfate
6.1.3 Boil until fumes begin to roll in top portion of flask, remove from heat and cool
6.1.4 Add 200mL of DI H_2O and 20mL HCl. Bring to a boil and remove and let cool.
6.1.5 Titrate with Potassium Permanganate

6.1.6 Calculate: $\frac{\text{weight of Sb sample * \% Sb in NBS sample}}{\text{mL titrant used}}$ = 1g Sb factor

6.2 Iron (FeO) calculation

6.2.1 FeO factor = $\frac{7.1844 * \text{Sb factor} * 4}{6.088}$

where: 7.1844 = milliequivilants of Fe
6.088 = milliequivilants of Sb

6.2.2 % CaO = CaO factor * mL titrant

7.0 Quality Control

7.1 A Process blank (PB) is to be analyzed with every batch of samples to determine if any contamination is being added during the analysis. The process blank should be carried out through the entire procedure and subtracted from the sample results to correct for any contamination.

7.2 A sample duplicate shall consist of an additional aliquot of sample to be analyzed with the original sample aliquot. Analyze a minimum of one sample duplicate every twenty samples in order to demonstrate analyst consistency

TLL 9/15/99

Standard Operating Procedure

Analysis of Incoming Materials

Reference Method: Exide-SOP-002

Sampling Procedure

The laboratory will be notified once the incoming material is dumped and ready to be put in the furnace. A composite sample is taken by observing the various objects present in the shipment and sampling representative quantities of the shipment.

Sample Preparation and % Moisture

1. Weigh sample pan.
2. Acquire 5 to 10 kg of sample in pan.
3. Record tare weight.
4. Place in 175F oven until completely dry, approximately 24 hours.
5. Remove sample, let cool, and weigh.
6. Record weight.

Calculation

% Moisture = (Initial Weight – Final Weight) * 100

Analysis of Dross and Mixed Samples

7. After determination of moisture content, weigh 4 to 5 kg of dried sample and place in steel crucible.
8. Remove any metal.
9. Weigh and record.
10. Remove any plastic and copper.
11. Weigh and record.
12. Let heat on burner 20 to 30 minutes.
13. Remove from heat and pour off melted lead.
14. While hot, dump dross into pan.
15. After lead has cooled, weigh and record.
16. After dross has cooled, weigh and record.
17. Weigh out 200 to 300 g of slag and grind as much as possible.
18. Pass through a 35-mesh sieve to separate the fine and the coarse particles.
19. Record the weight of the fine particles and that of the coarse particles.
20. Following Exide-SOP-001, analyze the fine particles for lead.
21. Complete the Incoming Materials Assay Form and perform all necessary calculations indicated on the form.

Analysis of Single Component or Homogeneous Samples

7. Grind dry sample.
8. Screen through 35-mesh sieve.
9. Run lead analysis on screened material following Exide-SOP-001.
10. Complete the Incoming Materials Assay Form and perform all necessary calculations indicated on the form for single component samples.

Exide Corporation

Incoming Materials Assay Form

Car #: _____ Type of Material: _____
Shipper: _____ Date Received: _____
Date/Time into oven: _____ Date/Time out of oven: _____

Weight in Grams	Wet	Dry
Pan and Sample	_____	_____
Pan	_____	_____
Sample	(a) _____	(b) _____
Non-metals Removed	_____	(c) _____
Metals Removed	_____	(d) _____
Moisture	(a) - (b) = _____ (e)	
Fusion Sample	(b) - [c-d-e] = _____ (f)	

Dross Fusion Analysis

Weight of Dross in Fusion Sample: _____ (g)
Metal Recovery = _____ * (f/g) _____ = (h) _____
Slag Recovery = _____ * (f/g) _____ = (i) _____
% Pb in Slag = _____ (j)

Seive Sample Weight = _____ (k)
% Coarse Material = wt of coarse particles _____ (l) /(k) = _____ * 100 = _____ %
% Fine Material = wt of fine particles _____ (m)/(k) = _____ * 100 = _____ %

Lead Assay of Entire Sample

	% Weight		% Metal		% Total
Lugs	_____ (d)	*	_____	*0.99 =	_____
Metal Recovery	_____ (h)	*	_____	*0.99 =	_____
Coarse Material	_____ (l)	*	_____ (i)* _____	*0.97 =	_____
Slag	_____ (m)	*	_____ (i)* _____ (j)	*100 =	_____
				ASSAY =	_____

Sample Received By: _____
Sample Prepraed By: _____
Assay Technician: _____ Date of Assay: _____

Slag and Metal Well Assays

Date Technician

Source	Sb	Sn	As	Cu	Ag	Ni	Bi	Zn	S	Te	Insolubles	FeO	CaO	Pb	Cl2	Sb	Total
#1 BF 7am-7pm																	
#1 BF 7pm-7am																	
#2 BF 7am-7pm																	
#2 BF 7pm-7am																	
#3 RV 7am-7pm																	
#3 RV 7pm-7am																	
#1 BagHouse																	
Other																	

Comments:

APPENDIX C

WASTE ACCEPTANCE APPROVAL CERTIFICATES

WASTE ACCEPTANCE APPROVAL CERTIFICATES

EXIDE TECHNOLOGIES
BATON ROUGE SMELTER
BATON ROUGE, LOUISIANA

REVISION 1 AUGUST 2001

QUALIFICATION OF RECYCLE/RECLAIM MATERIALS

REVISION 01

APPROVALS:

Plant Manager — Date 8/06/01

Plant Environmental Manager — Date 8/6/01

Before any materials which have been defined as coproducts or hazardous waste under Louisiana and Federal Law are accepted for recycle/reclaim at the Exide Technologies (Exide) Baton Rouge Smelter, (referred to as the Facility), these materials must be reviewed and approved in accordance with this procedure.

1.0 APPLICABILITY

1.1 This procedure applies to all unique materials and residues proposed to be sent to the Exide facility for recycle/reclaim, which do not have a current Acceptance Approval Certificate or Coproduct Acceptance Code on file at the facility.

1.1.1 For the purposes of section 1.1, unique materials and residues shall be defined as those materials and residues which come from individual processes and individual sources. For example, two residue streams from apparently identical processes at two different source locations will be considered unique, each requiring separate qualification under this procedure.

1.1.2 Spent lead-acid batteries are exempt from the requirements of this procedure.

1.1.3 Materials generated from the manufacture of lead-acid batteries are exempt from the requirements of this procedure provided these materials have not been defined as coproducts or hazardous waste under Louisiana and Federal Law.

1.1.4 Coproducts are not required to be managed as hazardous wastes by the generator but must obtain acceptance approval in accordance with this procedure.

1.2 If the characteristics of a material or residue which has received an Acceptance Approval Certificate or Coproduct Acceptance Code in accordance with this

procedure change in any way (such as a change to the process which produces the material that introduces a new chemical constituent), that Acceptance Approval Certificate or Coproduct Acceptance Code is invalid and the generator of the material is required to obtain a new approval in accordance with all requirements of this procedure.

2.0 INFORMATION SUBMITTAL AND REVIEW

2.1 The following information for the proposed material must be submitted to the Facility Environmental Manager.

2.1.1 A Completed Exide Recyclable Material Analysis Record ER-185 (Attachment A).

2.1.2 A complete description, in writing, of the process which generates the material, including the product(s) produced and other by-products and waste streams generated by the process, and a process flow diagram.

2.1.3 Information on the quantity of the material produced and available methods of packaging and transportation.

2.1.4 A completed Letter of Certification ("BIF") for exemption for burning of lead-containing materials in industrial furnaces (Attachment B).

2.1.5 A completed Letter of Exemption for Organic Air Emission Standards (Attachment C).

2.2 The Environmental Manager shall review the information with regard to compliance with the applicable federal, state and local regulations and the Facility permit limitations.

2.2.1 If the Environmental Manager determines that acceptance of the material at the Facility would be in compliance with regulations and permits, the Environmental Manager shall forward the information to the Plant Manager.

2.2.2 If the Environmental Manager determines that acceptance of the material at the Facility would not comply with regulations and permits, the Environmental Manager shall notify the submitting party that the material can not be accepted, indicating the reason(s) for the rejection.

2.3 The Plant Manager shall review the information with regard to compatibility with the Facility process and desirability of accepting the proposed material into the Facility.

2.3.1 If the Plant Manager determines that acceptance of the material appears to be compatible and desirable, he shall notify the Environmental Manager to obtain a sample of the material for analysis in accordance with section 3.0 of this procedure.

2.3.2 If the Plant Manager determines that acceptance of the material is not compatible or desirable, he shall instruct the Environmental Manager to notify the submitting party that the material can not be accepted, indicated the reason(s) for rejection.

3.0 SAMPLE SUBMITTAL AND ANALYSIS

3.1 A representative sample of the proposed material, in a quantity not less than 300 grams, shall be submitted to the Environmental Manager for independent analysis, along with a completed chain of custody form and a description of the method used to obtain the sample.

3.2 The Environmental Manager shall forward at least 200 grams of the sample to an independent laboratory for analysis as follows:

3.2.1 Testing for materials proposed for approval as hazardous waste shall include analysis for:

TOTAL — Antimony, Arsenic, Barium, Cadmium, Chromium, Copper, Lead, Mercury, Selenium, Silver, Tin, Zinc, Fluoride, Chloride, Sulfide, Aluminum, and Magnesium.

TCLP — Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium and Silver.

Additional testing for other constituents at the discretion of the Environmental Manager.

3.2.2 Testing for materials proposed for approval as coproducts shall include analysis for:

TOTAL — Antimony, Arsenic, Barium, Cadmium, Chromium, Copper, Lead, Mercury, Selenium, Silver, Tin, Zinc, Fluoride, Chloride, Sulfide, Aluminum, and Magnesium.

Additional testing for other constituents at the discretion of the

Environmental Manager.

3.2.3 The cost of laboratory analysis performed under section 3.2 shall be paid by the submitting party. Exide will invoice the party for the amount, which shall be paid prior to acceptance of the material.

3.2.4 The Environmental Manager may, at his sole discretion, accept for approval purposes analysis data provided by the submitting party on a certificate of analysis from an approved independent laboratory. If providing such analysis, the submitting party remains subject to submittal of a representative sample under section 3.1 of this procedure.

3.3 The Environmental Manager shall forward a portion of the sample to the Facility Laboratory Manager, who shall maintain it in an inventory of samples for visual comparison with incoming materials.

3.4 The results of the laboratory analysis performed under section 3.2 shall be reported to the Environmental Manager by the independent laboratory.

4.0 ACCEPTANCE APPROVAL

4.1 The Environmental Manager shall review the laboratory analysis results with the Plant Manager to make a determination on the acceptability of the proposed material.

4.1.1 If a material proposed for approval as a hazardous waste is determined to be acceptable at the Facility, the Environmental Manager shall issue an Acceptance Approval Certificate (Attachment D) for the material. Acceptance Approval Certificates shall be individually numbered and be valid for a maximum period of one year from date of issue. The certificate and the laboratory analysis results shall be forwarded to the Exide Metals Raw Material Manager who will in turn forward them to the submitting party.

4.1.2 If a material proposed for approval as a coproduct is determined to be acceptable at the Facility, the Environmental Manager shall issue a Coproduct Acceptance Code for the material to the Exide Metals Raw Materials Manager. The Coproduct Acceptance Codes shall be individually numbered and be valid for a maximum period of one year from date of issue. The Coproduct Acceptance Code serves only as an internal approval for the Exide Raw Materials Manager to schedule the material for receipt at the Baton Rouge Smelter and is not to be distributed outside of the company.

4.1.3 If the proposed material is determined not to be acceptable at the Facility, the

Environmental Manager shall notify the submitting party that the material can not be accepted, indicated the reasons for the rejection.

4.2 Acceptance Approval for any material may be revoked at any time at the sole discretion of the Plant Manager or Environmental Manager.

4.2.1 When acceptance approval for a material has been revoked, the Environmental Manager shall notify the submitting party, in writing, that the material will no longer be accepted, indicating the reasons for the rejection. A copy of the revocation notice shall be given to the Laboratory Manager and the Exide Raw Materials Manager.

4.2.2 A material for which acceptance approval has been revoked can be re-qualified for acceptance in accordance with this procedure and at the discretion of the Plant Manager and Environmental Manager. However, misrepresentation of a material will result in permanent revocation of all acceptance approvals for the generator involved.

5.0 DOCUMENTATION

5.1 A file of all current Acceptance Approval Certificates and Coproduct Acceptance Codes for subject materials sent to the Facility for recycle/reclaim shall be maintained at the Facility by the Environmental Manager.

5.2 A listing of all current Acceptance Approval Certificates and Coproduct Acceptance Codes for materials sent to the Facility for recycle/reclaim shall be maintained by the Laboratory Manager. This listing shall include the material description, the name of the submitting party, the Acceptance Approval Certificate number or Coproduct Acceptance Code, and the expiration date of the approval.

5.2.1 The Laboratory Manager shall update the listing described in section 5.2 at the beginning of each calendar month and forward one copy each to the Environmental Manager and the Exide Metals Raw Materials Manager.

5.3 Generators shall reference the valid Acceptance Approval Certificate number on all hazardous waste manifests for shipments of hazardous waste to the Facility.

6.0 ACCEPTANCE APPROVAL RENEWAL

6.1 Sixty (60) days prior to the expiration of any current Acceptance Approval Certificate or Coproduct Acceptance Code on file at the Facility, the Environmental Manager shall notify the appropriate submitting party that renewal of the acceptance approval

is required.

6.1.1 For hazardous waste streams the submitting party will be instructed to submit current information and a current representative sample for analysis in accordance with sections 2.0 and 3.0 of this procedure.

6.1.2 For coproduct streams the submitting party will be instructed to submit current information in accordance with section 2.0 of this procedure. If the characteristics of a coproduct material have changed (such as a change to the process which produces the material stream), then complete submittal of information and a current representative sample for analysis will be required in accordance with sections 2.0 and 3.0 of this procedure.

6.2 The information and analysis results will be reviewed and acceptance approval renewed or rejected in accordance with section 4.0 of this procedure.

ATTACHMENT A

RECYCLABLE MATERIAL ANALYSIS RECORD

EXIDE TECHNOLOGIES - BATON ROUGE SMELTER

RECYCLABLE MATERIAL ANALYSIS RECORD ER-185

Check one _____Hazardous Waste _____Byproduct _____Other (Explain in Section 6)

1. Generator Information

Company Name:_____
Address, State, Zip Code:_____
Facility Name:_____ EPA ID #:_____
Facility Contact:_____ Tel. No. #:_____

2. Material Description/Characterization

Common Name of Material:_____
Generating Process:_____
_____
U.S. DOT Shipping Name:_____
DOT Hazard Class:_____ UN/NA Number:_____
Expected Annual Quantity (specify units):_____
Anticipated Shipment Frequency:_____
Packaging (Bulk, Drums, Boxes, etc.):_____
Physical Properties at 25 Degrees Celsius
Physical State (check as appropriate):
Liquid_____ Solid_____ Sludge (% solids)_____ Single Phase_____
Multi-phase_____
pH (10% slurry in distilled water for solids):_____
Density/Specific Gravity:_____
Physical Appearance (color & texture):_____
Odor (type & strength):_____

3. Material Composition

List all components within the material stream by percentage. Account for 100 percent of the material in the Typical % column.

Constituent	Typical %	Range %

Laboratory Analysis - Attach Laboratory Analysis

COMPLETE FOR HAZARDOUS WASTE:

RCRA Testing

Hazardous Waste Characteristics (check if applicable)

Toxicity_____ Ignitability_____ Reactivity_____ Corrosivity_____

TCLP Procedure for Metals (data expressed in mg/L)

	TC Limits		TC Limits
Arsenic_____	5.0	Lead_____	5.0
Barium_____	100.0	Mercury_____	0.2
Cadmium_____	1.0	Selenium_____	1.0
Chromium_____	5.0	Silver_____	5.0

COMPLETE FOR HAZARDOUS WASTE, CO-PRODUCT & OTHER:

Chemical Constituents - Total Concentrations (specify units)

		Expected Range (specify)			Expected Range (specify)
Aluminum	_____	_____	Lead	_____	_____
Antimony	_____	_____	Magnesium	_____	_____
Arsenic	_____	_____	Mercury	_____	_____
Barium	_____	_____	Selenium	_____	_____
Cadmium	_____	_____	Silver	_____	_____
Chlorine	_____	_____	Tin	_____	_____
Chromium	_____	_____	Zinc	_____	_____
Copper	_____	_____	Other (specify)	_____	_____
Fluoride	_____	_____	Total Metals	_____	_____

5. Exide Corporation Treatment, Storage, or Disposal Facility Information

Exide Location:	Exide Technologies, Baton Rouge Smelter		
Address:	2400 Brooklawn Drive, West End		
City, State, Zip Code:	Baton Rouge, LA 70874		
EPA Identification No.:	LAD008184137		
Facility Contact:	Joe Acker, Jr.	Telephone	(225) 775-3040

6. Additional Comments, Descriptions, or Material Stream Information

I certify and warrant that all information on this form is complete and factual (including attached information) and is an accurate representation of the known and suspected hazards of the material stream described.

_____ _____ _____

Signature Title Date

ATTACHMENT B
ENV-001 Rev. 03

LETTER OF CERTIFICATION

EXEMPTION FOR BURNING OF LEAD-CONTAINING MATERIALS IN INDUSTRIAL FURNACES

This statement certifies, in accordance with Exide Technologies request of _____ (insert date), that the lead-containing materials provided by:

Name of Company _____

Street Address _____

City, State, Zip Code _____

US EPA ID No., if applicable _____

to Exide Technologies for recycling meet one or more of the following three exemption criteria for burning of lead-containing materials in industrial furnaces:

1. The material have a heating value of less than 5,000 BTU/lb and contain less than 500 ppm of toxic organic constituents, or

2. The materials are identified on the attached listing of Appendix XL to 40 CFR 266 and are:

    1. Generated or initially produced by the lead industry (defined in the regulations as lead smelting operations (both primary and secondary), lead-acid battery manufacturing, and lead chemical manufacturing (i.e., producers of lead compounds)), and

    2. If the material contains more than 500 ppm of toxic organic constituents, it does not exhibit the toxicity characteristic (TC) of 261.24 for an organic constituent and it is not listed as a hazardous waste in Subpart D of Part 261 because it contains an organic constituent as identified in Appendix VIII of Part 261, or

    3. The materials are by-product drosses, slurry and slurry screenings, slags, scrap lead, or other materials which are either not solid wastes when recycled or are exempt from regulation when recycled.

Signature _____

Printed Name _____

Title _____

Date _____

Attachment C
ENV-001 REV. 03

CERTIFICATION

EXEMPTION
ORGANIC AIR EMISSION STANDARDS
HAZARDOUS WASTE TANKS AND CONTAINERS

I hereby certify that:

Name of Generator _____

Street Address _____

City, State, Zip Code _____

US EPA ID No., if applicable _____

has determined that the lead-containing materials described as _____ _____ provided to Exide Technologies for recycling are exempt from requirements for Organic Air Emission Standards for Tanks and Containers under 40 CFR Part 264, Subpart CC and Part 265, Subpart CC. This determination is based on the materials meeting the following criteria (check all that apply):

_____ The materials have an average volatile organic concentration at the point of origination less than 100 ppmw as determined by:

- _____ Direct measurement by analysis per Method 25D in 40 CFR Part 60, Appendix A.
- _____ Knowledge of the waste, which may Include information such as material balances, raw materials lists, comparison to similar materials and/or other documents.

_____ The materials are by-products, coproducts, drosses, slags, scrap lead or other materials which are either not solid wastes when recycled or are exempt from regulation when recycled.

Signature _____

Printed Name _____

Title _____

Date _____

EXIDE TECHNOLOGIES

EXIDE TECHNOLOGIES, BATON ROUGE SMELTER
BATON ROUGE LOUISIANA
LAD008184137

ACCEPTANCE APPROVAL CERTIFICATE

_____

(Certificate Number)

THIS IS TO CERTIFY THAT

_____

from

_____

HAS BEEN QUALIFIED FOR ACCEPTANCE AT THE EXIDE TECHNOLOGIES, BATON ROUGE SMELTER, LAD008184137 FOR RECYCLE/RECLAIM IN ACCORDANCE WITH EXIDE'S ADMINISTRATIVE PROCEDURE ENV-001.

THIS APPROVAL IS VALID FOR A PERIOD NOT TO EXCEED ONE (1) YEAR FROM THE DATE OF ISSUE, AND MUST BE RENEWED PRIOR TO THE EXPIRATION DATE LISTED BELOW FOR SHIPMENTS OF THIS MATERIAL TO CONTINUE AFTER THAT DATE.

DATE OF ISSUE: _____

EXPIRATION DATE: _____

_____
STEVEN A. KRUL
ENVIRONMENTAL MANAGER

P.O. Box 74040 • Baton Rouge, LA 70874

Louisiana Environmental Laboratory
LELAP
Accreditation Program

STATE OF LOUISIANA
DEPARTMENT OF ENVIRONMENTAL QUALITY

Is hereby granting a Louisiana Environmental Laboratory Accreditation to:

Pace Analytical Services, Inc. - St. Rose
1000 Riverbend, Suite F
St. Rose, LA 70087

Agency Interest No. 30685

According to the Louisiana Administrative Code, Title 33, Part I, Subpart 3, LABORATORY ACCREDITATION, the State of Louisiana formally recognizes that this laboratory is technically competent to perform the environmental analyses listed on the scope of accreditation detailed in the attachment.

The laboratory agrees to perform all analyses listed on this scope of accreditation according to the Part I, Subpart 3 requirements and acknowledges that continued accreditation is dependent on successful ongoing compliance with the applicable requirements of Part I. Please contact the Department of Environmental Quality, Louisiana Environmental Laboratory Accreditation Program (LELAP) to verify the laboratory's scope of accreditation and accreditation status. Accreditation by the State of Louisiana is not an endorsement or a guarantee of validity of the data generated by the laboratory.

To be accredited initially and maintain accreditation, the laboratory agrees to participate in two single-blind, single-concentration PT studies, where available, per year for each field of testing for which it seeks accreditation or maintains accreditation as required in LAC 33:I.4711.

Louis R.C. Johnson, Accreditation Officer
Louisiana Environmental Laboratory Accreditation Program

Certificate Number: 02006
Expiration Date: June 30, 2003
Issued On: July 1, 2002

STATE OF LOUISIANA
DEPARTMENT OF ENVIRONMENTAL QUALITY
Awards the Certificate of Approval

CERTIFICATE NO.: 02006
Page 1 of 1
January 24, 2002

Pace Analytical Laboratory– St. Rose

1000 Riverbend Blvd., Suite F
St. Rose, LA

Agency Interest Number 30685

According to the Louisiana Administrative Code, Title 33, Part I, Subpart 3, Laboratory Accreditation, the State of Louisiana formally recognizes that this laboratory is technically competent to perform the environmental analyses listed on the scope of the accreditation detailed below.

The laboratory agrees to perform all analyses listed on this scope of accreditation according to the Part I, Subpart 3 requirements and acknowledges that continued accreditation is dependent on successful ongoing compliance with the applicable requirements of Part I, Subpart 3. Please contact the Department of Environmental Quality, Louisiana Environmental Laboratory Accreditation Program (LELAP) to verify the laboratory's scope of accreditation and accreditation status. Accreditation by the State of Louisiana is not an endorsement or a guarantee of validity of the data generated by the laboratory.

CLEAN WATER ACT			
Chlorine, Total Residual	HACH Method 8167	NELAP	CERTIFIED
PCB's in oil	EPA 600/4-81-045	NELAP	CERTIFIED
RCRA			
BTU	ATSM D-240	NELAP	CERTIFIED
CLEAN AIR ACT			
Semi-volatiles	CLP - 2	NELAP	CERTIFIED
Metals	CLP - 3	NELAP	CERTIFIED

LELAP

Laboratory Scope of Accreditation

Organization

02006 (504) 469-0333

Pace Analytical Services, Inc. - St. Rose
1000 Riverbend, Suite F
St. Rose, LA 70087

RCRA Certification

Method Code	Method Ref	Analyte	Status	Type	AA
655	EPA 8015 (modified)	Diesel-range total petroleum hydrocarbons	Accredited	NELAP	LA
655	EPA 8015 (modified)	Gasoline range organics (GRO)	Accredited	NELAP	LA
657	Sec. 7.3 SW-846	REACTIVE CYANIDE	Accredited	NELAP	LA
657	Sec. 7.3 SW-846	Reactive sulfide	Accredited	NELAP	LA
10116606	EPA 1010	Ignitability	Accredited	NELAP	LA
10118806	EPA 1311	TOXICITY CHARACTERISTIC LEACHING PROCEDURE	Accredited	NELAP	LA
10119003	EPA 1312	SYNTHETIC PRECIPITATION LEACHING PROCEDURE	Accredited	NELAP	LA
137607	EPA 3510	Separatory Funnel Liquid-Liquid Extraction	Accredited	STATE	
138406	EPA 3520	Continuous Liquid-Liquid Extraction	Accredited	STATE	
0140804	EPA 3545	Pressurized Fluid Extraction	Accredited	STATE	
10141409	EPA 3550	Ultrasonic Extraction	Accredited	STATE	
10153001	EPA 5030	Aqueous-phase Purge & Trap	Accredited	STATE	
10154004	EPA 5035	Closed System Purge & Trap	Accredited	STATE	
10155201	EPA 6010	Aluminum	Accredited	NELAP	LA
10155201	EPA 6010	Antimony	Accredited	NELAP	LA
10155201	EPA 6010	Arsenic	Accredited	NELAP	LA
10155201	EPA 6010	Barium	Accredited	NELAP	LA
10155201	EPA 6010	Beryllium	Accredited	NELAP	LA
10155201	EPA 6010	Cadmium	Accredited	NELAP	LA
10155201	EPA 6010	Calcium	Accredited	NELAP	LA
10155201	EPA 6010	Chromium	Accredited	NELAP	LA
10155201	EPA 6010	Cobalt	Accredited	NELAP	LA
10155201	EPA 6010	Copper	Accredited	NELAP	LA
10155201	EPA 6010	Iron	Accredited	NELAP	LA
10155201	EPA 6010	Lead	Accredited	NELAP	LA
10155201	EPA 6010	Magnesium	Accredited	NELAP	LA
10155201	EPA 6010	Manganese	Accredited	NELAP	LA
10155201	EPA 6010	Molybdenum	Accredited	NELAP	LA
10155201	EPA 6010	Nickel	Accredited	NELAP	LA
10155201	EPA 6010	Potassium	Accredited	NELAP	LA
10155201	EPA 6010	Selenium	Accredited	NELAP	LA
10155201	EPA 6010	Silver	Accredited	NELAP	LA
10155201	EPA 6010	Sodium	Accredited	NELAP	LA
10155201	EPA 6010	Thallium	Accredited	NELAP	LA
10155201	EPA 6010	Vanadium	Accredited	NELAP	LA
10155201	EPA 6010	Zinc	Accredited	NELAP	LA
165603	EPA 7470	Mercury	Accredited	NELAP	LA

Organization

02006 (504) 469-0333

Pace Analytical Services, Inc. - St. Rose
1000 Riverbend, Suite F
St. Rose, LA 70087

RCRA Certification

Method Code	Method Ref	Analyte	Status	Type	AA
10166004	EPA 7471	Mercury	Accredited	NELAP	LA
10173203	EPA 8015	Isopropyl alcohol (2-Propanol)	Accredited	NELAP	LA
10173203	EPA 8015	p-Dioxane	Accredited	NELAP	LA
10174400	EPA 8021	1,1,1,2-Tetrachloroethane	Accredited	NELAP	LA
10174400	EPA 8021	1,1,1-Trichloroethane	Accredited	NELAP	LA
10174400	EPA 8021	1,1,2,2-Tetrachloroethane	Accredited	NELAP	LA
10174400	EPA 8021	1,1,2-Trichloroethane	Accredited	NELAP	LA
10174400	EPA 8021	1,1-Dichloroethane	Accredited	NELAP	LA
10174400	EPA 8021	1,1-Dichloroethylene	Accredited	NELAP	LA
10174400	EPA 8021	1,1-Dichloropropene	Accredited	NELAP	LA
10174400	EPA 8021	1,2,3-Trichlorobenzene	Accredited	NELAP	LA
10174400	EPA 8021	1,2,3-Trichloropropane	Accredited	NELAP	LA
10174400	EPA 8021	1,2,4-Trichlorobenzene	Accredited	NELAP	LA
10174400	EPA 8021	1,2,4-Trimethylbenzene	Accredited	NELAP	LA
10174400	EPA 8021	1,2-Dibromo-3-chloropropane (DBCP)	Accredited	NELAP	LA
10174400	EPA 8021	1,2-Dibromoethane (EDB, Ethylene dibromide)	Accredited	NELAP	LA
10174400	EPA 8021	1,2-Dichlorobenzene	Accredited	NELAP	LA
[illegible]400	EPA 8021	1,2-Dichloroethane	Accredited	NELAP	LA
10174400	EPA 8021	1,2-Dichloropropane	Accredited	NELAP	LA
10174400	EPA 8021	1,3,5-Trimethylbenzene	Accredited	NELAP	LA
10174400	EPA 8021	1,3-Dichloro-2-propanol	Accredited	NELAP	LA
10174400	EPA 8021	1,3-Dichlorobenzene	Accredited	NELAP	LA
10174400	EPA 8021	1,3-Dichloropropane	Accredited	NELAP	LA
10174400	EPA 8021	1,4-Dichlorobenzene	Accredited	NELAP	LA
10174400	EPA 8021	2,2-Dichloropropane	Accredited	NELAP	LA
10174400	EPA 8021	2-Butanone (Methyl ethyl ketone, MEK)	Accredited	NELAP	LA
10174400	EPA 8021	2-Chloroethanol	Accredited	NELAP	LA
10174400	EPA 8021	2-Chloroethyl vinyl ether	Accredited	NELAP	LA
10174400	EPA 8021	2-Chlorotoluene	Accredited	NELAP	LA
10174400	EPA 8021	4-Chlorotoluene	Accredited	NELAP	LA
10174400	EPA 8021	Allyl chloride (3-Chloropropene)	Accredited	NELAP	LA
10174400	EPA 8021	Benzene	Accredited	NELAP	LA
10174400	EPA 8021	Benzyl chloride	Accredited	NELAP	LA
10174400	EPA 8021	bis(2-Chloroisopropyl) ether	Accredited	NELAP	LA
10174400	EPA 8021	Bromoacetone	Accredited	NELAP	LA
10174400	EPA 8021	Bromobenzene	Accredited	NELAP	LA
10174400	EPA 8021	Bromochloromethane	Accredited	NELAP	LA
10174400	EPA 8021	Bromodichloromethane	Accredited	NELAP	LA
10174400	EPA 8021	Bromoform	Accredited	NELAP	LA
10174400	EPA 8021	Carbon disulfide	Accredited	NELAP	LA
10174400	EPA 8021	Carbon tetrachloride	Accredited	NELAP	LA
10174400	EPA 8021	Chlorobenzene	Accredited	NELAP	LA
10174400	EPA 8021	Chloroethane	Accredited	NELAP	LA

Louisiana Environmental Laboratory
LELAP
Accreditation Program

Laboratory Scope of Accreditation

Organization

02006 (504) 469-0333

Pace Analytical Services, Inc. - St. Rose
1000 Riverbend, Suite F
St. Rose, LA 70087

RCRA Certification

Method Code	Method Ref	Analyte	Status	Type	AA
10174400	EPA 8021	Chloroform	Accredited	NELAP	LA
10174400	EPA 8021	Chloromethyl methyl ether	Accredited	NELAP	LA
10174400	EPA 8021	Chloroprene	Accredited	NELAP	LA
10174400	EPA 8021	cis & trans-1,2-Dichloroethene	Accredited	NELAP	LA
10174400	EPA 8021	cis-1,2-Dichloroethylene	Accredited	NELAP	LA
10174400	EPA 8021	cis-1,3-Dichloropropene	Accredited	NELAP	LA
10174400	EPA 8021	Dibromochloromethane	Accredited	NELAP	LA
10174400	EPA 8021	Dibromochloropropane	Accredited	NELAP	LA
10174400	EPA 8021	Dibromofluoromethane	Accredited	NELAP	LA
10174400	EPA 8021	Dibromomethane	Accredited	NELAP	LA
10174400	EPA 8021	Dichlorodifluoromethane	Accredited	NELAP	LA
10174400	EPA 8021	Epichlorohydrin (1-Chloro-2,3-epoxypropane)	Accredited	NELAP	LA
10174400	EPA 8021	Ethylbenzene	Accredited	NELAP	LA
10174400	EPA 8021	Hexachlorobutadiene	Accredited	NELAP	LA
10174400	EPA 8021	Hexachloroethane	Accredited	NELAP	LA
10174400	EPA 8021	Isopropyl ether	Accredited	NELAP	LA
10174400	EPA 8021	Isopropylbenzene	Accredited	NELAP	LA
10174400	EPA 8021	Methyl bromide (Bromomethane)	Accredited	NELAP	LA
10174400	EPA 8021	Methyl chloride (Chloromethane)	Accredited	NELAP	LA
10174400	EPA 8021	Methyl tert-butyl ether (MTBE)	Accredited	NELAP	LA
10174400	EPA 8021	Methylene chloride	Accredited	NELAP	LA
10174400	EPA 8021	m-Xylene	Accredited	NELAP	LA
10174400	EPA 8021	Naphthalene	Accredited	NELAP	LA
10174400	EPA 8021	n-Butylbenzene	Accredited	NELAP	LA
10174400	EPA 8021	n-Propylbenzene	Accredited	NELAP	LA
10174400	EPA 8021	o-Toluidine	Accredited	NELAP	LA
10174400	EPA 8021	o-Xylene	Accredited	NELAP	LA
10174400	EPA 8021	p-Isopropyltoluene	Accredited	NELAP	LA
10174400	EPA 8021	p-Xylene	Accredited	NELAP	LA
10174400	EPA 8021	sec-Butylbenzene	Accredited	NELAP	LA
10174400	EPA 8021	Styrene	Accredited	NELAP	LA
10174400	EPA 8021	tert-Butylbenzene	Accredited	NELAP	LA
10174400	EPA 8021	Tetrachloroethylene (Perchloroethylene)	Accredited	NELAP	LA
10174400	EPA 8021	Toluene	Accredited	NELAP	LA
10174400	EPA 8021	trans-1,2-Dicloroethylene	Accredited	NELAP	LA
10174400	EPA 8021	trans-1,3-Dichloropropylene	Accredited	NELAP	LA
10174400	EPA 8021	Trichloroethane (Trichloroethylene)	Accredited	NELAP	LA
10174400	EPA 8021	Trichlorofluoromethane	Accredited	NELAP	LA
10174400	EPA 8021	Vinyl chloride	Accredited	NELAP	LA
10174400	EPA 8021	Xylene (total)	Accredited	NELAP	LA
10178402	EPA 8081	1,2-Dibromo-3-chloropropane (DBCP)	Accredited	NELAP	LA
10178402	EPA 8081	4,4'-DDD	Accredited	NELAP	LA
10178402	EPA 8081	4,4'-DDE	Accredited	NELAP	LA

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Organization

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Pace Analytical Services, Inc. - St. Rose
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St. Rose, LA 70087

RCRA Certification

Method Code	Method Ref	Analyte	Status	Type	AA
10178402	EPA 8081	4,4'-DDT	Accredited	NELAP	LA
10178402	EPA 8081	Alachlor	Accredited	NELAP	LA
10178402	EPA 8081	Aldrin	Accredited	NELAP	LA
10178402	EPA 8081	alpha-BHC (alpha-Hexachlorocyclohexane)	Accredited	NELAP	LA
10178402	EPA 8081	alpha-Chlordane	Accredited	NELAP	LA
10178402	EPA 8081	beta-BHC (beta-Hexachlorocyclohexane)	Accredited	NELAP	LA
10178402	EPA 8081	Captafol	Accredited	NELAP	LA
10178402	EPA 8081	Chlordane (tech.)	Accredited	NELAP	LA
10178402	EPA 8081	Chlorobenzilate	Accredited	NELAP	LA
10178402	EPA 8081	Chloroneb	Accredited	NELAP	LA
10178402	EPA 8081	Chloropropylate	Accredited	NELAP	LA
10178402	EPA 8081	Chlorothalonil	Accredited	NELAP	LA
10178402	EPA 8081	Dacthal (DCPA)	Accredited	NELAP	LA
10178402	EPA 8081	delta-BHC	Accredited	NELAP	LA
10178402	EPA 8081	Dieldrin	Accredited	NELAP	LA
10178402	EPA 8081	Dibromochloropropane	Accredited	NELAP	LA
10178402	EPA 8081	Dichlone	Accredited	NELAP	LA
10178402	EPA 8081	Dicofol	Accredited	NELAP	LA
10178402	EPA 8081	Dieldrin	Accredited	NELAP	LA
10178402	EPA 8081	Endosulfan I	Accredited	NELAP	LA
10178402	EPA 8081	Endosulfan II	Accredited	NELAP	LA
10178402	EPA 8081	Endosulfan sulfate	Accredited	NELAP	LA
10178402	EPA 8081	Endrin	Accredited	NELAP	LA
10178402	EPA 8081	Endrin aldehyde	Accredited	NELAP	LA
10178402	EPA 8081	Endrin ketone	Accredited	NELAP	LA
10178402	EPA 8081	Etridiazole	Accredited	NELAP	LA
10178402	EPA 8081	gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	Accredited	NELAP	LA
10178402	EPA 8081	gamma-Chlordane	Accredited	NELAP	LA
10178402	EPA 8081	Halowax-1000	Accredited	NELAP	LA
10178402	EPA 8081	Halowax-1001	Accredited	NELAP	LA
10178402	EPA 8081	Halowax-1013	Accredited	NELAP	LA
10178402	EPA 8081	Halowax-1014	Accredited	NELAP	LA
10178402	EPA 8081	Halowax-1051	Accredited	NELAP	LA
10178402	EPA 8081	Halowax-1099	Accredited	NELAP	LA
10178402	EPA 8081	Heptachlor	Accredited	NELAP	LA
10178402	EPA 8081	Heptachlor epoxide	Accredited	NELAP	LA
10178402	EPA 8081	Hexachlorobenzene	Accredited	NELAP	LA
10178402	EPA 8081	Hexachlorocyclopentadiene	Accredited	NELAP	LA
10178402	EPA 8081	Isodrin	Accredited	NELAP	LA
10178402	EPA 8081	Kepone	Accredited	NELAP	LA
10178402	EPA 8081	Methoxychlor	Accredited	NELAP	LA
10178402	EPA 8081	Mirex	Accredited	NELAP	LA

Organization

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Pace Analytical Services, Inc. - St. Rose
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St. Rose, LA 70087

RCRA Certification

Method Code	Method Ref	Analyte	Status	Type	AA
10178402	EPA 8081	Nitrofen	Accredited	NELAP	LA
10178402	EPA 8081	Pentachloronitrobenzene	Accredited	NELAP	LA
10178402	EPA 8081	Permethrin (total)	Accredited	NELAP	LA
10178402	EPA 8081	Perthane	Accredited	NELAP	LA
10178402	EPA 8081	Propachlor (Ramrod)	Accredited	NELAP	LA
10178402	EPA 8081	Strobane	Accredited	NELAP	LA
10178402	EPA 8081	Toxaphene (Chlorinated camphene)	Accredited	NELAP	LA
10178402	EPA 8081	trans Nanochlor	Accredited	NELAP	LA
10178402	EPA 8081	Trifluralin (Treflan)	Accredited	NELAP	LA
10179007	EPA 8082	2,2', 3,3', 4,4', 5-Heptachlorobiphenyl	Accredited	NELAP	LA
10179007	EPA 8082	2,2', 3,3', 4,4'5,5'-Octachlorobiphenyl	Accredited	NELAP	LA
10179007	EPA 8082	2,2', 3,3',4,4'-Hexachlorobiphenyl	Accredited	NELAP	LA
10179007	EPA 8082	2,2', 3,4', 5,5', 6-Heptachlorobiphenyl	Accredited	NELAP	LA
10179007	EPA 8082	2,2', 3,4,4', 5,5'-Heptachlorobiphenyl	Accredited	NELAP	LA
10179007	EPA 8082	2,2', 3,4,4', 5'-Hexachlorobiphenyl	Accredited	NELAP	LA
10179007	EPA 8082	2,2', 3,5'-Tetrachlorobiphenyl	Accredited	NELAP	LA
10179007	EPA 8082	2,2', 4,5,5'-Pentachlorobiphenyl	Accredited	NELAP	LA
10179007	EPA 8082	2,2', 4,5'-Tetrachlorobiphenyl	Accredited	NELAP	LA
10179007	EPA 8082	2,2', 5,5'-Tetrachlorobiphenyl	Accredited	NELAP	LA
10179007	EPA 8082	2,2', 5-Trichlorobiphenyl	Accredited	NELAP	LA
10179007	EPA 8082	2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	Accredited	NELAP	LA
10179007	EPA 8082	2,2',3,4,4',5',6-Heptachlorobiphenyl	Accredited	NELAP	LA
10179007	EPA 8082	2,2',3,4,5,5'-Hexachlorobiphenyl	Accredited	NELAP	LA
10179007	EPA 8082	2,2',3,4,5'-Pentachlorobiphenyl	Accredited	NELAP	LA
10179007	EPA 8082	2,2',3,5,5',6-Hexachlorobiphenyl	Accredited	NELAP	LA
10179007	EPA 8082	2,2',4,4',5,5'-Hexachlorobiphenyl	Accredited	NELAP	LA
10179007	EPA 8082	2,3', 4,4'-Tetrachlorobiphenyl	Accredited	NELAP	LA
10179007	EPA 8082	2,3', 5-Trichlorobiphenyl	Accredited	NELAP	LA
10179007	EPA 8082	2,3,3',4',6-Pentachlorobiphenyl	Accredited	NELAP	LA
10179007	EPA 8082	2,3',4,4',5-Pentachlorobiphenyl	Accredited	NELAP	LA
10179007	EPA 8082	2,3-Dichlorobiphenyl	Accredited	NELAP	LA
10179007	EPA 8082	2,4',5-Trichlorobiphenyl	Accredited	NELAP	LA
10179007	EPA 8082	2-Chlorobiphenyl	Accredited	NELAP	LA
10179007	EPA 8082	3,3'-Dichlorobiphenyl	Accredited	NELAP	LA
10179007	EPA 8082	Aroclor-1016 (PCB-1016)	Accredited	NELAP	LA
10179007	EPA 8082	Aroclor-1221 (PCB-1221)	Accredited	NELAP	LA
10179007	EPA 8082	Aroclor-1232 (PCB-1232)	Accredited	NELAP	LA
10179007	EPA 8082	Aroclor-1242 (PCB-1242)	Accredited	NELAP	LA
10179007	EPA 8082	Aroclor-1248 (PCB-1248)	Accredited	NELAP	LA
10179007	EPA 8082	Aroclor-1254 (PCB-1254)	Accredited	NELAP	LA
10179007	EPA 8082	Aroclor-1260 (PCB-1260)	Accredited	NELAP	LA
10179007	EPA 8082	Decachlorobiphenyl	Accredited	NELAP	LA
10179007	EPA 8082	PCBs, as congeners	Accredited	NELAP	LA

Organization

02006 (504) 469-0333

Pace Analytical Services, Inc. - St. Rose
1000 Riverbend, Suite F
St. Rose, LA 70087

RCRA Certification

Method Code	Method Ref	Analyte	Status	Type	AA
10181803	EPA 8141	Aspon	Accredited	NELAP	LA
10181803	EPA 8141	Atrazine	Accredited	NELAP	LA
10181803	EPA 8141	Azinphos-ethyl (Ethyl guthion)	Accredited	NELAP	LA
10181803	EPA 8141	Azinphos-methyl (Guthion)	Accredited	NELAP	LA
10181803	EPA 8141	Bolstar (Sulprofos)	Accredited	NELAP	LA
10181803	EPA 8141	Carbophenothion	Accredited	NELAP	LA
10181803	EPA 8141	Chlorfenvinphos	Accredited	NELAP	LA
10181803	EPA 8141	Chlorpyrifos	Accredited	NELAP	LA
10181803	EPA 8141	Chlorpyrifos methyl	Accredited	NELAP	LA
10181803	EPA 8141	Coumaphos	Accredited	NELAP	LA
10181803	EPA 8141	Crotoxyphos	Accredited	NELAP	LA
10181803	EPA 8141	Demeton-o	Accredited	NELAP	LA
10181803	EPA 8141	Demeton-s	Accredited	NELAP	LA
10181803	EPA 8141	Diazinon	Accredited	NELAP	LA
10181803	EPA 8141	Dichlorofenthion	Accredited	NELAP	LA
10181803	EPA 8141	Dichlorovos (DDVP, Dichlorvos)	Accredited	NELAP	LA
10181803	EPA 8141	Dicrotophos	Accredited	NELAP	LA
10181803	EPA 8141	Dimethoate	Accredited	NELAP	LA
10181803	EPA 8141	Dioxathion	Accredited	NELAP	LA
10181803	EPA 8141	EPN	Accredited	NELAP	LA
10181803	EPA 8141	Ethion	Accredited	NELAP	LA
10181803	EPA 8141	Ethoprop	Accredited	NELAP	LA
10181803	EPA 8141	Famphur	Accredited	NELAP	LA
10181803	EPA 8141	Fenitrothion	Accredited	NELAP	LA
10181803	EPA 8141	Fensulfothion	Accredited	NELAP	LA
10181803	EPA 8141	Fenthion	Accredited	NELAP	LA
10181803	EPA 8141	Fonophos	Accredited	NELAP	LA
10181803	EPA 8141	Hexamethylphosphoramide (HMPA)	Accredited	NELAP	LA
10181803	EPA 8141	Leptophos	Accredited	NELAP	LA
10181803	EPA 8141	Malathion	Accredited	NELAP	LA
10181803	EPA 8141	Merphos	Accredited	NELAP	LA
10181803	EPA 8141	Methyl parathion (Parathion methyl)	Accredited	NELAP	LA
10181803	EPA 8141	Mevinphos	Accredited	NELAP	LA
10181803	EPA 8141	Monocrotophos	Accredited	NELAP	LA
10181803	EPA 8141	Naled	Accredited	NELAP	LA
10181803	EPA 8141	Parathion	Accredited	NELAP	LA
10181803	EPA 8141	Parathion, ethyl	Accredited	NELAP	LA
10181803	EPA 8141	Phorate	Accredited	NELAP	LA
10181803	EPA 8141	Phosmet (Imidan)	Accredited	NELAP	LA
10181803	EPA 8141	Phosphamidon	Accredited	NELAP	LA
10181803	EPA 8141	Ronnel	Accredited	NELAP	LA
10181803	EPA 8141	Simazine	Accredited	NELAP	LA
10181803	EPA 8141	Stirofos	Accredited	NELAP	LA

Organization

02006 (504) 469-0333

Pace Analytical Services, Inc. - St. Rose
1000 Riverbend, Suite F
St. Rose, LA 70087

RCRA Certification

Method Code	Method Ref	Analyte	Status	Type	AA
10181803	EPA 8141	Sulfotepp	Accredited	NELAP	LA
10181803	EPA 8141	Terbufos	Accredited	NELAP	LA
10181803	EPA 8141	Tetraethyl pyrophosphate (TEPP)	Accredited	NELAP	LA
10181803	EPA 8141	Thionazin (Zinophos)	Accredited	NELAP	LA
10181803	EPA 8141	Tokuthion (Prothiophos)	Accredited	NELAP	LA
10181803	EPA 8141	Trichlorfon	Accredited	NELAP	LA
10181803	EPA 8141	Trichloronate	Accredited	NELAP	LA
10181803	EPA 8141	Tri-o-cresylphosphate (TOCP)	Accredited	NELAP	LA
10183003	EPA 8151	2,4,5-T	Accredited	NELAP	LA
10183003	EPA 8151	2,4-D	Accredited	NELAP	LA
10183003	EPA 8151	2,4-DB	Accredited	NELAP	LA
10183003	EPA 8151	3,5-Dichlorobenzoic acid	Accredited	NELAP	LA
10183003	EPA 8151	4-Nitrophenol	Accredited	NELAP	LA
10183003	EPA 8151	5-Hydroxydicamba	Accredited	NELAP	LA
10183003	EPA 8151	Acifluorfen	Accredited	NELAP	LA
10183003	EPA 8151	Bentazon	Accredited	NELAP	LA
10183003	EPA 8151	Chloramben	Accredited	NELAP	LA
10183003	EPA 8151	Dacthal (DCPA)	Accredited	NELAP	LA
10183003	EPA 8151	Dalapon	Accredited	NELAP	LA
10183003	EPA 8151	Dicamba	Accredited	NELAP	LA
10183003	EPA 8151	Dichloroprop (Dichlorprop)	Accredited	NELAP	LA
10183003	EPA 8151	Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	Accredited	NELAP	LA
10183003	EPA 8151	MCPA	Accredited	NELAP	LA
10183003	EPA 8151	MCPP	Accredited	NELAP	LA
10183003	EPA 8151	Pentachlorophenol	Accredited	NELAP	LA
10183003	EPA 8151	Picloram	Accredited	NELAP	LA
10183003	EPA 8151	Silvex (2,4,5-TP)	Accredited	NELAP	LA
10184404	EPA 8260	1,1,1,2-Tetrachloroethane	Accredited	NELAP	LA
10184404	EPA 8260	1,1,1-Trichloroethane	Accredited	NELAP	LA
10184404	EPA 8260	1,1,2,2-Tetrachloroethane	Accredited	NELAP	LA
10184404	EPA 8260	1,1,2-Trichloro-1,2,2-trifluoroethane	Accredited	NELAP	LA
10184404	EPA 8260	1,1,2-Trichloroethane	Accredited	NELAP	LA
10184404	EPA 8260	1,1-Dichloroethane	Accredited	NELAP	LA
10184404	EPA 8260	1,1-Dichloroethylene	Accredited	NELAP	LA
10184404	EPA 8260	1,1-Dichloropropene	Accredited	NELAP	LA
10184404	EPA 8260	1,2,3,4-Diepoxybutane	Accredited	NELAP	LA
10184404	EPA 8260	1,2,3-Trichlorobenzene	Accredited	NELAP	LA
10184404	EPA 8260	1,2,3-Trichloropropane	Accredited	NELAP	LA
10184404	EPA 8260	1,2,4-Trichlorobenzene	Accredited	NELAP	LA
10184404	EPA 8260	1,2,4-Trimethylbenzene	Accredited	NELAP	LA
10184404	EPA 8260	1,2-Dibromo-3-chloropropane (DBCP)	Accredited	NELAP	LA
10184404	EPA 8260	1,2-Dibromoethane (EDB, Ethylene dibromide)	Accredited	NELAP	LA
10184404	EPA 8260	1,2-Dichlorobenzene	Accredited	NELAP	LA

Organization

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Pace Analytical Services, Inc. - St. Rose
1000 Riverbend, Suite F
St. Rose, LA 70087

RCRA Certification

Method Code	Method Ref	Analyte	Status	Type	AA
10184404	EPA 8260	1,2-Dichloroethane	Accredited	NELAP	LA
10184404	EPA 8260	1,2-Dichloropropane	Accredited	NELAP	LA
10184404	EPA 8260	1,3,5-Trimethylbenzene	Accredited	NELAP	LA
10184404	EPA 8260	1,3-Dichloro-2-propanol	Accredited	NELAP	LA
10184404	EPA 8260	1,3-Dichlorobenzene	Accredited	NELAP	LA
10184404	EPA 8260	1,3-Dichloropropane	Accredited	NELAP	LA
10184404	EPA 8260	1,4-Dichlorobenzene	Accredited	NELAP	LA
10184404	EPA 8260	1,4-Dioxane (1,4- Diethyleneoxide)	Accredited	NELAP	LA
10184404	EPA 8260	1-Chlorobutane	Accredited	NELAP	LA
10184404	EPA 8260	1-Chlorohexane	Accredited	NELAP	LA
10184404	EPA 8260	1-Propanol	Accredited	NELAP	LA
10184404	EPA 8260	2,2-Dichloropropane	Accredited	NELAP	LA
10184404	EPA 8260	2-Butanone (Methyl ethyl ketone, MEK)	Accredited	NELAP	LA
10184404	EPA 8260	2-Chloroethanol	Accredited	NELAP	LA
10184404	EPA 8260	2-Chloroethyl vinyl ether	Accredited	NELAP	LA
10184404	EPA 8260	2-Chlorotoluene	Accredited	NELAP	LA
10184404	EPA 8260	2-Hexanone	Accredited	NELAP	LA
10184404	EPA 8260	2-Hydroxypropionitrile	Accredited	NELAP	LA
10184404	EPA 8260	2-Nitropropane	Accredited	NELAP	LA
10184404	EPA 8260	2-Pentanone	Accredited	NELAP	LA
10184404	EPA 8260	2-Picoline (2-Methylpyridine)	Accredited	NELAP	LA
10184404	EPA 8260	2-Propanol	Accredited	NELAP	LA
10184404	EPA 8260	3-Chloropropionitrile	Accredited	NELAP	LA
10184404	EPA 8260	4-Chlorotoluene	Accredited	NELAP	LA
10184404	EPA 8260	4-Methyl-2-pentanone (MIBK)	Accredited	NELAP	LA
10184404	EPA 8260	Acetone	Accredited	NELAP	LA
10184404	EPA 8260	Acetonitrile	Accredited	NELAP	LA
10184404	EPA 8260	Acrolein (Propenal)	Accredited	NELAP	LA
10184404	EPA 8260	Acrylamide	Accredited	NELAP	LA
10184404	EPA 8260	Acrylonitrile	Accredited	NELAP	LA
10184404	EPA 8260	Allyl alcohol	Accredited	NELAP	LA
10184404	EPA 8260	Allyl chloride (3-Chloropropene)	Accredited	NELAP	LA
10184404	EPA 8260	Benzene	Accredited	NELAP	LA
10184404	EPA 8260	Benzyl chloride	Accredited	NELAP	LA
10184404	EPA 8260	beta-Propiolactone	Accredited	NELAP	LA
10184404	EPA 8260	bis(2-Chloroethyl) sulfide	Accredited	NELAP	LA
10184404	EPA 8260	bis(2-Chloroisopropyl) ether	Accredited	NELAP	LA
10184404	EPA 8260	Bromoacetone	Accredited	NELAP	LA
10184404	EPA 8260	Bromobenzene	Accredited	NELAP	LA
10184404	EPA 8260	Bromochloromethane	Accredited	NELAP	LA
10184404	EPA 8260	Bromodichloromethane	Accredited	NELAP	LA
10184404	EPA 8260	Bromoform	Accredited	NELAP	LA
10184404	EPA 8260	Carbon disulfide	Accredited	NELAP	LA

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Method Code	Method Ref	Analyte	Status	Type	AA
10184404	EPA 8260	Carbon tetrachloride	Accredited	NELAP	LA
10184404	EPA 8260	Chloral hydrate	Accredited	NELAP	LA
10184404	EPA 8260	Chloroacetonitrile	Accredited	NELAP	LA
10184404	EPA 8260	Chlorobenzene	Accredited	NELAP	LA
10184404	EPA 8260	Chloroethane	Accredited	NELAP	LA
10184404	EPA 8260	Chloroform	Accredited	NELAP	LA
10184404	EPA 8260	Chloromethyl methyl ether	Accredited	NELAP	LA
10184404	EPA 8260	Chloroprene	Accredited	NELAP	LA
10184404	EPA 8260	cis & trans-1,2-Dichloroethene	Accredited	NELAP	LA
10184404	EPA 8260	cis-1,2-Dichloroethylene	Accredited	NELAP	LA
10184404	EPA 8260	cis-1,3-Dichloropropene	Accredited	NELAP	LA
10184404	EPA 8260	cis-1,4-Dichloro-2-butene	Accredited	NELAP	LA
10184404	EPA 8260	Crotonaldehyde	Accredited	NELAP	LA
10184404	EPA 8260	Dibromochloromethane	Accredited	NELAP	LA
10184404	EPA 8260	Dibromochloropropane	Accredited	NELAP	LA
10184404	EPA 8260	Dibromofluoromethane	Accredited	NELAP	LA
10184404	EPA 8260	Dibromomethane	Accredited	NELAP	LA
10184404	EPA 8260	Dichlorodifluoromethane	Accredited	NELAP	LA
10184404	EPA 8260	Diethyl ether	Accredited	NELAP	LA
10184404	EPA 8260	Epichlorohydrin (1-Chloro-2,3-epoxypropane)	Accredited	NELAP	LA
10184404	EPA 8260	Ethanol	Accredited	NELAP	LA
10184404	EPA 8260	Ethyl acetate	Accredited	NELAP	LA
10184404	EPA 8260	Ethyl methacrylate	Accredited	NELAP	LA
10184404	EPA 8260	Ethylbenzene	Accredited	NELAP	LA
10184404	EPA 8260	Ethylene glycol	Accredited	NELAP	LA
10184404	EPA 8260	Ethylene oxide	Accredited	NELAP	LA
10184404	EPA 8260	Hexachlorobutadiene	Accredited	NELAP	LA
10184404	EPA 8260	Hexachloroethane	Accredited	NELAP	LA
10184404	EPA 8260	Iodomethane (Methyl iodide)	Accredited	NELAP	LA
10184404	EPA 8260	Isobutyl alcohol (2-Methyl-1-propanol)	Accredited	NELAP	LA
10184404	EPA 8260	Isopropyl alcohol (2-Propanol)	Accredited	NELAP	LA
10184404	EPA 8260	Isopropyl ether	Accredited	NELAP	LA
10184404	EPA 8260	Isopropylbenzene	Accredited	NELAP	LA
10184404	EPA 8260	Malononitrile	Accredited	NELAP	LA
10184404	EPA 8260	Methacrylonitrile	Accredited	NELAP	LA
10184404	EPA 8260	Methanol	Accredited	NELAP	LA
10184404	EPA 8260	Methyl acrylate	Accredited	NELAP	LA
10184404	EPA 8260	Methyl bromide (Bromomethane)	Accredited	NELAP	LA
10184404	EPA 8260	Methyl chloride (Chloromethane)	Accredited	NELAP	LA
10184404	EPA 8260	Methyl methacrylate	Accredited	NELAP	LA
10184404	EPA 8260	Methyl tert-butyl ether (MTBE)	Accredited	NELAP	LA
10184404	EPA 8260	Methylene chloride	Accredited	NELAP	LA
10184404	EPA 8260	m-Xylene	Accredited	NELAP	LA

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Method Code	Method Ref	Analyte	Status	Type	AA
10184404	EPA 8260	Naphthalene	Accredited	NELAP	LA
10184404	EPA 8260	n-Butyl alcohol	Accredited	NELAP	LA
10184404	EPA 8260	n-Butylbenzene	Accredited	NELAP	LA
10184404	EPA 8260	Nitrobenzene	Accredited	NELAP	LA
10184404	EPA 8260	n-Nitroso-di-n-butylamine	Accredited	NELAP	LA
10184404	EPA 8260	n-Propanol	Accredited	NELAP	LA
10184404	EPA 8260	n-Propylamine	Accredited	NELAP	LA
10184404	EPA 8260	n-Propylbenzene	Accredited	NELAP	LA
10184404	EPA 8260	o-Toluidine	Accredited	NELAP	LA
10184404	EPA 8260	o-Xylene	Accredited	NELAP	LA
10184404	EPA 8260	Paraldehyde	Accredited	NELAP	LA
10184404	EPA 8260	p-Dioxane	Accredited	NELAP	LA
10184404	EPA 8260	Pentachloroethane	Accredited	NELAP	LA
10184404	EPA 8260	Pentafluorobenzene	Accredited	NELAP	LA
10184404	EPA 8260	p-Isopropyltoluene	Accredited	NELAP	LA
10184404	EPA 8260	Propargyl alcohol	Accredited	NELAP	LA
10184404	EPA 8260	Propionitrile (Ethyl cyanide)	Accredited	NELAP	LA
10184404	EPA 8260	p-Xylene	Accredited	NELAP	LA
10184404	EPA 8260	Pyridine	Accredited	NELAP	LA
10184404	EPA 8260	sec-Butylbenzene	Accredited	NELAP	LA
10184404	EPA 8260	Styrene	Accredited	NELAP	LA
10184404	EPA 8260	tert-Butyl alcohol	Accredited	NELAP	LA
10184404	EPA 8260	tert-Butylbenzene	Accredited	NELAP	LA
10184404	EPA 8260	Tetrachloroethylene (Perchloroethylene)	Accredited	NELAP	LA
10184404	EPA 8260	Toluene	Accredited	NELAP	LA
10184404	EPA 8260	trans-1,2-Dicloroethylene	Accredited	NELAP	LA
10184404	EPA 8260	trans-1,3-Dichloropropylene	Accredited	NELAP	LA
10184404	EPA 8260	trans-1,4-Dichloro-2-butene	Accredited	NELAP	LA
10184404	EPA 8260	Trichloroethene (Trichloroethylene)	Accredited	NELAP	LA
10184404	EPA 8260	Trichlorofluoromethane	Accredited	NELAP	LA
10184404	EPA 8260	Vinyl acetate	Accredited	NELAP	LA
10184404	EPA 8260	Vinyl chloride	Accredited	NELAP	LA
10184404	EPA 8260	Xylene (total)	Accredited	NELAP	LA
10185203	EPA 8270	1,2,3,4-Tetrachlorobenzene	Accredited	NELAP	LA
10185203	EPA 8270	1,2,3,5-Tetrachlorobenzene	Accredited	NELAP	LA
10185203	EPA 8270	1,2,4,5-Tetrachlorobenzene	Accredited	NELAP	LA
10185203	EPA 8270	1,2,4-Trichlorobenzene	Accredited	NELAP	LA
10185203	EPA 8270	1,2-Dichlorobenzene	Accredited	NELAP	LA
10185203	EPA 8270	1,2-Dinitrobenzene	Accredited	NELAP	LA
10185203	EPA 8270	1,2-Diphenylhydrazine	Accredited	NELAP	LA
10185203	EPA 8270	1,3,5-Trib (1,3,5-trinitrobenzene)	Accredited	NELAP	LA
10185203	EPA 8270	1,3,5-Trichlorobenzene	Accredited	NELAP	LA
10185203	EPA 8270	1,3,5-Trinitrobenzene (1,3,5-TNB)	Accredited	NELAP	LA

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Method Code	Method Ref	Analyte	Status	Type	AA
10185203	EPA 8270	1,3-Dichlorobenzene	Accredited	NELAP	LA
10185203	EPA 8270	1,3-Dinitrobenzene (1,3-DNB)	Accredited	NELAP	LA
10185203	EPA 8270	1,4-Dichlorobenzene	Accredited	NELAP	LA
10185203	EPA 8270	1,4-Dinitrobenzene	Accredited	NELAP	LA
10185203	EPA 8270	1,4-Naphthoquinone	Accredited	NELAP	LA
10185203	EPA 8270	1,4-Phenylenediamine	Accredited	NELAP	LA
10185203	EPA 8270	1-Acetyl-2-thiourea	Accredited	NELAP	LA
10185203	EPA 8270	1-Chloronaphthalene	Accredited	NELAP	LA
10185203	EPA 8270	1-Naphthylamine	Accredited	NELAP	LA
10185203	EPA 8270	2,3,4,6-Tetrachlorophenol	Accredited	NELAP	LA
10185203	EPA 8270	2,3,5,6-Tetrachlorophenol	Accredited	NELAP	LA
10185203	EPA 8270	2,4,5-Trichlorophenol	Accredited	NELAP	LA
10185203	EPA 8270	2,4,5-Trimethylaniline	Accredited	NELAP	LA
10185203	EPA 8270	2,4,6-Trichlorophenol	Accredited	NELAP	LA
10185203	EPA 8270	2,4,6-Trinitrotoluene (2,4,6-TNT)	Accredited	NELAP	LA
10185203	EPA 8270	2,4-Diaminotoluene	Accredited	NELAP	LA
10185203	EPA 8270	2,4-Dichlorophenol	Accredited	NELAP	LA
10185203	EPA 8270	2,4-Dimethylphenol	Accredited	NELAP	LA
10185203	EPA 8270	2,4-Dinitrophenol	Accredited	NELAP	LA
10185203	EPA 8270	2,4-Dinitrotoluene (2,4-DNT)	Accredited	NELAP	LA
10185203	EPA 8270	2,6-Dichlorophenol	Accredited	NELAP	LA
10185203	EPA 8270	2,6-Dinitrotoluene (2,6-DNT)	Accredited	NELAP	LA
10185203	EPA 8270	2-Acetylaminofluorene	Accredited	NELAP	LA
10185203	EPA 8270	2-Amino-4,6-dinitrotoluene (2-am-dnt)	Accredited	NELAP	LA
10185203	EPA 8270	2-Aminoanthraquinone	Accredited	NELAP	LA
10185203	EPA 8270	2-Chloronaphthalene	Accredited	NELAP	LA
10185203	EPA 8270	2-Chlorophenol	Accredited	NELAP	LA
10185203	EPA 8270	2-Cyclohexyl-4,6-dinitrophenol	Accredited	NELAP	LA
10185203	EPA 8270	2-Methyl-4,6-dinitrophenol	Accredited	NELAP	LA
10185203	EPA 8270	2-Methylnaphthalene	Accredited	NELAP	LA
10185203	EPA 8270	2-Methylphenol (o-Cresol)	Accredited	NELAP	LA
10185203	EPA 8270	2-Naphthylamine	Accredited	NELAP	LA
10185203	EPA 8270	2-Nitroaniline	Accredited	NELAP	LA
10185203	EPA 8270	2-Nitrophenol	Accredited	NELAP	LA
10185203	EPA 8270	2-Nitrotoluene	Accredited	NELAP	LA
10185203	EPA 8270	2-Picoline (2-Methylpyridine)	Accredited	NELAP	LA
10185203	EPA 8270	2-Sec-butyl-4,6-dinitrophenol (DNBP, Dinoseb)	Accredited	NELAP	LA
10185203	EPA 8270	3-(Chloromethyl) pyridine hydrochloride	Accredited	NELAP	LA
10185203	EPA 8270	3,3'-Dichlorobenzidine	Accredited	NELAP	LA
10185203	EPA 8270	3,3'-Dimethoxybenzidine	Accredited	NELAP	LA
10185203	EPA 8270	3,3'-Dimethylbenzidine	Accredited	NELAP	LA
10185203	EPA 8270	3-Amino-9-ethylcarbazole	Accredited	NELAP	LA
10185203	EPA 8270	3-Methylcholanthrene	Accredited	NELAP	LA

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1000 Riverbend, Suite F
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Method Code	Method Ref	Analyte	Status	Type	AA
10185203	EPA 8270	3-Methylphenol (m-Cresol)	Accredited	NELAP	LA
10185203	EPA 8270	3-Nitroaniline	Accredited	NELAP	LA
10185203	EPA 8270	3-Nitrotoluene	Accredited	NELAP	LA
10185203	EPA 8270	4,4'-Methylenebis(2-chloroaniline)	Accredited	NELAP	LA
10185203	EPA 8270	4,4'-Methylenebis(n, n-dimethylaniline)	Accredited	NELAP	LA
10185203	EPA 8270	4,4'-Oxydianiline	Accredited	NELAP	LA
10185203	EPA 8270	4-Amino-2,6-dinitrotoluene (4-am-dnt)	Accredited	NELAP	LA
10185203	EPA 8270	4-Aminobiphenyl	Accredited	NELAP	LA
10185203	EPA 8270	4-Bromophenyl phenyl ether	Accredited	NELAP	LA
10185203	EPA 8270	4-Chloro-1,2-phenylenediamine	Accredited	NELAP	LA
10185203	EPA 8270	4-Chloro-1,3-phenylenediamine	Accredited	NELAP	LA
10185203	EPA 8270	4-Chloro-3-methylphenol	Accredited	NELAP	LA
10185203	EPA 8270	4-Chloroaniline	Accredited	NELAP	LA
10185203	EPA 8270	4-Chlorophenol	Accredited	NELAP	LA
10185203	EPA 8270	4-Chlorophenyl phenylether	Accredited	NELAP	LA
0185203	EPA 8270	4-Dimethyl aminoazobenzene	Accredited	NELAP	LA
10185203	EPA 8270	4-Methylphenol (p-Cresol)	Accredited	NELAP	LA
10185203	EPA 8270	4-Nitroaniline	Accredited	NELAP	LA
10185203	EPA 8270	4-Nitrobiphenyl	Accredited	NELAP	LA
10185203	EPA 8270	4-Nitrophenol	Accredited	NELAP	LA
10185203	EPA 8270	4-Nitrotoluene	Accredited	NELAP	LA
10185203	EPA 8270	5,5-Diphenylhydantoin	Accredited	NELAP	LA
10185203	EPA 8270	5-Chloro-2-methylaniline	Accredited	NELAP	LA
10185203	EPA 8270	5-Nitroacenaphthene	Accredited	NELAP	LA
10185203	EPA 8270	5-Nitro-o-anisidine	Accredited	NELAP	LA
10185203	EPA 8270	5-Nitro-o-toluidine	Accredited	NELAP	LA
10185203	EPA 8270	7,12-Dimethylbenz(a) anthracene	Accredited	NELAP	LA
10185203	EPA 8270	7h-Dibenzo(c, g) carbazole	Accredited	NELAP	LA
10185203	EPA 8270	a-a-Dimethylphenethylamine	Accredited	NELAP	LA
10185203	EPA 8270	Acenaphthene	Accredited	NELAP	LA
10185203	EPA 8270	Acenaphthylene	Accredited	NELAP	LA
10185203	EPA 8270	Acetophenone	Accredited	NELAP	LA
10185203	EPA 8270	Aminoazobenzene	Accredited	NELAP	LA
10185203	EPA 8270	Aniline	Accredited	NELAP	LA
10185203	EPA 8270	Anthracene	Accredited	NELAP	LA
10185203	EPA 8270	Benzidine	Accredited	NELAP	LA
10185203	EPA 8270	Benzo(a)anthracene	Accredited	NELAP	LA
10185203	EPA 8270	Benzo(a)pyrene	Accredited	NELAP	LA
10185203	EPA 8270	Benzo(g,h,i)perylene	Accredited	NELAP	LA
10185203	EPA 8270	Benzo(j)fluoranthene	Accredited	NELAP	LA
10185203	EPA 8270	Benzo(k)fluoranthene	Accredited	NELAP	LA
10185203	EPA 8270	Benzo[b]fluoranthene	Accredited	NELAP	LA
10185203	EPA 8270	Benzoic acid	Accredited	NELAP	LA

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1000 Riverbend, Suite F
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RCRA Certification

Method Code	Method Ref	Analyte	Status	Type	AA
10185203	EPA 8270	Benzyl alcohol	Accredited	NELAP	LA
10185203	EPA 8270	beta-Nephthylamine	Accredited	NELAP	LA
10185203	EPA 8270	bis(2-Chloroethoxy)methane	Accredited	NELAP	LA
10185203	EPA 8270	bis(2-Chloroethyl) ether	Accredited	NELAP	LA
10185203	EPA 8270	bis(2-Chloroisopropyl) ether	Accredited	NELAP	LA
10185203	EPA 8270	bis(2-Ethylhexyl) phthalate (DEHP)	Accredited	NELAP	LA
10185203	EPA 8270	Bromoxynil octanate	Accredited	NELAP	LA
10185203	EPA 8270	Butyl benzyl phthalate	Accredited	NELAP	LA
10185203	EPA 8270	Caffeine	Accredited	NELAP	LA
10185203	EPA 8270	Carbazole	Accredited	NELAP	LA
10185203	EPA 8270	Chrysene	Accredited	NELAP	LA
10185203	EPA 8270	Dibenz(a, h) acridine	Accredited	NELAP	LA
10185203	EPA 8270	Dibenz(a, j) acridine	Accredited	NELAP	LA
10185203	EPA 8270	Dibenz(a,h) anthracene	Accredited	NELAP	LA
10185203	EPA 8270	Dibenzo(a, h) pyrene	Accredited	NELAP	LA
10185203	EPA 8270	Dibenzo(a, l) pyrene	Accredited	NELAP	LA
10185203	EPA 8270	Dibenzo(a,e) pyrene	Accredited	NELAP	LA
10185203	EPA 8270	Dibenzofuran	Accredited	NELAP	LA
10185203	EPA 8270	Dibenzothiophene	Accredited	NELAP	LA
10185203	EPA 8270	Dibromochloropropane	Accredited	NELAP	LA
10185203	EPA 8270	Diethyl phthalate	Accredited	NELAP	LA
10185203	EPA 8270	Diethyl sulfate	Accredited	NELAP	LA
10185203	EPA 8270	Diethylstilbestrol	Accredited	NELAP	LA
10185203	EPA 8270	Dihydrosafrole	Accredited	NELAP	LA
10185203	EPA 8270	Dimethyl phthalate	Accredited	NELAP	LA
10185203	EPA 8270	Di-n-butyl phthalate	Accredited	NELAP	LA
10185203	EPA 8270	Di-n-octyl phthalate	Accredited	NELAP	LA
10185203	EPA 8270	Diphenylamine	Accredited	NELAP	LA
10185203	EPA 8270	Ethyl carbamate (Urethane)	Accredited	NELAP	LA
10185203	EPA 8270	Ethyl methanesulfonate	Accredited	NELAP	LA
10185203	EPA 8270	Famphur	Accredited	NELAP	LA
10185203	EPA 8270	Fluoranthene	Accredited	NELAP	LA
10185203	EPA 8270	Fluorene	Accredited	NELAP	LA
10185203	EPA 8270	Hexachlorobenzene	Accredited	NELAP	LA
10185203	EPA 8270	Hexachlorobutadiene	Accredited	NELAP	LA
10185203	EPA 8270	Hexachlorocyclopentadiene	Accredited	NELAP	LA
10185203	EPA 8270	Hexachloroethane	Accredited	NELAP	LA
10185203	EPA 8270	Hexachlorophene	Accredited	NELAP	LA
10185203	EPA 8270	Hexachloropropene	Accredited	NELAP	LA
10185203	EPA 8270	Hexamethylphosphoramide (HMPA)	Accredited	NELAP	LA
10185203	EPA 8270	Hydroquinone	Accredited	NELAP	LA
10185203	EPA 8270	Indeno	Accredited	NELAP	LA
10185203	EPA 8270	Isophorone	Accredited	NELAP	LA

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RCRA Certification

Method Code	Method Ref	Analyte	Status	Type	AA
10185203	EPA 8270	Isosafrole	Accredited	NELAP	LA
10185203	EPA 8270	Leptophos	Accredited	NELAP	LA
10185203	EPA 8270	Maleic anhydride	Accredited	NELAP	LA
10185203	EPA 8270	Mestranol	Accredited	NELAP	LA
10185203	EPA 8270	Methapyrilene	Accredited	NELAP	LA
10185203	EPA 8270	Methyl methanesulfonate	Accredited	NELAP	LA
10185203	EPA 8270	Mexacarbate	Accredited	NELAP	LA
10185203	EPA 8270	Naphthalene	Accredited	NELAP	LA
10185203	EPA 8270	Nicotine	Accredited	NELAP	LA
10185203	EPA 8270	Nitrobenzene	Accredited	NELAP	LA
10185203	EPA 8270	Nitroquinoline-1-oxide	Accredited	NELAP	LA
10185203	EPA 8270	n-Nitrosodiethylamine	Accredited	NELAP	LA
10185203	EPA 8270	n-Nitrosodimethylamine	Accredited	NELAP	LA
10185203	EPA 8270	n-Nitroso-di-n-butylamine	Accredited	NELAP	LA
10185203	EPA 8270	n-Nitrosodi-n-propylamine	Accredited	NELAP	LA
10185203	EPA 8270	n-Nitrosodiphenylamine	Accredited	NELAP	LA
10185203	EPA 8270	n-Nitrosomethylethalamine	Accredited	NELAP	LA
10185203	EPA 8270	n-Nitrosomorpholine	Accredited	NELAP	LA
10185203	EPA 8270	n-Nitrosopiperidine	Accredited	NELAP	LA
10185203	EPA 8270	n-Nitrosopyrrolidine	Accredited	NELAP	LA
10185203	EPA 8270	o,o,o-Triethyl phosphorothioate	Accredited	NELAP	LA
10185203	EPA 8270	o-Anisidine	Accredited	NELAP	LA
10185203	EPA 8270	Octahydro-1,3,5,7-tetranitro 1,3,5,7-tetrazocine (HMX)	Accredited	NELAP	LA
10185203	EPA 8270	Octamethyl pyrophosphoramide	Accredited	NELAP	LA
10185203	EPA 8270	o-Toluidine	Accredited	NELAP	LA
10185203	EPA 8270	p-Benzoquinone	Accredited	NELAP	LA
10185203	EPA 8270	p-Cresidine	Accredited	NELAP	LA
10185203	EPA 8270	p-DIMETHYLAMINOAZOBENZENE	Accredited	NELAP	LA
10185203	EPA 8270	Pentachlorobenzene	Accredited	NELAP	LA
10185203	EPA 8270	Pentachloronitrobenzene	Accredited	NELAP	LA
10185203	EPA 8270	Pentachlorophenol	Accredited	NELAP	LA
10185203	EPA 8270	Pesticides	Accredited	NELAP	LA
10185203	EPA 8270	Phenacetin	Accredited	NELAP	LA
10185203	EPA 8270	Phenanthrene	Accredited	NELAP	LA
10185203	EPA 8270	Phenobarbital	Accredited	NELAP	LA
10185203	EPA 8270	Phenol	Accredited	NELAP	LA
10185203	EPA 8270	Phthalic anhydride	Accredited	NELAP	LA
10185203	EPA 8270	Propylthiouracil	Accredited	NELAP	LA
10185203	EPA 8270	Pyrene	Accredited	NELAP	LA
10185203	EPA 8270	Pyridine	Accredited	NELAP	LA
10185203	EPA 8270	Resorcinol	Accredited	NELAP	LA
10185203	EPA 8270	Safrole	Accredited	NELAP	LA

Organization

02006 (504) 469-0333

Pace Analytical Services, Inc. - St. Rose
1000 Riverbend, Suite F
St. Rose, LA 70087

RCRA Certification

Method Code	Method Ref	Analyte	Status	Type	AA
10185203	EPA 8270	Strychnine	Accredited	NELAP	LA
10185203	EPA 8270	Sulfallate	Accredited	NELAP	LA
10185203	EPA 8270	Tetraethyl pyrophosphate (TEPP)	Accredited	NELAP	LA
10185203	EPA 8270	Tetryl (methyl-2,4,6-trinitrophenylnitramine)	Accredited	NELAP	LA
10185203	EPA 8270	Thiophenol (Benzenethiol)	Accredited	NELAP	LA
10185203	EPA 8270	Toluene diisocyanate	Accredited	NELAP	LA
10185203	EPA 8270	Trimethyl phosphate	Accredited	NELAP	LA
10185203	EPA 8270	Tri-p-tolyl phosphate	Accredited	NELAP	LA
10185203	EPA 8270	tris-(2,3-Dibromopropyl) phosphate (tris-BP)	Accredited	NELAP	LA
10187607	EPA 8310	1-Methylnaphthalene	Accredited	NELAP	LA
10187607	EPA 8310	2-Methylnaphthalene	Accredited	NELAP	LA
10187607	EPA 8310	Acenaphthene	Accredited	NELAP	LA
10187607	EPA 8310	Acenaphthylene	Accredited	NELAP	LA
10187607	EPA 8310	Anthracene	Accredited	NELAP	LA
10187607	EPA 8310	Benzo(a)anthracene	Accredited	NELAP	LA
10187607	EPA 8310	Benzo(a)pyrene	Accredited	NELAP	LA
10187607	EPA 8310	Benzo(g,h,i)perylene	Accredited	NELAP	LA
10187607	EPA 8310	Benzo(j)fluoranthene	Accredited	NELAP	LA
10187607	EPA 8310	Benzo(k)fluoranthene	Accredited	NELAP	LA
10187607	EPA 8310	Benzo(b)fluoranthene	Accredited	NELAP	LA
10187607	EPA 8310	Benzoic acid	Accredited	NELAP	LA
10187607	EPA 8310	Chrysene	Accredited	NELAP	LA
10187607	EPA 8310	Dibenz(a,h) anthracene	Accredited	NELAP	LA
10187607	EPA 8310	Fluoranthene	Accredited	NELAP	LA
10187607	EPA 8310	Fluorene	Accredited	NELAP	LA
10187607	EPA 8310	Indeno	Accredited	NELAP	LA
10187607	EPA 8310	Naphthalene	Accredited	NELAP	LA
10187607	EPA 8310	Pentachlorophenol	Accredited	NELAP	LA
10187607	EPA 8310	Phenanthrene	Accredited	NELAP	LA
10187607	EPA 8310	Pyrene	Accredited	NELAP	LA
10192606	EPA 9010	Amenable cyanide	Accredited	NELAP	LA
10192606	EPA 9010	Total cyanide	Accredited	NELAP	LA
10193201	EPA 9012	Amenable cyanide	Accredited	NELAP	LA
10193201	EPA 9012	Total cyanide	Accredited	NELAP	LA
10193803	EPA 9014	Cyanide	Accredited	NELAP	LA
10195207	EPA 9030	Sulfide	Accredited	NELAP	LA
10196006	EPA 9034	Sulfide	Accredited	NELAP	LA
10196006	EPA 9034	Total sulfides	Accredited	NELAP	LA
10196404	EPA 9036	Sulfate	Accredited	NELAP	LA
10196608	EPA 9038	Sulfate	Accredited	NELAP	LA
10196802	EPA 9040	Corrosivity (pH)	Accredited	NELAP	LA
10196802	EPA 9040	pH	Accredited	NELAP	LA
10197805	EPA 9045	pH	Accredited	NELAP	LA

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St. Rose, LA 70087

RCRA Certification

Method Code	Method Ref	Analyte	Status	Type	AA
10198604	EPA 9050	Conductivity	Accredited	NELAP	LA
10200201	EPA 9060	Total organic carbon	Accredited	NELAP	LA
10200405	EPA 9065	Total phenolics	Accredited	NELAP	LA
10200609	EPA 9066	Total phenolics	Accredited	NELAP	LA
10201204	EPA 9071	Oil & Grease	Accredited	NELAP	LA
10204009	EPA 9095	PAINT FILTER LIQUIDS TEST	Accredited	NELAP	LA
10207406	EPA 9251	Chloride	Accredited	NELAP	LA
10208001	EPA 9253	Chloride	Accredited	NELAP	LA

CWA Certification

Method Code	Method Ref	Analyte	Status	Type	AA
596	HACH8167	Chlorine	Accredited	NELAP	LA
650	TKN - NH3 calc.	Organic nitrogen	Accredited	NELAP	LA
657	Sec. 7.3 SW-846	REACTIVE CYANIDE	Accredited	NELAP	LA
657	Sec. 7.3 SW-846	Reactive sulfide	Accredited	NELAP	LA
10007008	EPA 130.2	Total hardness as CaCO3	Accredited	NELAP	LA
10008205	EPA 150.1	pH	Accredited	NELAP	LA
10008208	EPA 160.1	Residue-filterable (TDS)	Accredited	NELAP	LA
10009402	EPA 160.2	Residue-nonfilterable (TSS)	Accredited	NELAP	LA
10009800	EPA 160.3	Residue-total	Accredited	NELAP	LA
10010205	EPA 160.4	Volatile suspended solids	Accredited	NELAP	LA
10010807	EPA 160.5	Residue-settleable	Accredited	NELAP	LA
10011402	EPA 180.1	Turbidity	Accredited	NELAP	LA
10013408	EPA 200.7	Potassium	Accredited	NELAP	LA
10013602	EPA 200.7	Aluminum	Accredited	NELAP	LA
10013602	EPA 200.7	Antimony	Accredited	NELAP	LA
10013602	EPA 200.7	Arsenic	Accredited	NELAP	LA
10013602	EPA 200.7	Barium	Accredited	NELAP	LA
10013602	EPA 200.7	Beryllium	Accredited	NELAP	LA
10013602	EPA 200.7	Cadmium	Accredited	NELAP	LA
10013602	EPA 200.7	Calcium	Accredited	NELAP	LA
10013602	EPA 200.7	Chromium	Accredited	NELAP	LA
10013602	EPA 200.7	Cobalt	Accredited	NELAP	LA
10013602	EPA 200.7	Copper	Accredited	NELAP	LA
10013602	EPA 200.7	Iron	Accredited	NELAP	LA
10013602	EPA 200.7	Lead	Accredited	NELAP	LA
10013602	EPA 200.7	Magnesium	Accredited	NELAP	LA
10013602	EPA 200.7	Manganese	Accredited	NELAP	LA
10013602	EPA 200.7	Molybdenum	Accredited	NELAP	LA
10013602	EPA 200.7	Nickel	Accredited	NELAP	LA

Organization

02006 (504) 469-0333

Pace Analytical Services, Inc. - St. Rose
1000 Riverbend, Suite F
St. Rose, LA 70087

CWA Certification

Method Code	Method Ref	Analyte	Status	Type	AA
10013602	EPA 200.7	Selenium	Accredited	NELAP	LA
10013602	EPA 200.7	Silver	Accredited	NELAP	LA
10013602	EPA 200.7	Sodium	Accredited	NELAP	LA
10013602	EPA 200.7	Thallium	Accredited	NELAP	LA
10013602	EPA 200.7	Vanadium	Accredited	NELAP	LA
10013602	EPA 200.7	Zinc	Accredited	NELAP	LA
10036609	EPA 245.1	Mercury	Accredited	NELAP	LA
10037000	EPA 245.2	Mercury	Accredited	NELAP	LA
10054601	EPA 310.1	Alkalinity as CaCO3	Accredited	NELAP	LA
10057008	EPA 325.2	Chloride	Accredited	NELAP	LA
10057406	EPA 325.3	Chloride	Accredited	NELAP	LA
10059600	EPA 335.1	Amenable cyanide	Accredited	NELAP	LA
10060205	EPA 335.2	Total cyanide	Accredited	NELAP	LA
10060807	EPA 335.3	Total cyanide	Accredited	NELAP	LA
10063204	EPA 350.1	Ammonia as N	Accredited	NELAP	LA
10065006	EPA 351.2	Kjeldahl nitrogen	Accredited	NELAP	LA
10067206	EPA 353.2	Total nitrate-nitrite	Accredited	NELAP	LA
10070607	EPA 365.3	Orthophosphate as P	Accredited	NELAP	LA
10071008	EPA 365.4	Phosphorus, total	Accredited	NELAP	LA
10073800	EPA 375.4	Sulfate	Accredited	NELAP	LA
10074201	EPA 376.1	Sulfide	Accredited	NELAP	LA
10075408	EPA 405.1	Biochemical oxygen demand	Accredited	NELAP	LA
10077200	EPA 410.4	Chemical oxygen demand	Accredited	NELAP	LA
10077608	EPA 413.1	Oil & Grease	Accredited	NELAP	LA
10078407	EPA 415.1	Total organic carbon	Accredited	NELAP	LA
10079208	EPA 420.1	Total phenolics	Accredited	NELAP	LA
10079604	EPA 420.2	Total phenolics	Accredited	NELAP	LA
10102202	EPA 602	1,2-Dichlorobenzene	Accredited	NELAP	LA
10102202	EPA 602	1,3-Dichlorobenzene	Accredited	NELAP	LA
10102202	EPA 602	1,4-Dichlorobenzene	Accredited	NELAP	LA
10102202	EPA 602	Benzene	Accredited	NELAP	LA
10102202	EPA 602	Chlorobenzene	Accredited	NELAP	LA
10102202	EPA 602	Ethylbenzene	Accredited	NELAP	LA
10102202	EPA 602	Isopropyl ether	Accredited	NELAP	LA
10102202	EPA 602	Methyl tert-butyl ether (MTBE)	Accredited	NELAP	LA
10102202	EPA 602	Naphthalene	Accredited	NELAP	LA
10102202	EPA 602	Toluene	Accredited	NELAP	LA
10102202	EPA 602	Xylene (total)	Accredited	NELAP	LA
10103603	EPA 608	4,4'-DDD	Accredited	NELAP	LA
10103603	EPA 608	4,4'-DDE	Accredited	NELAP	LA
10103603	EPA 608	4,4'-DDT	Accredited	NELAP	LA
10103603	EPA 608	Aldrin	Accredited	NELAP	LA
10103603	EPA 608	alpha-BHC (alpha-Hexachlorocyclohexane)	Accredited	NELAP	LA

Organization

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Pace Analytical Services, Inc. - St. Rose
1000 Riverbend, Suite F
St. Rose, LA 70087

CWA Certification

Method Code	Method Ref	Analyte	Status	Type	AA
10103603	EPA 608	Aroclor-1016 (PCB-1016)	Accredited	NELAP	LA
10103603	EPA 608	Aroclor-1221 (PCB-1221)	Accredited	NELAP	LA
10103603	EPA 608	Aroclor-1232 (PCB-1232)	Accredited	NELAP	LA
10103603	EPA 608	Aroclor-1242 (PCB-1242)	Accredited	NELAP	LA
10103603	EPA 608	Aroclor-1248 (PCB-1248)	Accredited	NELAP	LA
10103603	EPA 608	Aroclor-1254 (PCB-1254)	Accredited	NELAP	LA
10103603	EPA 608	Aroclor-1260 (PCB-1260)	Accredited	NELAP	LA
10103603	EPA 608	beta-BHC (beta-Hexachlorocyclohexane)	Accredited	NELAP	LA
10103603	EPA 608	Chlordane (tech.)	Accredited	NELAP	LA
10103603	EPA 608	Dacthal (DCPA)	Accredited	NELAP	LA
10103603	EPA 608	delta-BHC	Accredited	NELAP	LA
10103603	EPA 608	Dieldrin	Accredited	NELAP	LA
10103603	EPA 608	Endosulfan I	Accredited	NELAP	LA
10103603	EPA 608	Endosulfan II	Accredited	NELAP	LA
10103603	EPA 608	Endosulfan sulfate	Accredited	NELAP	LA
10103603	EPA 608	Endrin	Accredited	NELAP	LA
10103603	EPA 608	Endrin aldehyde	Accredited	NELAP	LA
10103603	EPA 608	gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	Accredited	NELAP	LA
10103603	EPA 608	Heptachlor	Accredited	NELAP	LA
10103603	EPA 608	Heptachlor epoxide	Accredited	NELAP	LA
10103603	EPA 608	Isodrin	Accredited	NELAP	LA
10103603	EPA 608	Methoxychlor	Accredited	NELAP	LA
10103603	EPA 608	Mirex	Accredited	NELAP	LA
10103603	EPA 608	Toxaphene (Chlorinated camphene)	Accredited	NELAP	LA
10107207	EPA 624	1,1,1,2-Tetrachloroethane	Accredited	NELAP	LA
10107207	EPA 624	1,1,1-Trichloroethane	Accredited	NELAP	LA
10107207	EPA 624	1,1,2,2-Tetrachloroethane	Accredited	NELAP	LA
10107207	EPA 624	1,1,2-Trichloroethane	Accredited	NELAP	LA
10107207	EPA 624	1,1-Dichloroethane	Accredited	NELAP	LA
10107207	EPA 624	1,1-Dichloroethylene	Accredited	NELAP	LA
10107207	EPA 624	1,2-Dibromo-3-chloropropane (DBCP)	Accredited	NELAP	LA
10107207	EPA 624	1,2-Dibromoethane (EDB, Ethylene dibromide)	Accredited	NELAP	LA
10107207	EPA 624	1,2-Dichlorobenzene	Accredited	NELAP	LA
10107207	EPA 624	1,2-Dichloroethane	Accredited	NELAP	LA
10107207	EPA 624	1,2-Dichloropropane	Accredited	NELAP	LA
10107207	EPA 624	1,3-Dichlorobenzene	Accredited	NELAP	LA
10107207	EPA 624	1,4-Dichlorobenzene	Accredited	NELAP	LA
10107207	EPA 624	2-Chloroethyl vinyl ether	Accredited	NELAP	LA
10107207	EPA 624	Acrolein (Propenal)	Accredited	NELAP	LA
10107207	EPA 624	Acrylonitrile	Accredited	NELAP	LA
10107207	EPA 624	Benzene	Accredited	NELAP	LA
10107207	EPA 624	Bromodichloromethane	Accredited	NELAP	LA

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Pace Analytical Services, Inc. - St. Rose
1000 Riverbend, Suite F
St. Rose, LA 70087

CWA Certification

Method Code	Method Ref	Analyte	Status	Type	AA
10107207	EPA 624	Bromoform	Accredited	NELAP	LA
10107207	EPA 624	Carbon tetrachloride	Accredited	NELAP	LA
10107207	EPA 624	Chlorobenzene	Accredited	NELAP	LA
10107207	EPA 624	Chloroethane	Accredited	NELAP	LA
10107207	EPA 624	Chloroform	Accredited	NELAP	LA
10107207	EPA 624	cis-1,3-Dichloropropene	Accredited	NELAP	LA
10107207	EPA 624	Dibromochloromethane	Accredited	NELAP	LA
10107207	EPA 624	Dichlorodifluoromethane	Accredited	NELAP	LA
10107207	EPA 624	Ethylbenzene	Accredited	NELAP	LA
10107207	EPA 624	Isopropyl ether	Accredited	NELAP	LA
10107207	EPA 624	Methyl bromide (Bromomethane)	Accredited	NELAP	LA
10107207	EPA 624	Methyl chloride (Chloromethane)	Accredited	NELAP	LA
10107207	EPA 624	Methylene chloride	Accredited	NELAP	LA
10107207	EPA 624	Tetrachloroethylene (Perchloroethylene)	Accredited	NELAP	LA
10107207	EPA 624	Toluene	Accredited	NELAP	LA
10107207	EPA 624	trans-1,2-Dicloroethylene	Accredited	NELAP	LA
10107207	EPA 624	trans-1,3-Dichloropropylene	Accredited	NELAP	LA
10107207	EPA 624	Trichloroethene (Trichloroethylene)	Accredited	NELAP	LA
10107207	EPA 624	Trichlorofluoromethane	Accredited	NELAP	LA
10107207	EPA 624	Vinyl chloride	Accredited	NELAP	LA
10107207	EPA 624	Xylene (total)	Accredited	NELAP	LA
10107401	EPA 625	1,2,4-Trichlorobenzene	Accredited	NELAP	LA
10107401	EPA 625	1,2-Dichlorobenzene	Accredited	NELAP	LA
10107401	EPA 625	1,3-Dichlorobenzene	Accredited	NELAP	LA
10107401	EPA 625	1,4-Dichlorobenzene	Accredited	NELAP	LA
10107401	EPA 625	2,4,6-Trichlorophenol	Accredited	NELAP	LA
10107401	EPA 625	2,4-Dichlorophenol	Accredited	NELAP	LA
10107401	EPA 625	2,4-Dimethylphenol	Accredited	NELAP	LA
10107401	EPA 625	2,4-Dinitrophenol	Accredited	NELAP	LA
10107401	EPA 625	2,4-Dinitrotoluene (2,4-DNT)	Accredited	NELAP	LA
10107401	EPA 625	2,6-Dinitrotoluene (2,6-DNT)	Accredited	NELAP	LA
10107401	EPA 625	2-Chloronaphthalene	Accredited	NELAP	LA
10107401	EPA 625	2-Chlorophenol	Accredited	NELAP	LA
10107401	EPA 625	2-Methyl-4,6-dinitrophenol	Accredited	NELAP	LA
10107401	EPA 625	2-Methylnaphthalene	Accredited	NELAP	LA
10107401	EPA 625	2-Nitrophenol	Accredited	NELAP	LA
10107401	EPA 625	3,3'-Dichlorobenzidine	Accredited	NELAP	LA
10107401	EPA 625	4-Bromophenyl phenyl ether	Accredited	NELAP	LA
10107401	EPA 625	4-Chloro-3-methylphenol	Accredited	NELAP	LA
10107401	EPA 625	4-Chlorophenyl phenylether	Accredited	NELAP	LA
10107401	EPA 625	4-Nitrophenol	Accredited	NELAP	LA
10107401	EPA 625	Acenaphthene	Accredited	NELAP	LA
10107401	EPA 625	Acenaphthylene	Accredited	NELAP	LA

Organization

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CWA Certification

Method Code	Method Ref	Analyte	Status	Type	AA
10107401	EPA 625	Anthracene	Accredited	NELAP	LA
10107401	EPA 625	Benzidine	Accredited	NELAP	LA
10107401	EPA 625	Benzo(a)anthracene	Accredited	NELAP	LA
10107401	EPA 625	Benzo(a)pyrene	Accredited	NELAP	LA
10107401	EPA 625	Benzo(g,h,i)perylene	Accredited	NELAP	LA
10107401	EPA 625	Benzo(k)fluoranthene	Accredited	NELAP	LA
10107401	EPA 625	Benzo(b)fluoranthene	Accredited	NELAP	LA
10107401	EPA 625	bis(2-Chloroethoxy)methane	Accredited	NELAP	LA
10107401	EPA 625	bis(2-Chloroethyl) ether	Accredited	NELAP	LA
10107401	EPA 625	bis(2-Chloroisopropyl) ether	Accredited	NELAP	LA
10107401	EPA 625	bis(2-Ethylhexyl) phthalate (DEHP)	Accredited	NELAP	LA
10107401	EPA 625	Butyl benzyl phthalate	Accredited	NELAP	LA
10107401	EPA 625	Chrysene	Accredited	NELAP	LA
10107401	EPA 625	Dibenz(a,h) anthracene	Accredited	NELAP	LA
10107401	EPA 625	Diethyl phthalate	Accredited	NELAP	LA
10107401	EPA 625	Dimethyl phthalate	Accredited	NELAP	LA
10107401	EPA 625	Di-n-butyl phthalate	Accredited	NELAP	LA
10107401	EPA 625	Di-n-octyl phthalate	Accredited	NELAP	LA
10107401	EPA 625	Fluoranthene	Accredited	NELAP	LA
10107401	EPA 625	Fluorene	Accredited	NELAP	LA
10107401	EPA 625	Hexachlorobenzene	Accredited	NELAP	LA
10107401	EPA 625	Hexachlorobutadiene	Accredited	NELAP	LA
10107401	EPA 625	Hexachlorocyclopentadiene	Accredited	NELAP	LA
10107401	EPA 625	Hexachloroethane	Accredited	NELAP	LA
10107401	EPA 625	Indeno	Accredited	NELAP	LA
10107401	EPA 625	Isophorone	Accredited	NELAP	LA
10107401	EPA 625	Naphthalene	Accredited	NELAP	LA
10107401	EPA 625	Nitrobenzene	Accredited	NELAP	LA
10107401	EPA 625	n-Nitrosodimethylamine	Accredited	NELAP	LA
10107401	EPA 625	n-Nitrosodi-n-propylamine	Accredited	NELAP	LA
10107401	EPA 625	n-Nitrosodiphenylamine	Accredited	NELAP	LA
10107401	EPA 625	Pentachlorophenol	Accredited	NELAP	LA
10107401	EPA 625	Phenanthrene	Accredited	NELAP	LA
10107401	EPA 625	Phenol	Accredited	NELAP	LA
10107401	EPA 625	Pyrene	Accredited	NELAP	LA
10127409	EPA 1664	Oil & Grease	Accredited	NELAP	LA
20003401	SM 2340 B	Total hardness as CaCO3	Accredited	NELAP	LA
20016207	SM 4500-Cl G	Residual free chlorine	Accredited	NELAP	LA
20022406	SM 4500-H B	pH	Accredited	NELAP	LA
20027401	SM 5210 B	Biochemical oxygen demand	Accredited	NELAP	LA

Pace Analytical™

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QUALITY MANUAL

New Orleans Addendum

Revision 9.0

(August 25, 2000)

Prepared by:

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Approved by:

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General Manager
Date

Shelley Antoine — 8/25/00
Shelley Antoine
Operations Manager/Technical Director
Date

Gary L. Newton — 8/25/00
Gary L. Newton
QA/QC Officer
Date

The Pace Analytical Services/New Orleans Quality Manual addendum is a confidential document intended to describe policies related to the operation of the New Orleans division. The same adherence and revision practices as stated in the Pace Analytical Corporate Quality Manual are still applicable.

This is COPY # 19 of a confidential document prepared by Pace Analytical Services, Inc., and is a CONTROLLED / UNCONTROLLED document. This document has been reviewed and approved by the persons listed on the cover sheet and can only be deemed official if the proper signatures are present.

SECTION 2.0

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2.4 TABLE OF CONTENTS (NEW ORLEANS)

The Pace Analytical Services, Inc./New Orleans addendum is intended to describe policies related to operation of the New Orleans division. The same adherence and revision practices as stated in the QAM are still applicable.

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SECTION 4.0

QA ORGANIZATION AND PERSONNEL

4.1.1 LABORATORY ORGANIZATION

Pace Analytical Services, Inc./New Orleans is defined by functional groups. Each functional group is headed by a department manager or supervisor responsible for the group's technical performance. Department managers/supervisors and their respective groups are described in the organizational chart provided in Table 4.0. These functional groups are defined as follows:

Sample Management

The Sample Management department is responsible for the receipt, inspection and verification of sample containers, log-in of samples into the Laboratory Information Management System (LIMS), and sample distribution to their proper storage environments throughout the laboratory. Sample Management also ensures the client is supplied with the necessary sample containers with consistent and accurate sample preservation. If sample aliquoting is necessary, Sample Management will perform the aliquoting (with exception of volatiles analysis), labeling, and distributing for the entire laboratory.

Project Management

The Project Management department is the primary contact for client communications. Each project is managed from the initiation of quotes and proposals until delivery of the final report. The representatives ensure that all project requirements and requests are communicated to the appropriate laboratory personnel. Non-conformances and/or problems encountered during analysis are addressed to the client through the Project Manager. The Project Manager will track the progress of data packages within the lab, as well as, review all reports prior to release to the client

Organic Sample Preparation

The Organic Sample Preparation (Organic Prep) department is responsible for method preparation of all samples for organic analyses, except for volatile organics which require little or no sample preparation. The Organic Prep group ensures that sample integrity is maintained while being prepared. If volatile analysis sample preparation is necessary, it is performed by the GC or GC/MS analyst who is performing the analytical testing. Sample cleanup and screening is performed by the Organic Prep group when necessary. It is the responsibility of the Organic Prep manager to ensure samples are extracted within the specified method hold times, as well as, performed in accordance with method specifications. An extraction log is given to the appropriate analytical laboratory upon completion of a sample batch and extracts stored in their corresponding refrigerators.

Volatiles (GC; GC/MS)

The Volatiles manager oversees both the Volatiles GC and GC/MS laboratories. It is the responsibility of the analyst to maintain the proper operation of the instrument and ensure the instrument is calibrated in accordance with method criteria. The analyst is also responsible for maintaining the integrity of the

sample (VOAs) or the extract during the analytical run. The analyst gathers and consolidates the analytical data produced for each sample into a data package. This data package is reviewed by the volatiles manager. It is the manager's responsibility to ensure that all method and QA/QC specifications are met and documented.

Semivolatile (GC; GC/MS)

The Semivolatiles manager oversees both the GC and GC/MS laboratories. It is the responsibility of the analyst to maintain the proper operation of the instrument and ensure the instrument is calibrated in accordance to method criteria. The analyst is responsible for maintaining the integrity of the sample or the extract during the analytical run. The analyst gathers and consolidates the analytical data produced for each sample into a data package. This data package is reviewed by the Semivoloatiles manager. It is the manager's responsibility to ensure that all method and QA/QC specifications are met and documented.

Trace Metals Analysis

The Trace Metals Analysis (Metals) department is responsible for the preparing and analyzing of all samples requiring trace metal analyses. The Metals analyst is responsible for maintaining sample integrity throughout sample preparation and analysis. The analyst must perform any maintenance necessary to ensure the proper operation of the instrument and verifying that the instrument is calibrated according to method guidelines. The analyst gathers and condenses the analytical data collected for each sample into a data package. This data package is thoroughly review by the Metals manager/supervisor. The manager is responsible for ensuring that all QA/QC method requirements are met.

Water Quality

The Water Quality department encompasses general wet chemistry or biological parameters. The Water Quality analyst is responsible for making all necessary reagents, assembling of distillation (or any other) apparatus needed, and maintaining proper instrument operation for the analytical testing. The analyst is responsible for the calibrating of the instrument and/or standardization of titration reagents. The analyst records and condenses all analytical data. The Water Quality manager ensures that all QA/QC requirements are fulfilled. The manager reviews the analytical bench sheets and generates a data package.

Report Center

The Report Center is responsible for the issuance and revisions of reports to clients in a timely manner and in the appropriate report format. The Report Center generates all final reports submitted to the client. Report Center staff are responsible for the archival of all reports.

Quality Assurance

The Quality Assurance (QA) office provides an independent laboratory check that quality is maintained through out the laboratory. The QA office is responsible for the scheduling and conducting of routine internal audits and in-house performance quality control (QC) checks. The QA office spot reviews complete report data packages before and after issuance to the client. The QA office initiates and monitors the QA log process and issues QA memorandums when a systematic or procedural error is discovered. The QA office maintains records of all MDL and QC studies performed throughout the laboratory. The QA office is responsible for maintaining and reviewing the laboratory Quality Assurance

Plan. Department SOPs must be approved by the QA office, and the QA office authorizes any revisions or replacements of current SOPs. The QA office approves all report resubmissions before their release.

Below are organizational charts for Pace/New Orleans and the management structure of Pace Analytical Services, Inc., depicting the role of Pace/New Orleans within the corporate framework.

Figure NO-4.1

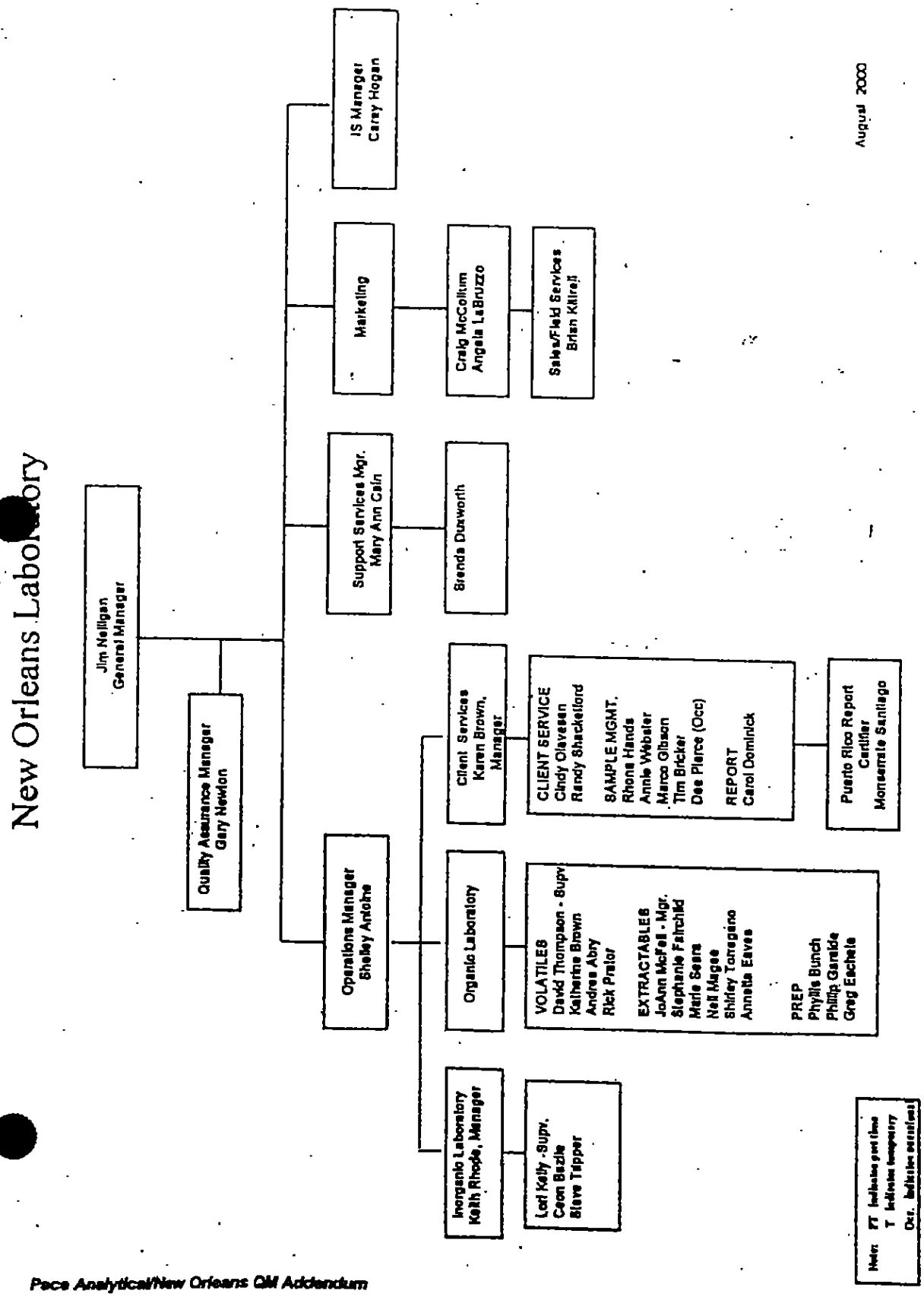
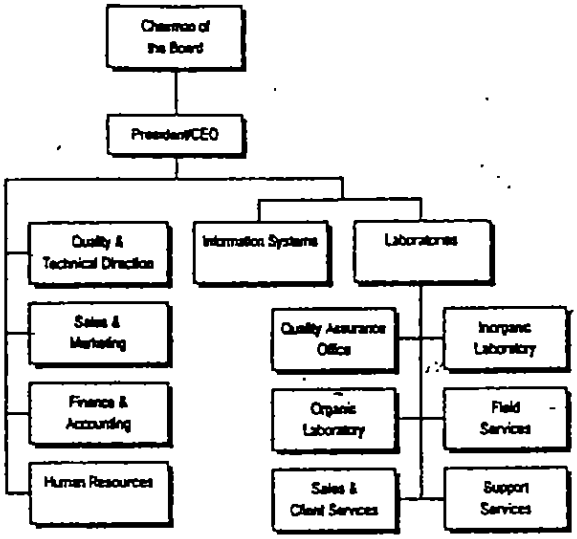
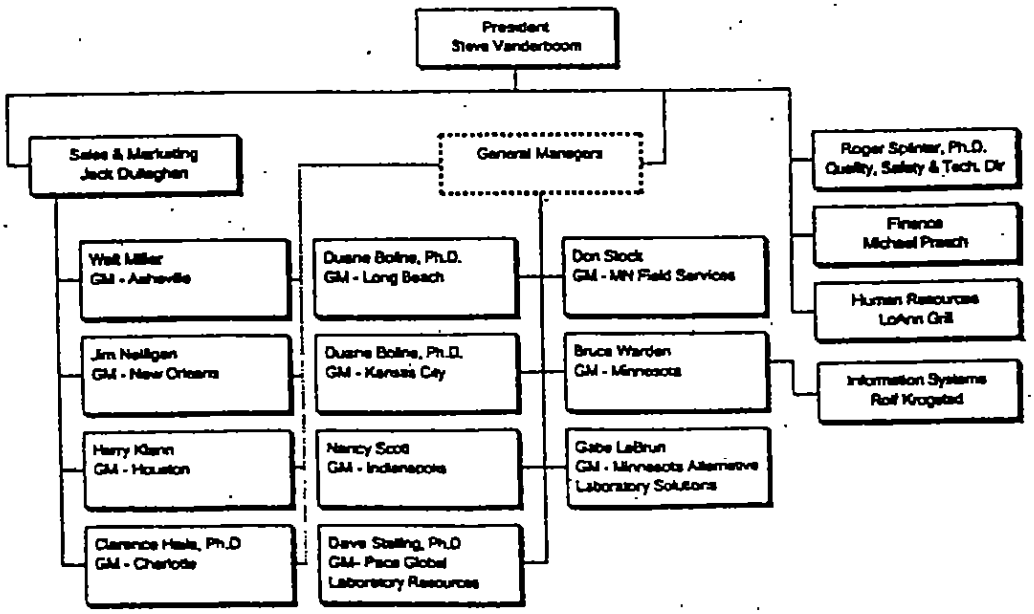

New Orleans Laboratory
Jim Nelligan
General Manager
Quality Assurance Manager
Gary Newton
IS Manager
Carey Hogan
Marketing
Craig McCollum
Angela LaBruzzo
Sales/Field Services
Brian Kline
Support Services Mgr.
Mary Ann Cain
Brenda Duxworth
Operations Manager
Shelley Antoine
Client Services
Karen Brown,
Manager
CLIENT SERVICE
Cindy Olavesen
Randy Shackelford
SAMPLE MGMT.
Rhona Hands
Annie Webster
Marco Gibson
Tim Bricker
Dee Pierce (Occ)
REPORT
Carol Dominick
Puerto Rico Report
Certifier
Monserrate Santiago
Organic Laboratory
VOLATILES
David Thompson - Supv
Katherine Brown
Andrea Abry
Rick Prator
EXTRACTABLES
JoAnn McFell - Mgr.
Stephanie Fairchild
Marie Sears
Nell Magee
Shirley Toregano
Annette Eaves
PREP
Phyllis Bunch
Phillip Garside
Greg Eschele
Inorganic Laboratory
Keith Rhode, Manager
Lori Kelly -Supv.
Ceon Bazile
Steve Tripper
August 2000

Figure NO-4.2

Pace Analytical Organizational Structure



Pace Analytical Corporate Management Personnel & Laboratory General Managers



4.2 FACILITIES AND EQUIPMENT

Pace Analytical Services, Inc. is equipped with state-of-the-art instrumentation and application software in order to facilitate sample handling and thus enabling the analyst to dedicate more time to the resolution of technical problems during analytical testing. Table NO-4.1 gives a listing of current instrumentation.

Table NO-4.1

Pace Laboratory: New Orleans

Available Instrumentation:

Instrument	Manufacturer	Model	Detector	Analysis **
GC/MS	Finnigan	INCOS 50	MS	524, 624,8260,CLP
GC/MS	Finnigan	INCOS 50	MS	524,.624,8260,CLP
GC/MS	Finnigan	INCOS 50	MS	524, 624,8260,CLP
GC/MS	Finnigan	INCOS 50	MS	524, 624,8260,CLP
GC/MS	Finnigan	INCOS 50	MS	625,8270,CLP
GC/MS	Finnigan	INCOS 50	MS	524, 624,8260,CLP
GC/MS	Finnigan	INCOS 50	MS	625,8270,CLP
GC/MS	Finnigan	INCOS 50	MS	625,8270,CLP
GC/MS	Finnigan	INCOS 50	MS	625,8270,CLP
Accelerated Solvent Extractor	Dionex	ASE 200	N/A	3545
GC	Hewlett-Packard	5890	NPD (Dual)	8140, 8141
GC	Hewlett-Packard	5890	FPD (Dual)	8140, 8141
GC	Hewlett-Packard	5890II	FID (Dual)	DAI
GC	Hewlett-Packard	5890	FID (Dual)	8100,TPH(ext.)
GC	Hewlett-Packard	5890II	3 PID; 1 FID	BTEX, TPH(purge)
GC	Hewlett-Packard	5890	1 FID (Dual)	TPH(ext)
GC	Hewlett-Packard	5890II	ECD (Dual)	608, 8081, 8082, CLP
GC	Hewlett-Packard	5890II	ECD (Dual)	608, 8081, 8082, CLP
GC	Hewlett-Packard	5890	ECD/FID	Screening, TPH (ext)
GC	Hewlett-Packard	5890	ECD (Dual)	PCB, Screening
GC	Hewlett-Packard	5890	2 PID/FID	BTEX/TPH (purge)
GC	Hewlett-Packard	5890	ECD (Dual)	8151, 8121, 612
ICP	Perkin Elmer	Optima 3000 DV		200.7, 6010, CLP
AA Graphite Furnace	Perkin Elmer	4100ZL		200s, 7000s, CLP
Hg Analyzer	Perkin Elmer	FIMS400	Spectrophotometer	245.1, 7470, 7471, CLP
TOC	Dohrman	DC-80	IR	415.1, 9060
TOC	Shimadzu	5000A	IR	415.2, 9060
Auto-Analyzer	Lachat	2300	Spectrophotometer	NO2,NO3,CN,P-PO4,Phenol,SO3,Hex Cr.
Ion Analyzer	Orion	EA940	Probe	F-, pH,Ammonia
BOD	YSI	Model 58	Probe	BOD
Spectrophotometer	HACH	DR/200	Spectrophotometer	COD
Miscellaneous	Parr	1261	N/A	BTU
Pensky-Martens Closed Cup	Boekel Industries	152800	N/A	Ignite
Miscellaneous	Foxboro	Miran1FF	IR	TPH, O&G

** Analysis should correspond to a Method Name/Number from the 'Available Method' Page

4.2.4 DEPUTY QUALITY ASSURANCE OFFICER

The Quality Assurance Officer will appoint a person(s) to act as a deputy QAO should the need arise.

4.3.1 MINIMUM PERSONNEL EDUCATION REQUIREMENTS

The Human Resources director will follow company protocol in ensuring all the minimum educational requirements are met by incoming employees by signing a statement to the fact included on the new hire checklist (Refer to SOP NO-110-3). Proof of education (e.g., copy of diploma) will be included in the employee's file.

4.3.2 KEY PERSONNEL (NEW ORLEANS)

General Manager
James L. Nelligan, Jr.
Directs all departments of the laboratory in accordance with the goals and objectives of the company; accountable and responsible for the quality of the work produced, safety, and profit and loss within the above mentioned departments; oversees the management of all functions in these departments including technical, operational and administrative areas; assist Marketing and Sales in generating business; manages the facility and the development of goals and objectives for the company and the facility.
Education: B.S. Business Administration/Economics, MBA Finance

Years of Experience: 10
Related Experience: General Manager, Pace Analytical Services, Inc. St. Rose, Louisiana, Principal Vice President Prism Laboratories, Charlotte, NC; Sales Manager, Bold Research Labs, Inc. Charlotte, NC; Credit Analyst, Chrysler Credit Corporation; Financial Planner, American Express.

Operations Manager
Shelley Antoine
Coordinates analyses and checks computer data for validity, final data review and the implementation and oversight of the quality control program for the laboratory. Trains and recruits new analysts. She developed and implemented clinical screening tests for volatile organic in biological samples and is experienced in the development and preparation of grant proposals funded by government and private agencies.
Education: B.A. Biological Sciences/M.S. Biological Sciences

Years of Experience: 23
Related Experience: GC/MS and Operations Manager, Pace Analytical Services, Inc. St. Rose, Louisiana, GC/MS Operator/Supervisor, Gulf South Environmental Laboratory, New Orleans, LA, Research Associate/Task Leader, Bio-Organic Studies, University of New Orleans.

Quality Assurance Officer
Gary L. Newton
Routine quality control data review to isolate potential analytical problems. Program monitoring to ensure that procedures are followed and meet QA/QC requirements. Interface with external agencies and auditors. Establishes QA policy for laboratory.

Education: B.S. Biology

Years of Experience: 2
Related Experience: Quality Assurance Officer, Savannah Laboratories & Environmental Services, Mobile, AL.

Client Services Manager
Karen Brown
Provides leadership and guidance to project management. Meets with other department managers to organize and schedule workloads. Provides technical support to clients. Responsible for overall implementation of client services and project management activities. Prepares reports and technical papers and manages large-scale complex projects. Serves as the interface between client and laboratory management to achieve client satisfaction with delivery of analytical results within budget, on schedule and to the requested level of quality. Supervises Sample Management Staff.
Education: B.A. Biology

Years of Experience: 21
Related Experience: Client Services Manager, Pace Analytical Services Inc. St. Rose Louisiana, Division Manager, National Environmental Testing, Baton Rouge, LA., Division Manager, National Environmental Testing, Gulfport, MS Office Manager, Richard Brown, Attorney. Associate Chemist, Computer Sciences
Corporation, NSTL.

Project Manager
Randy Shackelford
Maintains communication with clients to ascertain scope and requirements of projects, processing orders for analytical services, reviewing work assignments from the laboratory, tracking samples through the analytical process to monitor holding and turnaround times and review reports and invoices. Additionally, prepares routine and non-routine quotations, reports and technical papers, and maintains client records.

Years of Experience: 10
Related Experience: Project Manager, Pace Analytical Services, Inc. St. Rose, Louisiana, Environmental Technician II-Field Services, Pace Analytical Services, Inc. St. Rose, Louisiana, Analyst, National Environmental Testing, Gulfport, Mississippi, Sample Technician and Geotechnical Driller, Burmah Technical, Gulfport, Mississippi.

Project Manager
Cindy Olavesen
Maintains communication with clients to ascertain scope and requirements of projects, processing orders for analytical services, reviewing work assignments from the laboratory, tracking samples through the analytical process to monitor holding and turnaround times and review reports and invoices. Additionally, prepares routine and non-routine quotations, reports and technical papers, and maintains client records.
Education: Jefferson Vocational Tech School

Years of Experience: 26
Related Experience: Project Manager, Pace Analytical Services, Inc. St. Rose, Louisiana, Report Center Manager/Sample & Document Control Office, Gulf South Environmental Laboratory, New Orleans, LA, Departmental Secretary, Department of Analytical Chemistry, Gulf South Research Institute.

Sample Management Supervisor
Rhona Hands
Group leader in sample management area. Schedules courier service to clients, prepares sample kits and shipping, sample receipt and distribution, entering data from Chain-of-Custody into LIMS computer system. Supports subcontracting of samples to other laboratories.
Education: B.A.

Years of Experience: 10
Related Experience: Sample Management Supervisor, Pace Analytical Services, Inc. St. Rose, Louisiana, Shipping & Receiving Supervisor, Bioassay Technician, SPL. Veterinarian Technician, Animal Eye Clinic.

Metals Lab Supervisor
Keith Rhode
Group leader in metals laboratory. Supervises personnel in completion of proper project requirements, schedules analyses to meet holding times, reviews laboratory data, and trains new personnel. Implements the quality assurance program. Metals analyses on water, wastewater soil sludge, and sediment samples using graphite furnace, ICP and cold vapor atomic absorption (AA) techniques. Is experienced in the use of the ICP analytical techniques.
Education: M.S. Analytical Chemistry/B.S. Chemistry

Years of Experience: 26
Related Experience: Metals Supervisor, Pace Analytical Services, Inc., St. Rose, Louisiana, Research Manager, Inorganic Laboratory, Gulf South Environmental Laboratory, Senior Chemist, Metal Laboratory, General Engineering Laboratories. Manager, General Chemistry Laboratory, EIRA.

Inorganics Wet Lab Supervisor
Lori Kelly
Inorganics lab - performs wet chemistry analyses including TOC, sulfide, alkalinity, TOX, and automated analyses using the Lachat autoanalyzers. Experienced in Contract Laboratory Program (CLP) protocols for cyanide.
Education: Currently pursuing Bachelor of Arts degree in Chemistry/Business Administration

Years of Experience: 11
Related Experience: Water Quality Supervisor, Pace Analytical Services, Inc. St. Rose, Louisiana, Inorganic Chemist II, EIRA, Laboratory Technician, Oxford Environmental Corporation

Information Systems Manager
Carey Hogan
Provides diagnosis, resolution, and consulting services to PC user groups including programming on assigned projects, methodology development, training and maintenance of company equipment. Responsible for daily computer and associated equipment systems operations (including data acquisitions and administrative network servers).
Education: B.S. Chemistry

Years of Experience: 11
Related Experience: Information Systems Manager, Pace Analytical Services, Inc. St. Rose, Louisiana, GC Analyst III; Gulf South Environmental Laboratory, New Orleans, Louisiana; Chemist, Raba-Kistner Consultants, Inc. San Antonio, Texas.

Volatiles Supervisor
David Thompson
Provides technical support and direction to the instrument operators and reviewing the data generated. He analyzes environmental samples by GC and GC/MS using EPA Protocols and performs instrument troubleshooting and maintenance. Also has experience in analyzing various types of samples including high and medium concentrations.
Education: B.S. Biological Science

Years of Experience: 10
Related Experience: GC/MS and Analysis II, Pace Analytical Services, Inc. St. Rose, Louisiana: GC/MS Chemist III, EIRA, St. Rose, Louisiana.

Semivolaties Manager
Jo Ann McFall
Directs and organizes analyses of samples by operator and instrument to maximize productivity. Trains, directs and provides technical support to GC and GC/MS personnel and other departments as necessary. Reviews data and reports. Prepares standards and maintains and adequate level of supplies use by the semivolatile laboratory. Also performs analysis for semivolatile pollutants in solid and liquid matrices according to EPA protocols and guidelines as well as initiating and implementing method modifications as necessary.
Education: B.S. Biological Sciences/M.S. Biological Sciences

Years of Experience: 26
Related Experience: Manager GC/MS, Pace Analytical Services, Inc. St Rose, Louisiana; Scientist III and Chemist, Gulf South Environmental Laboratory, New Orleans, Louisiana; Research Associate Bio-Organic Studies and Graduate Teaching Assistant Dept. of Biological Sciences, University of New Orleans, New Orleans, Louisiana.

4.3.3 AUTHORIZED SIGNATORIES

Included on the next page is a list of approved signatories for the Pace/New Orleans facility. This list is updated annually.

Figure NO-4.4

PACE ANALYTICAL SERVICES, INC.
NEW ORLEANS LABORATORY
PERSONNEL SIGNATURE RECORD

EMPLOYEE	POSITION	DATE	SIGNATURE	INITIAL
ANDREA ABRY	LAB ANALYST	2/22/00	Andrea Abry	AA
SHELLEY ANTOINE	MANAGER, LAB SERVICES	2/22/00	Shelley Antoine	SA
TIMOTHY BRICKER	CLIENT SERVICES TECH	2/22/00	Tim Bricker	TAB
KAREN BROWN	CLIENT SERVICES MGR.	2/22/00	Karen Brown	KAB
KATHERINE BROWN	LAB ANALYST	2/22/00	Katherine Brown	KB
PHYLLIS BUNCH	LAB TECHNICIAN	2/23/00	Phyllis Bunch	PB
CAROL DOMINICK	CLIENT SERVICES TECH	2/22/00	Carol Dominick	CD
ANNETTA EAVES	LAB ANALYST	2/24/00	Annetta Eaves	AE
GREGORY ESCHETE	LAB TECHNICIAN	2/23/00	Gregory Eschete	GE
STEPHANIE FAIRCHILD	LAB ANALYST	2/22/00	Stephanie Fairchild	SF
PHILLIP GARSIDE	LAB TECHNICIAN	2-22-00	Philip Garside	PG
MARCO GIBSON	CLIENT SERVICES TECH	2-22-00	Marco Gibson	MG
RHONA HANDS	CLIENT SERVICES TECH	2/22/00	Rhona L. Hands	RLH
CAREY HOGAN	SYSTEMS MANAGER	2/22/00	Carey Hogan	CH
LORI KELLY	LAB SUPERVISOR	2/22/00	Lori A. Kelly	LAK
KIM LINDOLPH	LAB TECHNICIAN	2/22/00	Kim Lindolph	KL
NEIL MAGEE	LAB ANALYST	2/22/00	Neil Magee	NM
CRAIG MCCOLLUM	ACCOUNT EXECUTIVE	2/22/00	Craig McCollum	CM
LORI MCCREA	LAB TECHNICIAN	2/22/00	Lori McCrea	LM
JO ANN MCFALL	MANAGER, LAB SERVICES	2/22/00	Jo Ann McFall	JM
JAMES NELLIGAN	GENERAL MANAGER	2/23/00	James Z. Nelligan Jr.	JZN
GARY NEWTON	QA OFFICER	2/22/00	Gary L. Newton	GN
ERICA OCKMAN	LAB TECHNICIAN	2/22/00	Erica L. Ockman	EO
TYRA ORDONE	LAB TECHNICIAN	2/22/00	Tyra Ordone	TO
CINDY OLAVESEN	PROJECT MANAGER	2/22/00	Cindy Olavesen	CO
RICHARD PRATOR	LAB ANALYST	2/22/00	Richard Prator	RP
KEITH RHODE	MANAGER, LAB SERVICES	2/23/00	Keith Rhode	KR
MARIE SEARS	LAB ANALYST	2/22/00	Marie L. Sears	MLS
RANDY SHACKELFORD	PROJECT MANAGER	2/22/00	Randy Shackelford	RS
STEPHEN TAPPER	LAB ANALYST	2/22/00	Stephen Tapper	TAP
DAVID THOMPSON	LAB SUPERVISOR	2/22/00	David Thompson	DT
SHIRLEY TORREGANO	LAB ANALYST	2/23/00	Shirley Torregano	ST
ANNIE WEBSTER	CLIENT SERVICES TECH	2/22/00	Annie Webster	AW

SECTION 5.0

QUALITY ASSURANCE OBJECTIVES

5.7 QA/QC PROCEDURES (NEW ORLEANS)

Specific QA/QC Procedures, including types and frequency of QA/QC measures and personnel responsibility, can be referenced in SOP NO-102-0.

SECTION 7.0

SAMPLE CUSTODY

7.01 NEW WORK REVIEW

When work for a new or existing client is proposed, the available resources and personnel are taken into account before an account executive issues a project quote. When this quote is issued, any analyses that would need to be subcontracted out to another laboratory (either inside or outside the Pace Analytical network) would be indicated on this preliminary quote.

Once the quote has been accepted, a project manager is assigned to that particular project and certain project information is entered into a 4-week forecast to provide project management with an overall view of all incoming work. Daily operations meetings are held each morning among project manager and laboratory managers to highlight any issues affecting certain projects and to review the status of projects are nearing completion.

7.02 SAMPLE ACCEPTANCE POLICY

Pace Analytical/New Orleans will accept all samples for which work has been approved for analytical methods performed on-site or those which can be sent out to a sub-contracted laboratory if the need arises. However, if samples happen to be received that are deemed a "safety risk," (i.e, hazardous samples, radioactive samples, etc.) Pace Analytical/New Orleans reserves the right to refuse analysis and will notify the client to this effect.

7.7.3 SUBSAMPLING PROCEDURE

For the procedure for sample subsampling, please refer to SOP NO-500-9.

7.7.4 SAMPLE CUSTODY QC CHECKS

Quality control checks are routinely observed in sample management for the following:

- Laboratory-prepared preservatives – these are tested per batch of particular preservative and are evaluated against the reporting limits for all applicable analyses.

- Container checks – All containers are received (with and without preservation) from corporate-approved vendors. The certificate of analyses demonstrating these containers are kept on record. In the event, Pace Analytical/New Orleans must add preservative to an empty container, these preservatives are taken from batches subjected to the above checks.

- Storage blanks – Storage blanks for the volatile GC/MS (waters), volatile GC/MS (soils) and volatile GC sample storage areas are performed on a monthly basis and are compared to the reporting limits for the respective analyses.

7.12 SAMPLE MANAGEMENT DOCUMENTATION (NEW ORLEANS)

Figure NO-7.2

This figure depicts the form used at Pace Analytical/New Orleans for reporting the conditions regarding sample receipt on a project-by-project basis. Any non-conformances and actions taken to rectify these non-conformances are recorded on this sheet and placed in the project folder.

Figure NO-7.4a

This form is used as an internal chain-of-custody at Pace Analytical/New Orleans.

Figure NO-7.6

This form, used for sample disposal documentation, is created by the EPIC system and displays all samples within a particular EPN.

Figure NO-7.7
This document is used as a chain-of-custody for any samples sent to a subcontractor laboratory both inside or outside the Pace Analytical Services, Inc network.

Figure NO-7.2 (front)

Pace Analytical

SAMPLE RECEIPT NONCONFORMANCE REPORT

CLIENT NAME: _____ EPN: _____

				COMMENTS
A. SUFFICIENT VOLUME:	Y	N	N/A	_____
B. CONTAINERS - INTACT:	Y	N	N/A	Broken cap: _____
				Broken container: _____
C. CUSTODY SEAL - INTACT:	Y	N	N/A	_____
D. CHAIN OF CUSTODY -				
COMPLETE:	Y	N	N/A	Not received by: _____
RELINQUISHED BY CLIENT:	Y	N	N/A	COC says: _____
TIME DISCREPANCY:	Y	N	N/A	Label says: _____
LABELS MATCH COC:	Y	N	N/A	Other: _____
				_____

E. METHOD OF SAMPLE SHIPMENT: COURIER: FedEx UPS Pace Client Other

RECEIPT DATE CORRECT _____

F. SAMPLES RECEIVED -

SAME DAY AS SAMPLED:	Y	N	_____
WITHIN 24 HOURS OF SAMPLING:	Y	N	Collected: _____
24 HRS OR MORE AFTER SAMPLING:	Y	N	Received: _____

G. SHORT HOLDING TIME ANALYSIS:	Y	N	N/A	Analysis requested _____
H. RUSH TAT REQUESTED BY CLIENT:	Y	N	N/A	TAT _____

I. PRESERVATION CHECK: (If No, see reverse side for listed discrepancies)

ACID pH < 2	Y	N	N/A	_____
CAUSTIC (SULFIDE) pH > 9	Y	N	N/A	_____
CAUSTIC (CYANIDE) pH> 12	Y	N	N/A	_____

J. HEADSPACE IN VOA /TOX VIALS:	Y	N	N/A	_____
BUBBLES?	Y	N	N/A	*(if Y, see reverse')*
K. CORRECT MATRIX CODE:	Y	N	N/A	Not Listed: *Appears* - Water Soil Solid Other
L. ALIQUOTING REQUIRED:	Y	N	N/A	_____

M. TEMPERATURE OF SAMPLE S IN COOLER UPON RECEIPT _____ °C

ICED?	Y	N	NA	Ambient temp. (°C) _____
N. OTHER COMMENTS (see reverse):	Y	N	N/A	

Submitted by _____ Date _____

Client Contact by: _____ Date: _____

RESOLUTION: _____

F\O-SM-0011

Figure 7.2 (back)

SAMPLE PRESERVATION CHECK

Pace Number	Client ID	Analytical Test	Preservative Received	Original / Adjusted

ACID preserved samples should have a pH of <2

CAUSTIC preserved samples should have a pH of >9 for sulfide & >12 for cyanide

Tested by: _____ Date: _____

HCl = Hydrochloric Acid
H_2SO_4 = Sulfuric Acid

HNO_3 = Nitric Acid
NAOH = Sodium Hydroxide

**If bubbles found in VOA vials, record specific information below:*

Sample ID	# of vials with bubbles	Sample ID	# of vials with bubbles

OTHER COMMENTS

_____
_____
_____
_____
_____
_____
_____
_____

F\O-SM-001:1

Figure NO-7.4a

Pace Analytical

INTERNAL CHAIN OF CUSTODY

Client:	Analytical Parameter/Fraction:

PACE/NO ID	CLIENT ID	PACE/NO ID	CLIENT ID

Date	Relinquished by	Received by	Comments
	Printed Name Signature	Printed Name Signature	
	Printed Name Signature	Printed Name Signature	
	Printed Name Signature	Printed Name Signature	
	Printed Name Signature	Printed Name Signature	
	Printed Name Signature	Printed Name Signature	
	Printed Name Signature	Printed Name Signature	
	Printed Name Signature	Printed Name Signature	
	Printed Name Signature	Printed Name Signature	
	Printed Name Signature	Printed Name Signature	
	Printed Name Signature	Printed Name Signature	
	Printed Name Signature	Printed Name Signature	

An Equal Opportunity Employer

PASI New_Orleans Laboratory

CONTAINER FORM

202908 [redacted]

Project Sample Number	Sample No.	Client ID	Date Received	Container	Location	OUT	IN	OUT	IN	OUT	IN	Date Disposed
202908-001	2024437	00-103-005	17-AUG-00	Plastic unpreso	PCB							
202908-002	2024438	00-103-007	17-AUG-00	Plastic unpreso	PCB							
202908-003	2024439	00-103-008	17-AUG-00	Plastic unpreso	PCB							
202908-004	2024440	00-103-009	17-AUG-00	Plastic unpreso	PCB							
202908-005	2024441	00-103-010	17-AUG-00	Plastic unpreso	PCB							
202908-006	2024442	00-103-011	17-AUG-00	Plastic unpreso	PCB							
202908-007	2024443	00-103-012	17-AUG-00	Plastic unpreso	PCB							
202908-008	2024444	00-103-013	17-AUG-00	Plastic unpreso	PCB							
202908-009	2024445	00-103-014	17-AUG-00	Plastic unpreso	PCB							

AUGUST 17, 2000 12:18

Page: 1

***** End of report *****

Figure NO-7.6

Pace Analytical

SUBCONTRACTING CHAIN-OF-CUSTODY

Pace Analytical Services, Inc.
1000 Riverbend Blvd, Suite F
St Rose, LA 70087
Phone 504 469 0333
Fax 504 469 0555

Due Date: _____ Freight Carrier: _____ Custody Seals: Intact / Broken / Missing

Subcontractor: _____ Airbill #: _____ Samples: Intact / Broken / Missing

Contact: _____ EPN #: _____ Cooler Temperature (°C): _____

PACE SAMPLE ID	CLIENT SAMPLE ID	SAMPLE DATE/TIME	MATRIX	# OF CONTAINERS	ANALYTE/METHOD	SAMPLE COMMENTS

Relinquished by:	Date/Time	Received by:	Project Comments/Remarks:
Relinquished by:	Date/Time	Received by:	
Relinquished by:	Date/Time	Received for subcontractor by:	

REPORT RESULTS TO THE ADDRESS ABOVE TO THE ATTENTION OF KAREN BROWN. If the hardcopy results cannot be delivered by the above due date, please contact Karen Brown at the above number.

PO # _____

FNO-SM-00311

Figure NO-7.7

SECTION 8.0

CALIBRATION PROCEDURES AND FREQUENCY

8.1 SECOND-SOURCE CALIBRATION CHECK STANDARD

A second-source calibration check standard is run after an initial calibration and evaluated against method-derived CCV criteria in order to verify the standards utilized in the initial calibration.

8.2.4 CCV CONCENTRATION VARIANCE

The concentration of continuing calibration standards is randomly varied until each point within the calibration range has been evaluated, whereas the cycle begins again.

8.2.5 PIPETTE CALIBRATION

Pipettes in use at Pace Analytical/New Orleans are calibrated on a quarterly basis. The accuracy of glass syringes used for standard spiking will be verified using a vendor-supplied certificate of accuracy or initial demonstrations of accuracy documented by the laboratory.

SECTION 9.0

ANALYTICAL PROCEDURES

9.0 ANALYTICAL PROCEDURES (NEW ORLEANS)

Table NO-9.1 includes all methods, which Pace Analytical services performs on a routine basis.

9.1 STATE NOTIFICATION OF MODIFIED METHODOLOGY

State regulatory agencies and other certifying agencies will also be notified of any significant departures in analytical methodology.

SECTION 10.0

DATA REDUCTION, VALIDATION AND REPORTING

10.3 ELECTRONICALLY SUBMITTED/VERBAL DATA

Reports sent by facsimile include a special report cover sheet to denote preliminary, final or revised data. This also informs the client that QA/QC has been reviewed and is acceptable (the only exception being in the case of preliminary data where the possible lack of QC data review is so noted).

Any verbal communication of data is noted on the cover sheet of each applicable project folder as to who was contacted and when.

10.4 CLIENT NOTIFICATION OF CHANGE IN BUSINESS STATUS

In the event of a lab closure or corporate buyout, clients will be notified and a decision will be made as to the maintenance or transference of client data and/or records.

10.5 COMPLIANT PROCEDURE (NEW ORLEANS)

In an effort to better document and resolve complaints raised by clients of Pace Analytical/New Orleans, complaint handling procedures are documented in SOP NO-211-0.

SECTION 11.0

QUALITY CONTROL PROCEDURES

11.4.1 CONTROL LIMIT DETERMINATION

Quality control limits are determined annually by Pace Analytical/New Orleans from the previous year's data. This data includes all data points for the previous year for analyses having more than 15 points. For those data with less that 15 points, default limits of 50-150 for organics and 70-130 for inorganics are applied until 15 data points are achieved and quality control limits recalculated. For those analyses with method-defined QC acceptance criteria, in addition, to certain client-specific criteria, the more stringent criteria will be used.

11.4.1 MEAN AND STANDARD DEVIATION CALCULATIONS

Mean

$$\bar{X} = \frac{\sum_{i=1 \text{ to } n}^{n} X_i}{n}$$

Standard Deviation

$$s = \sqrt{\frac{\sum_{i=1 \text{ to } n}^{n} (X_i - \bar{X})^2}{n}}$$

In these equations, n = population size
X_i = ith observation in the sample
$\bar{X}$ = sample mean
S = standard deviation

SECTION 15.0

CORRECTIVE ACTION

15.1 CORRECTIVE ACTION DOCUMENTATION

Discrepancy documentation used for Pace Analytical/New Orleans and their required used is documented in SOP NO-140-5.

SECTION 16.0

QUALITY ASSURANCE REPORTS TO MANAGEMENT

16.2.1 ANNUAL MANAGEMENT QUALITY SYSTEMS REVIEW

In addition to an ongoing review, an annual management review is held in which quality control information (i.e., PT testing results, corrective actions, etc.) is presented and reviewed allowing for management input for upgrading or improving the quality system. This will be documented in a Quality System Management Review Report given to the lab manager and corporate QAM.

In addition, an annual discussion of corrective actions will occur between the QAO and General Manger.

SECTION 18.0

CERTIFICATIONS

18.1 CERTIFICATION LIST (NEW ORLEANS)

The following is a current certification list for Pace Analytical/New Orleans as of the date of revision of this addendum.

Florida

- Department of Health / Inorganic and Organic Hazardous Waste (E87595).
- Department of Environmental Protection/ QAP #970167-05
- NELAP Pending

Kansas

- Department of Health and Environment / Environmental Laboratory Wastewater and Hazardous Waste (E-10266)

Louisiana

- Department of Health and Hospitals (ELAP) / Drinking Water (LA000006)
- Department of Environmental Quality (ELAP) / Organic and Inorganic (on approved laboratory list).

New Jersey

- Department of Environmental Protection and Energy / Wastewater (58002)

US Department of Agriculture

- Foreign Soil Permit / Hazardous Waste (US territories)

18.2 ACCREDITED TEST METHODS

The following table (Table NO-18.1) highlights all test methods under which Pace Analytical/New Orleans performs its NELAP-accredited testing.

TABLE NO-18.1

DESCRIPTION	METHOD
Alkalinity (titrimetric)	EPA 310.1
Alkalinity (titrimetric)	SM 2320B
BOD	SM 5210B
BOD, 5-day (20 C)	EPA 405.1
Chloride	SW 9251
Chloride (colorimetric, auto ferricyanide, AAII)	EPA 325.2
Chloride, titrimetric	SM 4500-Cl-C
Chlorine, total residual, spectrophotometric, DPD	EPA 330.4
Chromium, hexavalent	SM 3500-Cr-D
Chromium, hexavalent	SW 7196
COD	SM 5220B
COD	Hach 8000
COD, colorimetric, automated/manual	EPA 410.4
Conductance, Specific	SM 2510B
Conductance, Specific	SW 9050
Cyanide, amenable	SW 9012
Cyanide, Amenable (titrimetric, spectrophotometric)	EPA 335.1
Cyanide, reactive	SW 7.3.3.2
Cyanide, total	EPA 335.4
Cyanide, total	EPA 9010
Cyanide, total	SW 9012
Cyanide, total	SW 9014
Cyanide, Total (colorimetric, automated UV)	EPA 335.3
Cyanide, Total (titrimetric, spectrophotometric)	EPA 335.2
Flashpoint	SW 1010
Fluoride, (potentiometric, ion selective electrode)	EPA 340.2
Fluoride, (potentiometric, ion selective electrode)	SM 4500-F-C
Hardness, by calculation	SM 2340B
Herbicides	SW 8151
Mercury	SW 7470A
Mercury	SW 7471
Mercury, Cold Vapor	EPA 245.1
Mercury, Cold Vapor (automated)	EPA 245.2
Mercury, Cold Vapor (sediments)	EPA 245.5
Metals, GFAA	3113B
Metals, ICP	EPA 200.7
Metals, ICP	SW 6010
Methanol	EPA 8015-DAI
Nitrate/Nitrite, colorimetric, automated cadmium reaction	EPA 353.2
Nitrate/Nitrite, colorimetric, automated cadmium reaction	SM 4500-NO3-F
Nitrogen, Ammonia (colorimetric, automated phenate)	EPA 350.1
Oil & Grease	SW 9070
Oil & Grease	SW 9071
Oil & Grease	EPA 1664
Oil & Grease, gravimetric, separatory funnel	EPA 413.1
PAHs	SW 8100
Paint Filter Test	SW 9095
PCBs	SW 8082
Pesticides	SW 8141
Pesticides	SW 8081
Pesticides/PCBs	EPA 608
pH	SW 9045
pH	SW 9040
pH	SM 4500-H+-B
pH, Electrometric	EPA 150.1
Phenols, total	SW 9065/9066

TABLE NO-18.1, continued

DESCRIPTION	METHOD
Phenols, total	EPA 1664
Phenols, total (colorimetric, automated 4-AAP with distillation)	EPA 420.2
Phenols, total (spectrophotometric, manual 4-AAP with distillation)	EPA 420.1
Phosphorus, All forms (colorimetric, automated, ascorbic acid)	EPA 365.1
Phosphorus, total (colorimetric, automated, block digestor, AAII)	EPA 365.4
Resdiue, Settleable Matter (volumetric, Imhoff cone)	EPA 160.5
Residue, Filterable (gravimetric, 180 C)	EPA 160.1
Residue, Non-filterable (gravimetric, 103-105 C)	EPA 160.2
Residue, Total (gravimetric, 103-105 C)	EPA 160.3
Residue, Volatile (gravimetric, 550 C)	EPA 160.4
Semivolatile Organics	EPA 625
Semivolatile Organics	SW 8270
Semivolatile Organics	SW 8270C
Solids, total	SM 2540B
SPLP	SW 1312
Sulfate	SW 9036
Sulfate	SW 9038
Sulfate, colorimetric, automated, methyl thymol blue, AAII)	EPA 375.2
Sulfate, turbidimetric	EPA 375.4
Sulfide	SW 9030/34
Sulfide (titrimetric	EPA 376.1
Sulfide, reactive	SW 7.3.4.2
TCLP	SW 1311
TKN	EPA 351.2
TOC	SW 9060
TOC	SM 5310C
TOC	EPA 415.1
Turbidity	SM 2130B
Turbidity, Nephelometric	EPA 180.1
Volatile Organics	EPA 524.2
Volatile Organics	EPA 602
Volatile Organics	EPA 624
Volatile Organics	SW 8260B

MAR 1 9 2001

QUALITY MANUAL

Quality Assurance/Quality Control Policies and Procedures

Prepared by Pace Analytical Services, Inc.
1700 Elm Street S.E., Suite 200
Minneapolis, Minnesota 55414
(612)607-1700

for:

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Asheville, NC 28801

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Indianapolis, IN 46268

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St. Rose, LA 70087

Charlotte Laboratory
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9608 Loiret Blvd.
Lenexa, KS 66219

Houston Laboratory
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Houston, TX 77058

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3/2/01

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Date

3/2/01

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Director, Quality, Safety & Training
(612)607-6322

Date

g:users/oep/cover_pg.obd

Date: 1/26/01
Revision: 5.0

Signature Page

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Copy 24 issued to: Steve Krul
Name

Exide Corporation
Affiliation

3/13/01
Date

This is/ is not a controlled document (control status must be circled before release).

This document, with the necessary addenda, has been accepted as the Quality Assurance Manual.

James L. Nelligan, Jr. 3/2/01 — New Orleans
Laboratory General Manager — Date — Laboratory

Mary L. Nuto 3/2/01
Quality Assurance Officer — Date

Shelley Antoine 3/2/01
Technical Director — Date

John McFall 3/2/01
Technical Director — Date

[illegible] 3/2/01
Technical Director — Date

Lori A. Kelly 3/2/01
Technical Director — Date

1.0 INTRODUCTION

1.1 FOREWORD

Pace Analytical Services, Inc. (Pace Analytical) is a privately held, full service environmental testing firm operating a system of laboratories and service centers nationwide. Pace Analytical offers extensive services, including: bioassay for aquatic toxicity, air toxics, industrial hygiene testing, explosives, high resolution mass spectroscopy of compounds, such as dioxins and coplanar PCB's, field services and mobile laboratory capabilities. Pace Analytical has developed and continues to develop a strict system of QA/QC protocols. In addition, the company has developed an advanced data management system, which is highly efficient and allows for flexible data reporting. Together, the two systems insure data reliability and timeliness.

Pace Analytical's goal is to continuously combine its expertise in laboratory operations with customized solutions to meet the specific needs of its clients.

1.2 STATEMENT OF PURPOSE

To meet the business needs of our customers for high quality, cost-effective, analytical measurements and services.

1.3 CORE VALUES

* INTEGRITY
* VALUE EMPLOYEES
* KNOW OUR CUSTOMERS
* HONOR COMMITMENTS
* FLEXIBLE RESPONSE TO DEMAND
* PURSUE OPPORTUNITIES
* CONTINUOUSLY IMPROVE

1.4 CODE OF ETHICS

Pace Analytical requires employees to conduct their tasks according to the highest professional, technical and ethical standards applicable to their area of expertise. As such, Pace Analytical requires a commitment from all staff to abide by the principles set forth by the Company. This applies to all procedures executed by employees. The following information summarizes the essential standards of ethical behavior required of Pace Analytical employees.

Pace Analytical's fundamental ethical principles are as follows:

- Each Pace Analytical employee is responsible for the propriety and consequences of his or her actions.
- Each Pace Analytical employee must conduct all aspects of Company business in an ethical and strictly legal manner, and must obey the laws of the United States and of all localities, states and nations where Pace Analytical does business or seeks to do business.
- Employee conduct on behalf of the Company with clients, suppliers, the public and one another must reflect the highest standards of honesty, integrity and fairness.

Strict adherence by each Pace Analytical employee to this Code of Ethics and to the Standards of Conduct is essential to the continued vitality of Pace Analytical. Therefore, compliance with and effective enforcement of the Code and Standards are key responsibilities of Pace Analytical management and will be addressed as elements of each employee's regular performance evaluation.

Failure to comply with the Code or Standards will result in disciplinary action up to and including termination and referral for civil or criminal prosecution where appropriate. An employee will be notified of an infraction and given an opportunity to explain as prescribed under current disciplinary procedures.

Training including specific elements of this policy will be provided to all newly hired employees and as a refresher to existing staff.

1.5 STANDARDS OF CONDUCT

Standard Operating Procedures

Each employee is responsible for complying with applicable Pace Analytical Standard Operating Procedures (SOPs).

Financial Responsibility

Pace Analytical employees must accurately keep all books, records and accounts for which they are responsible. Employees are responsible for maintaining and safeguarding all company funds and/or assets which they have in their possession or control. Additionally, all employees are responsible for submission of accurate reporting documents pertaining to timekeeping (timesheets, etc) and reimbursement requests (expense reports, tuition reimbursement, etc).

Data Integrity

The accuracy and integrity of the analytical results produced at Pace Analytical are the lifeblood of the Company. Lack of integrity in the data produced is an assault on our most basic values and puts Pace Analytical and its employees at grave financial and legal risk. Therefore, in addition to complying with applicable Pace Analytical Standard Operating Procedures (SOPs), employees are to prepare and maintain accurately all technical,

records, scientific notebooks, calculations and data bases. Employees must at all times employ good scientific judgment and are prohibited from making false entries or misrepresentations of data, dates, calculations, results or conclusions.

Confidentiality

Pace Analytical employees must not, directly or indirectly, use or disclose confidential or proprietary information except in connection with their duties at Pace Analytical, either during or for two years after employment with Pace Analytical. Confidential or proprietary information, belonging to either Pace Analytical or its clients, includes but is not limited to test results, trade secrets, matters involving research and development, procedures, methods, processes and standards, techniques unique to Pace Analytical, client information, equipment manufactured by Pace Analytical , sales and marketing plans and information, inventions, chemical compositions of materials, client specifications and requirements, and names of individuals working for or representing clients with whom Pace Analytical deals.

Drug-free Workplace

Pace Analytical recognizes that alcoholism and other drug dependencies are a significant social problem with a potential for causing severe detriment to the workforce. Employees have the right to work in an alcohol and drug-free environment and to work with persons free from the effects of alcohol and drugs. Employees who abuse alcohol or drugs are a danger to themselves and to other employees. Employees are not to report to work under the influence of alcohol or controlled substances as prescribed in the Drug-free Workplace Program. The possession, use and sale of alcohol and controlled substances as well as detailed information regarding drug testing is described in the Drug-Free Workplace Program Policy handout provided to all new employees. Additional copies are available through Human Resources. Employees are obligated to conform to the Drug-Free Workplace Program Policy strict guidelines.

Conflict of Interest

Pace Analytical employees must avoid situations that might involve a conflict of interest or appear questionable to others. The employee must be careful in two general areas:

* Participation in activities that conflict or appear to conflict with Pace Analytical responsibilities.

* Giving or receiving anything that might influence the recipient or cause another person to believe that the recipient may be influenced. This includes offering or accepting bribes, kickbacks or illegal payments.

Employees are not to engage in outside business or economic activity relating to a sale or purchase by the Company. Other questionable activities include serving on the Board of Directors of a competing or supplier company, significant ownership in a competing or supplier company, consulting with or working for a competing or supplier company or participating in any outside business during the employee's work hours.

The acceptance of gifts, loans or other consideration in excess of $50 in value is not permitted for employees or their families when such gifts come from any individual, firm or corporation doing or seeking to do business with Pace Analytical . Acceptance of any gift of cash is prohibited.

Non-Harassment

Pace Analytical places the highest value on human rights. As such, Pace Analytical endeavors to provide a workplace free of both harassment and discrimination. Harassment of an employee or applicant for employment on the basis of any characteristic protected by applicable municipal,state and federal laws, or which creates an intimidating, hostile or offensive work environment, or which interferes with an employee's performance is a violation of company policy. Employees must understand that harassment of another employee or applicant for employment based on gender is both illegal and a violation of company policy. Pace Analytical maintains a Sexual Harassment Policy which clearly defines the company's stance against sexual harassment and provides a mechanism for responding to infractions of the policy. The Sexual Harassment Policy is addressed in employee orientation and employees are provided the Policy handbook. Additional copies are available through Human Resources.

Proper and Professional Work Environment

Employees are bound to use fairness, honesty and regard for the law in their business relationships with Pace Analytical investors, clients, suppliers, employees, and applicants as well as all local, national and international communities and governments. All employees are personally obligated to uphold Pace Analytical's policy of non-discrimination against any employee or applicant for employment because of race, color, creed, religion, national origin, sex, disability, age, marital status, status with regard to public assistance or sexual orientation.

Protection of Property

Pace Analytical employees have an obligation to protect all company and client property against loss, theft and misuse. Employees are responsible for maintaining an orderly, clean workplace. Employees are also liable for using company and client property only for their intended purposes. Employees are prohibited from using company property for their personal use without the expressed permission of their supervisor or General Manager. No such use of property may be made after termination of employment with Pace Analytical. Employees must also make every effort to prevent the misuse of company and client property by other persons. Misuse includes selling, loaning or giving away company or client property.

Communications

Each employee is responsible for obtaining the information necessary to follow directives in this ethics and conduct document, and for reporting to his/her supervisor or Human Resources representative, as appropriate, any observed deviations from policies. The identity of the employee reporting the infraction will not be disclosed without his/her permission unless disclosure is unavoidable during an investigation. In no event will

adverse action be taken against a Pace Analytical employee because he/she has reported a suspected impropriety. These reports will be treated in confidence to the maximum extent consistent with the fair and rigorous enforcement of the Code of Ethics and Standards of Conduct.

Compliance

All employees are required to read, understand and comply with the various components of the standards listed in this document. As the confirmation that they understand this responsibility, each employee is required to sign an acknowledgment form, similar in content to the example contained herein. The signed form becomes part of the employee's permanent record.

ACKNOWLEDGMENT

As an employee of Pace Analytical, I understand that the Company endeavors to abide by the highest professional, ethical standards and demands as much of its employees.

Those standards, as outlined in this document, have been made known to me and I understand my responsibility to follow them as they pertain to the functions of my job. I understand that failure to comply with the terms set forth within this document will result in disciplinary action up to and including termination.

I specifically acknowledge the responsibility for compliance with the contents of this manual that apply to my duties. When performing analytical testing functions I am responsible for compliance with the entire contents of this document.

Name: _____

Signature: _____

Date: _____

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3.0 QUALITY PROGRAM SUMMARY

3.1 PROGRAM OBJECTIVES

The Pace Analytical Quality Manual presents in specific terms the policies, organization, functions, and specific quality assurance (QA) and quality control (QC) requirements designed to achieve the data quality objectives required for clients of Pace Analytical.

3.2 STATEMENT OF POLICY

Pace Analytical is committed to providing the highest quality product to our clients. The validity and reliability of the data generated is ensured by the adherence to rigorous quality assurance/quality control (QA/QC). Pace Analytical emphasizes the application of sound QA/QC principles beginning with the initial planning of the project, through all the field and laboratory activities, and ultimately to the generation of the final report. The principles of concise data quality objectives, representativeness, completeness, comparability, precision and accuracy are applied.

Pace Analytical is committed to providing the resources, including facilities, equipment and personnel, to ensure the adherence to these rigorous quality assurance/quality control protocols. Pace Analytical's quality assurance policy is based on the definition of quality as conformance to requirements; and further, on the premise that the requirements are governed by Company policies, government regulations and standard operating procedures. This commitment recognizes the need for data to be representative of the environmental conditions under consideration, and for data to be generated within a system of functions that is designed to meet applicable regulatory compliance criteria. The Quality Assurance Program contains provisions for establishing, maintaining and executing protocols which lead to results of known, appropriate and acceptable quality; documentation of these activities is an integral part of the QA program.

3.3 QUALITY ASSURANCE DOCUMENTS

3.3.1 Quality Manual

This document describes management policies related to laboratory and associated operations. It defines acceptable practices and discusses each element of the Quality Assurance Program. It functions as the Project QA Manual where no other Quality Assurance Project Plan, Statement of Work or other contractually mandated project plan has been specified. Adherence to the practices described in this manual is required of all employees. Individual laboratories may addend this Manual to specifically define additional program specific criteria. Such addenda must be approved by the laboratory general manager and quality assurance officer and appropriate training must be done.

3.3.1.1 Document Control, Distribution and Revision

In order that the Quality Manual achieve the goals outlined in Section 3.2, it is necessary that each Pace Analytical laboratory employee be familiar with the current provisions of this document. It is also necessary that this document represent a consensus among Pace Analytical management and operational personnel as to the quality level desired and the means to that end.

Prior to its publication as a controlled document, this manual is reviewed by the Laboratory General Managers, Laboratory Quality Assurance Officers with final approval by the CEO and Director of Quality. To obtain such approval, the document proceeds through an iterative process of review and revision, involving the affected managers and their designated representatives. Upon completion of review/revision, a signed/controlled copy is distributed to each laboratory general manager. The document resides on PaceNet (Pace Analytical intranet) as a read only document for all employees to access at any time.

Revision numbers are designated by an integer followed by one decimal place. This document will be reviewed in its entirety on a regular basis. Each review/revision will be tracked by incrementing the integer by one.

Individual copy distribution of this document may originate at any Pace Analytical facility and from the Corporate Office. When a copy of the Quality Manual is released, a designation is made on the cover as to whether the document is a controlled copy. Recipients of controlled copies will automatically be issued an updated version whenever revisions are made to the existing document. Each Pace Analytical location which distributes copies of this plan shall maintain a record of the name of the individual receiving the document, their affiliation, the number of the copy issued and the control status (i.e., controlled vs. uncontrolled).

3.3.2 Standard Operating Procedures Manuals

All procedures related to sample collection, storage, preparation, analysis, disposal, data validation, data reporting and employee training and safety are contained in written Standard Operating Procedures (SOPs). Each SOP contains the elements outlined in the Pace Analytical Corporate SOP ALL-P-001-A, Guidance Document for Pace Analytical for the Preparation of Standard Operating Procedure Documents. Preparation of SOPs which have company-wide application are the responsibility of the Corporate QA function. Analytical and evidentiary SOPs which are unique to an operating facility are prepared by designated personnel (e.g., analytical- section supervisor; evidentiary- laboratory

QAO). SOPs are assigned a number from the Inventory List for SOPs maintained by the Corporate Quality Office or the Quality Assurance Department of the individual lab, as applicable. This number is a part of the document control number when the SOP is accepted for implementation by Pace Analytical management. Laboratory SOPs are reviewed and approved by the Operations Manager, the QAO, and the General Manager for approval prior to implementation.

3.3.3 Project QA Manuals

Project QA Manuals are implemented as required. These include such documents as Quality Assurance Project Plans (QAPPs). For those projects which require specific QA/QC criteria, it is intended that Pace Analytical be directly involved in the development of the appropriate sections prior to any approval process. In some cases, the analytical section of a QAPP is written by Pace Analytical for the client. In this instance, the QAPP is reviewed and approved by the appropriate Pace Analytical Quality Assurance Officer and Operations Manager.

3.4 TERMS AND DEFINITIONS

Accuracy: The degree of agreement between a measured value and the true or expected value.

Aliquot: A measured portion of a sample taken for analysis.

Analyte: The specific entity an analysis seeks to determine.

Batch: Environmental samples that are prepared and/or analyzed together with the same process and personnel, using the same lot(s) of reagents. A preparation batch is composed of one to 20 environmental samples of the same NELAC-defined matrix, meeting the above mentioned criteria and with a maximum time between the start of processing of the first and last sample in the batch to be 24 hours. An analytical batch is composed of prepared environmental samples (extracts, digestates or concentrates) which are analyzed together as a group. An analytical batch can include prepared samples originating from various environmental matrices and can exceed 20 samples.

Blank: A sample that has not been exposed to the analyzed sample stream in order to monitor contamination during sampling, transport, storage or analysis. The blank is subjected to the usual analytical and measurement process to establish a zero baseline or background value and is sometimes used to adjust or correct routine analytical results.

Blind Sample: A sub-sample for analysis with a composition known to the submitter. The analyst/laboratory may know the identity of the sample but not its composition. It is used to test the analyst's or laboratory's proficiency in the execution of the measurement process.

CRDL — Contract required detection limit.

CRQL — Contract required quantitation limit

Calibration: — The process of establishing the relationship between instrument response and known, traceable quantities of analytes of interest.

Calibration Check: — Verification of the ratio of instrument response to analyte amount. A calibration check is done by analyzing for analyte standards in an appropriate solvent. Calibration check solutions are made from a stock solution which is different from the stock used to prepare standards.

Comparability: — Comparability is a qualitative parameter expressing the confidence with which one data set can be compared to another. Comparable data are produced through the use of standardized procedures and techniques.

Completeness: — Measure of the amount of valid data obtained from a measurement system compared to the amount that was expected to be obtained under normal conditions. The equation for completeness is;

$$\frac{\text{\# of data points obtained}}{\text{\# of data points expected}} \times 100 = \text{\% completeness}$$

Continuing Calibration: — The process of analyzing standards periodically to verify the maintenance of calibration of the analytical system.

Control Chart: — A graphical representation of test results with respect to time or sequence of measurement, together with limits within which they are expected to lie when the system is in a state of statistical control.

Control Limit: — A range within which specified measurement results must fall to signify compliance. Control limits may be mandatory, requiring corrective action if exceeded, or advisory, requiring that nonconforming data be investigated and flagged.

Data Quality Objective (DQO): — Systematic strategic planning tool based on the scientific method that identifies and defines the type, quality, and quantity of data needed to satisfy a specified use.

Detection Limit — The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero, expressed either as a method detection limit or instrument detection limit.

Dry Weight: — The weight of a sample based on percent solids. The weight after drying in an oven at a specified temperature.

Duplicate Analysis: A second measurement made on the same sample extract or digestate to assist in the evaluation of precision of analysis.

Duplicate Sample: A second aliquot of the same sample that is treated the same as the original sample in order to determine the precision of the method.

Environmental Sample: An environmental sample or field sample is a representative sample of any material (aqueous, non-aqueous, or multimedia) collected from any source for which determination of composition or contamination is requested or required. Environmental samples can generally be classified as follows:

Surface Water and Ground Water

Drinking Water - Delivered (treated or untreated) water designated as potable water.

Water/Wastewater - Raw source waters for public drinking water supplies, ground waters, municipal influents/effluents, and industrial influents/effluents.

Sludge - Municipal sludges and industrial sludges.

Soil - Predominately inorganic matter ranging in classification from sands to clays.

Waste - Aqueous and non-aqueous liquid wastes, chemical solids, and industrial liquid and solid wastes.

EPIC: LIMS developed by Pace Analytical (Environmental Project Information Control)

Equipment Blank: A sample of analyte-free media which has been used to rinse common sampling equipment to check effectiveness of decontamination procedures.

Field Blank: Blank prepared in the field by filling a clean container with pure de-ionized water and appropriate preservative, if any, for the specific sampling activity being undertaken.

Field Sample: A portion of material received by the laboratory to be analyzed, that is contained in single or multiple containers and identified by a unique field ID number.

Holding Time: The elapsed time from the date/time of sample collection by the field personnel until the date/time of its processing/analysis completion. Holding time requirements are dictated by the method or QAPP, whichever is more stringent.

Homogeneity: The degree to which a property or substance is evenly distributed throughout a material.

Instrument Detection Limit: The minimum concentration of a substance that can be measured and reported on a specific analytical instrument with 99% confidence that the analyte concentration is greater than zero. The instrument detection limit is determined by replicate analyses of a standard solution prepared at the instrument. The instrument detection limit is generally more sensitive than the method detection limit because its determination does not include sample preparation steps.

Initial Calibration: The process of analyzing standards, prepared at specified concentrations, to define the quantitative response, linearity and dynamic range of the instrument to the analytes of interest. Initial calibration is performed whenever the results of a continuing calibration do not conform to the requirements of the method in use or at a frequency specified in the method.

Internal Standards: Analytes added to every standard, blank, lab control sample, matrix spike, matrix spike duplicate, and sample at a known concentration, prior to analysis for the purpose of adjusting the response factor used in quantitating target analytes. Internal standards are used as the basis for quantitation of the target compounds, and are generally applicable to organic analyses.

Laboratory Control Sample: A control sample of known composition spiked with a known concentration of analytes of interest. Aqueous and solid laboratory control samples are analyzed using the same preparation, reagents, and analytical methods employed for field samples.

LIMS: Laboratory Information Management System

Lot: A quantity of bulk material of similar composition processed or manufactured at the same time.

MRD: Method Requirements Documents are written guidelines which outline a consistent minimum definition of work performance for basic method compliance. Each MRD is intended to establish a company-wide, baseline level of consistency for a single regulatory-derived method.

Matrix: The component or substrate that contains the analyte of interest.

Matrix Spike: Aliquot of sample fortified (spiked) with known quantities of specified target compounds or analytes and subjected to the entire sample preparation and analysis procedure in order to assess the appropriateness of the method for the sample matrix by measuring recovery.

Matrix Spike Duplicate:	A second aliquot of the sample that is treated the same as the original matrix spike sample. The relative percent difference between the matrix spike and matrix spike duplicate is calculated and used to assess analytical precision.
Method Blank:	An analytical control consisting of a blank matrix containing all reagents, internal standards and surrogate standards, that is carried through the entire analytical procedure. The method blank is used to define the level of laboratory background and contamination, and to demonstrate that this level does not exceed acceptance limits. Acceptable levels of contamination are defined by project specific data quality objectives.
Method Detection Limit:	The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero. Method Detection Limits are determined using replicate spike samples prepared by the lab and taken through all preparation and analysis steps of the method. The method detection limit is calculated using the appropriate Student's t-parameter times the standard deviation of a series of spiked samples.
Proficiency Testing:	A process to evaluate the proficiency of an analyst or evaluation of the results obtained on test materials in either a know, single or double-blind fashion.
Precision:	The measurement of agreement of a set of replicate results among themselves without any prior information as to the true result. Precision is assessed by means of duplicate/replicate sample analysis.
Protocol:	A stated plan that clearly defines the objectives, methods and procedures for accomplishing a task.
PQL:	The practical quantitation limit (PQL) is the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions.
QAPP:	A Quality Assurance Project Plan or QAPP is a project specific document that describes the policies, organization, objectives, functional activities, and specific QA and QC activities designed to achieve the data quality goals of a specific project.
Quality Assurance:	A system of policies and procedures whose purpose is to ensure, confirm and document that the product or service rendered fulfills the requirements of Pace Analytical and its client. Quality Assurance includes quality planning, quality control, quality assessment (auditing), quality reporting and corrective action.

Quality Control: A system of checks and corrective measures, integrated with the activities that directly generate the product or service, that serves to monitor and adjust the process to maintain conformance to predetermined requirements.

Quality System: A structured and documented management system describing the policies, objectives, principles, organizational authority, responsibilities,

accountability, and implementation plan of an organization for ensuring quality in its work processes, products (items), and services. The quality system provides the framework for planning, implementing, and assessing work performed by the organization and for carrying out required QA and QC.

Raw Data: Any original factual information from a measurement activity or study recorded in a laboratory notebook, worksheets, records, memoranda, notes, or exact copies thereof that are necessary for the reconstruction and evaluation of the report of the activity or study. Raw data may include photography, microfilm or microfiche copies, computer printouts, magnetic media, including dictated observations, and recorded data from automated instruments. If exact copies of raw data have been prepared (e.g., tapes which have been transcribed verbatim, data and verified accurate by signature), the exact copy or exact transcript may be submitted.

Reagent Grade: Analytical reagent (AR) grade, ACS reagent grade, and reagent grade are synonymous terms for reagents which conform to the current specifications of the Committee on Analytical Reagents of the American Chemical Society.

Replicate Samples: Samples collected at the same time, from the same place, for the same analysis, as the original sample in order to determine precision between the samples.

Reporting Limit (RL): The level at which method, permit, regulatory and client specific objectives are met. The reporting limit may never be lower than the statistically determined MDL, but may be higher based on any of the above considerations. Reporting limits are corrected for sample amounts, including the dry weight of solids, unless otherwise specified. Reporting limits are generally two times the MDL.

Sample Delivery Group (SDG): A unit within a single project that is used to identify a group of samples for delivery. An SDG is a group of 20 or fewer field samples within a project, received over a period of up to 14 calendar days. Data from all samples in an SDG are reported concurrently. A Sample Delivery Group is generally defined by one of the following, whichever occurs first:

- All samples within a project; or
- Every set of 20 field samples within a project; or
- All samples received within a 14-day calendar period

Samples may be assigned to Sample Delivery Groups by matrix (i.e., all soil samples in one SDG, all water samples in another), at the discretion of the laboratory. Clients may establish different SDG classifications to meet project specific requirements.

Sensitivity: Capability of methodology or instrumentation to discriminate between samples having differing concentrations or containing differing amounts of an analyte.

Software Quality Assurance: Measures taken to ensure computer programs used to generate data are validated, verified and documented for both vendor-supplied and in-house software packages.

Split Sample: A portion or sub-sample of a total sample obtained in such a manner that is not believed to differ significantly from other portions of the same sample.

Standard: A substance or material, the properties of which are known with sufficient accuracy, to permit its use to evaluate the same property in a sample.

Standard Blank: A calibration standard consisting of the same solvent/reagent matrix used to prepare the calibration standards without the analytes. It is used to construct the calibration curve by establishing instrument background.

Standard Curve: A standard curve is a curve which plots concentrations of known analyte standard versus the instrument response to the analyte.

Standard Operating Procedure: A procedure adopted for repetitive use when performing specific measurement or sampling operation. It may be an industry accepted standard method or one developed by the user.

Surrogates: When employed, these are compounds added to every blank, sample, matrix spike, matrix spike duplicate, lab control sample, and standard prior to any processing or preparation; used to evaluate analytical efficiency by measuring recovery. Surrogate compounds are not expected to be detected in environmental media, but are similar to the analytes of interest. Surrogates are generally utilized for organic analyses.

Systems Audit: An on-site inspection or assessment of a laboratory's quality system.

Traceability: The ability to trace the source and accuracy of a material (i.e. standard) to a recognized primary reference source such as the National Institute of Standards and Technology (NIST) or USEPA.

Trip Blank: This blank is used to detect sample contamination from the container and preservative during transport and storage of the sample. A cleaned sample container is filled with laboratory pure water; any preservative used in the sample is added; and then the blank is stored, shipped, and analyzed with its group of samples.

Validation: The process by which a sample, measurement, method, or data are deemed useful for a specified purpose as based upon the DQOs established for quality control measurements such as accuracy, precision, representativeness, and completeness.

Warning Limits: The limits (typically 2 standard deviations either side of the mean) shown on a control chart within which most results are expected to lie (within a 95% probability) while the system remains in a state of statistical control.

4.0 QA ORGANIZATION AND PERSONNEL

Pace Analytical is a privately held, full-service testing firm operating an integrated system of laboratories, plus multiple service centers nationwide. Each laboratory within the system is set up as an individual entity with local management, but all share common systems and receive support from the corporate office. The chief function of the corporate office is to assist the system laboratories. The corporate office centralizes company wide accounting, business development, financial management, human resources development, information systems, marketing and quality activities. See Figure 4.1 for the Corporate Organizational structure.

4.1 LABORATORY ORGANIZATION AND DESCRIPTION OF RESPONSIBILITIES

For efficient laboratory operation, it is important that all laboratory employees understand the operational structure, specific areas of responsibility and lines of authority within the organization.

It is equally important for laboratory personnel to understand that the reporting structure of the quality function may be separate from other laboratory operations but that the quality function is totally integrated into every aspect of laboratory operation. All laboratory personnel are responsible for knowing and following proper methods and standard operating procedures; recording quality control information required by those procedures in the proper location; and suspending analyses when quality control criteria are not met.

The laboratory is managed by the General Manager. Quality Assurance reports directly to the General Manager and receives guidance and direction from the Corporate Director of Quality.

Under the direction of the General Manager or Laboratory Operations Manager, the technical staff of the laboratory is generally organized into the following functional groups, with the intent to maximize cross functional activity following proper cross training.

Sample Preparation
Wet Chemistry Analysis
Metals Analysis
GC Analysis
GC/MS Volatiles Analysis
GC/MS Semi-volatiles Analysis

Figure 4.2 represents a typical organizational structure for the laboratory operation. Specific laboratories may have variance to the structure based on their size and business offerings. The organizational structure for a specific laboratory is part of the laboratory's addendum.

Individuals involved with implementing procedures outlined in the Quality Manual have the following quality related duties and responsibilities:

4.1.1 Pace Analytical's Director of Quality, Safety and Training is responsible for assisting in the development, implementation and monitoring of quality programs for the company.

4.1.2 The Pace Analytical Laboratory General Manager is responsible for overall laboratory operations. Specific quality assurance responsibilities include:

1. Implement the QA Program within the specific laboratory.
2. Regularly determine the effectiveness of the QA program.
3. Approve laboratory-specific attachments to the QA manual and project-specific Quality Assurance Project Plans.
4. Recommend changes in the QA Program to the laboratory Quality Assurance Officer.
5. Serve as the focal point for the reporting and disposition of all non-conformances.

4.1.3 The Pace Analytical Laboratory Project Manager is the lead person within the laboratory for coordination of all aspects of a specific project. Specifically, some of the project manager's responsibilities include:

1. Establishing direct dialogue with the client pertaining to project requirements, including methodology, TAT, technical information, etc.
2. Arranging bottle orders and shipment of sample kits to client.
3. Verifying log-in information relative to project requirements and field sample chains of custody.
4. Interfacing with laboratory operations staff to update and set project priorities.
5. Updating clients on project status.
6. Providing verbal results to clients.
7. Assisting laboratory staff with report preparation.
8. Working with clients, laboratory staff, and other appropriate Pace Analytical staff to develop project statements of work or resolve problems of data quality.

4.1.4 The Pace Analytical laboratory Quality Assurance Officer (QAO) reviews all aspects of QA/QC for the laboratory. The duties of the laboratory QAO are to:

1. Assist the project manager in specifying QA/QC procedures to be used during the project.
2. Execute QC procedures and techniques to ensure that the laboratory achieves established standards of quality.
3. Evaluate data quality and maintain records on related QC charts and other pertinent information.
4. Monitor laboratory activities to determine conformance with authorized QA policy, and to implement appropriate steps to ensure adherence to QA programs.

5. Coordinate with the client's representative concerning external audits.
6. Review proficiency testing results.
7. Maintain a current distribution list for QAPPs and Quality Manual.
8. Assist in development and implementation of appropriate training programs.
9. Provide technical direction to the laboratory regarding existing and new analytical operation to maintain the integrity of the QA program.

4.1.5 The Operations Manager or Department Managers oversee day-to-day production and quality activities of the laboratory and laboratory related functions of the operation. The specific duties of the Operations Manager are:

1. Provide supervision of laboratory operations.
2. Implement the laboratory quality assurance plan.
3. Ensure proper scheduling and execution of testing programs.
4. Ensure that quality assurance and quality control criteria of analytical methods and projects are satisfied.
5. Assess data quality and take corrective action when necessary.
6. Notify the project team of specific laboratory non-conformances and changes.
7. Approve and release technical and data management reports.
8. Ensure that analysts and technicians maintain sample custody in the laboratory.
9. Approve project specific laboratory quality assurance plans.
10. Coordinate management of projects through technical supervisors.

4.1.6 Group Supervisors/Leaders responsibilities include:

1. Serve as the lead analyst within the specific sections.
2. Lead the training of analysts in laboratory operations and analytical procedures.
3. Organize and schedule analyses with consideration for sample holding times.
4. Implement data verification procedures.
5. Assign duties to analysts as data verifiers.
6. Evaluate instrument performance and supervise instrument calibration and preventive maintenance programs.
7. Report noncompliance situations in regard to the project to the laboratory management and the laboratory Quality Assurance Officer, as appropriate.

4.1.7 Analysts are responsible for tasks identified in the scope of work. They perform the laboratory technical activities within these tasks. The duties of analysts are to:

1. Assist in planning for each phase of their tasks and in defining objectives and activities.

2. Respond to work plan revisions related to their tasks.
3. Train and qualify alternate analysts in specified laboratory QC and analytical procedures.
4. Verify that laboratory QC and analytical procedures are being followed as specified.
5. Review sample QC data at least daily. This includes examination of raw data such as chromatograms (and checking of calculations for a minimum of 10% of the samples analyzed) as well as an inspection of reduced data, calibration curves, and laboratory notebooks.

4.1.8 The Sample Management personnel serves as sample coordinator for the laboratory. Functions carried out by designated personnel include:

1. Sign for incoming samples and verify the data entered on the chain-of-custody forms.
2. Enter the sample information into the computerized Laboratory Information Management System for tracking and reporting.

4.2 TRAINING AND ORIENTATION

Each new permanent employee receives a five part orientation: human resources, ethics, safety, quality assurance, and supervisory. The human resources orientation involves matters of immediate personal concern such as benefits, salary, and company policies. The ethics orientation focuses on core values and workplace integrity. The safety orientation is an in-depth examination of the Pace Analytical Chemical Hygiene Plan and safety program, which are consistent with the requirements of OSHA's Hazard Communication Program (29 CFR 1910.1200). The Quality Assurance orientation provides the new employee with information on the Pace Analytical QA program through an introduction to the Quality manual and SOPs, acceptable record keeping practices, and the individual's responsibility with respect to the quality assurance program. The new employee's Group Supervisor provides the employee with a basic understanding of the role of the laboratory within the structure of Pace Analytical and the basic elements of that individual's position within the laboratory.

Temporary employees receive the same orientation as permanent staff with the exception of the Human Resources orientation. The training of a new employee concentrates on his/her scientific background and work experience to provide the employee with a level of competence so that the individual will be able to function within the defined responsibilities of his/her position as soon as possible. Training is a process used to assist laboratory personnel in their professional development. The training techniques utilized include:

- On-the-job training
- Lectures
- Programmed learning
- Conferences and seminars
- Short courses
- Specialized training by instrument manufacturers

- Participation in check-sample or proficiency sample programs.

Group Supervisors/Leaders are responsible for providing documentation of training and proficiency for each employee under their supervision. The Training Documentation File indicates what procedures (SOPs) an analyst or a technician is capable of performing either independently or only with supervision. The files shall also include examples demonstrating performance of passing QC samples. Training documentation files for each person are kept in a central location in each laboratory. The Group Supervisor/Leader is responsible for updating files. These files include a current curriculum vitae or resume.

4.3 LABORATORY SAFETY

It is the policy of Pace Analytical to make safety and health an integral part of daily operations and to ensure that all employees are provided with safe working conditions, protective equipment, and requisite training to do their work without injury. Each employee is responsible for his/her own safety by complying with established Company rules and procedures.

Sample receiving areas and laboratories are equipped with suitable hoods, protective clothing and eye wear, gloves, barrier creams and any other appropriate measures to prevent or minimize staff contact with hazardous substances. Appropriate safety equipment such as eyewash stations, drench showers, spill absorbents and neutralizers, fire extinguishers, first aid materials, are available.

Each laboratory has a designated Safety Officer. The Safety Officer prepares and maintains the laboratory's Chemical Hygiene Plan/Safety Manual, safety-related SOPs, conducts safety and occupational health orientation, training and review sessions as required, and maintains up to date familiarity with safety and occupational health issues pertinent to the laboratory.

Pace Analytical's safety policies and procedures are documented in the facility's Chemical Hygiene Plan/Safety Manual.

4.4 SECURITY AND CONFIDENTIALITY

Three tiers of security are maintained within Pace Analytical for the purpose of controlling external influences on samples, analytical processes, and data. The first tier of security maintained is controlled access to laboratory buildings. Exterior doors to laboratory buildings remain either locked or continuously monitored by Pace Analytical staff. Keyless door-lock combinations (and computer access codes/logins) are changed on a regular basis. Posted signs direct visitors to the reception office and mark all other areas as off limits to unauthorized personnel. All visitors to the facilities must sign the Visitor's Logbook maintained by the receptionist. All visitors are accompanied by a staff member during the duration of their stay on the premises. The staff member escorts the visitor back to the reception area at the end of his/her visit where he/she signs out in

the Visitor's Logbook. Prior to departure of the last staff member at the close of each day the facility is checked for security.

The second security level is within the facility and may be designated as required by the Operations Manager in consultation with the General Manager. Individual Operations Manager or Group Supervisors close specific areas under their responsibility to entry by unauthorized persons. A list of authorized persons is prepared and signed by the General Manager. "Closed Areas" are designated by prominent postings at all points of access.

The final tier of security is comprised of specific secure areas for sample, data and client report storage which are lockable within the facilities or are secure in offsite storage, and to which access is limited to specific individuals or their designees. Security of sample storage areas is the responsibility of the Sample Custodian. Security of samples and data during analysis and data reduction is the responsibility of Group Supervisors and Operations Manager. Security of client report archives is the responsibility of the Quality Assurance Officer or an appropriate designee. These secure areas are locked whenever these individuals or their designees are not present in the facility.

Designated laboratory sample storage locations are designed to limit access to authorized personnel only, and provisions for lock and key access are provided. No samples are to be removed without proper authorization. If requested by client or contract, samples are not to be removed from secure storage areas without filling out the associated chain-of-custody records.

Standard business practices of confidentiality are applied to all documents and information regarding client analyses. Specific protocols for handling confidential documents are described in Pace Analytical SOPs. Additional protocols for internal identification of samples and data by number only are implemented as required under contract-specific Quality Assurance Project Plans.

Figure 4.1
Corporate/Management Structure

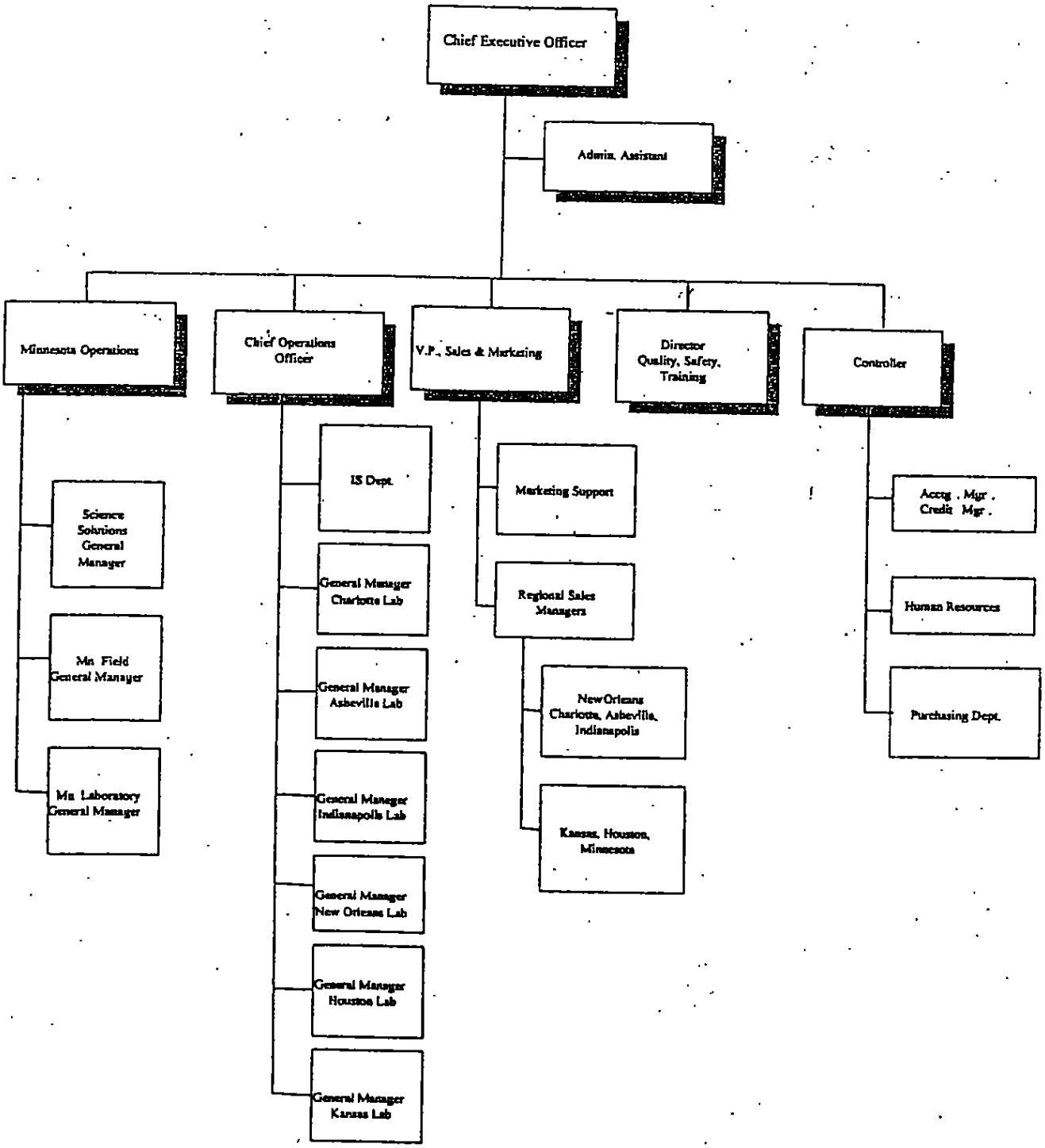
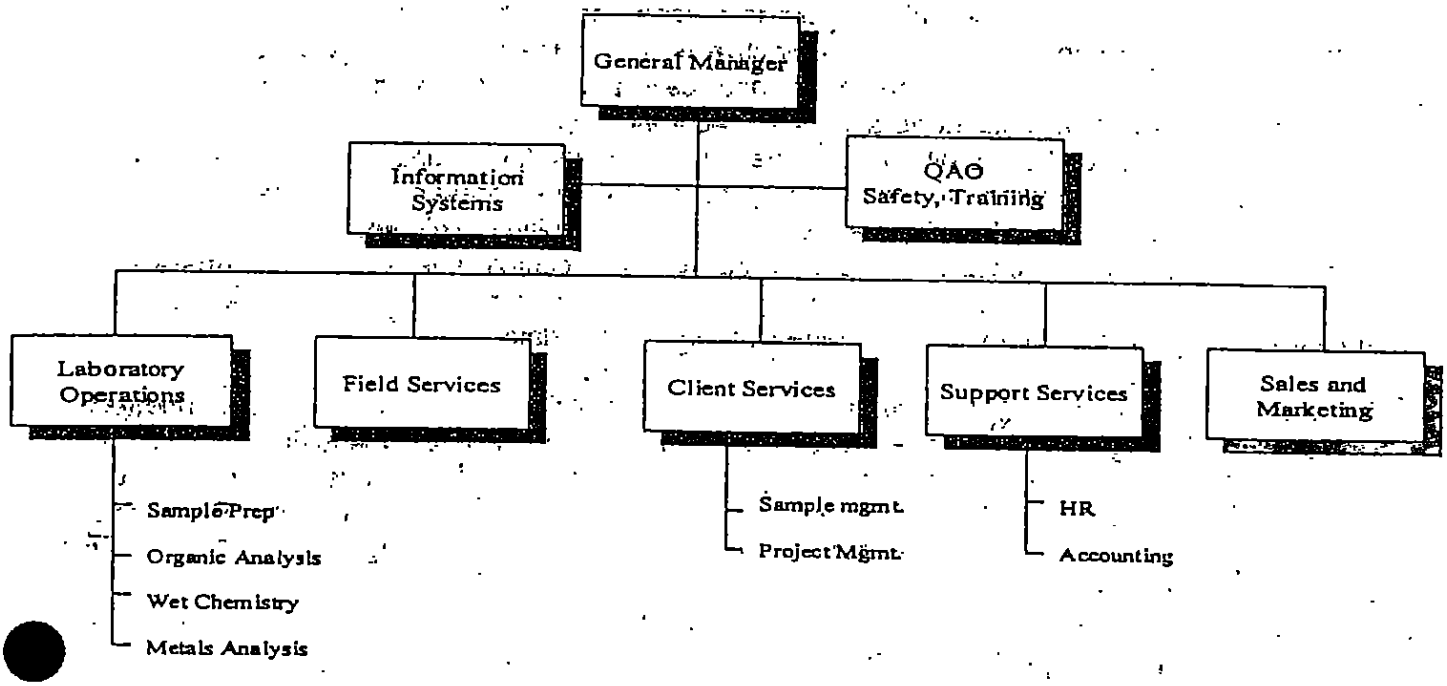


Figure 4.2
Laboratory Organizational Chart



5.0 QUALITY ASSURANCE OBJECTIVES

The purpose of this Quality Manual is to define procedures for the documentation, evaluation, verification, and reporting of data. The objective is to provide a uniform basis for sampling, sample handling, instrument maintenance and calibration, methods control, performance evaluation and analytical data generation and reporting. Specific procedures to be used for sampling, chain of custody, calibration of field instruments (pH, conductivity meters, etc.), laboratory analysis, reporting, internal quality control, audits, preventive maintenance, and corrective actions are described in specific sections of this plan. This section addresses the objectives of precision, accuracy, representativeness, completeness, and comparability (PARCC) which are used to assess whether the data meet the established DQOs (Data Quality Objectives), that are based upon the intended end use of the data.

The quality assurance objective of the laboratories is to provide data of known and documented quality. Precision, accuracy, representativeness, completeness, and comparability are used to assist in data quality assessment. The QA protocols used in the laboratories are referenced from sources including: SW 846 methodologies, EPA Contract Laboratory Program's Statement of Work (Organics and Inorganics), and 40 CFR 136 methodologies.

As stated, the objective of the Quality Assurance Program for the laboratory is to provide data of known quality. To accomplish the objectives, Pace Analytical:

- Maintains an effective, on-going QA/QC program that measures and verifies laboratory performance.
- Provides a quality organization independent of the pressures of project performance with the responsibility and authority for auditing and recommending corrective action.
- Provides a quality organization with clear paths of communication with management.
- Provides sufficient flexibility to allow controlled changes in routine methodology to meet client specific data requirements contained in project-specific quality plans.
- Monitors operational performance of the laboratory on a routine basis and provide corrective action as needed.
- Maintains complete records of sample submittal, raw data, laboratory performance, and completed analyses to support reported data.

5.1 LEVEL OF QA EFFORT

The reliability of data generated in the laboratory is evaluated at the 99% confidence level (mean +/- 3 standard deviations) for control and at the 95% confidence level (mean +/- 2 standard deviations) for warning. Precision of analyses is evaluated using sample duplicates and matrix spike duplicates. Analytical accuracy is monitored using recovery of analytes from surrogate spikes, matrix spikes, EPA reference check standards (when available) and/or lab control samples, and Proficiency Test (PT) samples.

5.2 PRECISION AND ACCURACY

The QA objectives for precision and accuracy are to achieve the QC acceptance criteria specified in the analytical procedures. For the organic and inorganic procedures, the precision and accuracy guideline requirements are specified in the individual methods.

Due to the extensive number of organic parameters and potential matrices, the development of precision and accuracy objectives and control limits for every matrix is difficult. This is typically done with (1) matrix spike and matrix spike duplicate compounds which are added to selected samples before extraction and analysis, and/or (2) surrogate spike compounds which are added to every sample, before extraction and analysis. Although the surrogate and matrix spike analyses do not provide statistically valid statements about precision and accuracy for every compound in a sample, they do give the data reviewer enough information to make judgments about precision and accuracy on a sample-by-sample basis.

Inorganic precision and accuracy objectives are determined by using duplicate or matrix spike duplicate samples (precision), matrix spike and laboratory control samples (accuracy). The following procedure is used:

- For a duplicate (or matrix spike duplicate) sample analysis, at least one duplicate (or MSD) sample is analyzed per sample matrix type (e.g., water, soil) and concentration (e.g., low, medium) per batch of samples or for each 20 samples received, whichever is more frequent, or as specified by project requirements. Samples identified as field blanks can NOT be used for duplicate (or MSD) samples analyses. If two analytical methods are used to obtain the reported values for the same element for a batch of samples (i.e., ICP, GFAA), duplicate samples are run by each method. The relative percent difference (RPD) for each component is calculated for later use during data assessment.

Precision measures the reproducibility of repetitive measurements. It is strictly defined as the degree of mutual agreement among independent measurements as the result of repeated application of the same process under similar conditions. Analytical precision is a measurement of the variability associated with duplicate (two) or replicate (more than two) analyses of the same sample in the laboratory and is determined by analysis of laboratory duplicate/replicate samples. Total precision is a measurement of the variability associated with the entire sampling and analysis process. It is determined by analysis of duplicate or replicate field samples and incorporates variability introduced by both the laboratory and field operations. Duplicate (two) samples or spiked samples are analyzed to assess field and analytical precision as required under certain programs (e.g., Air Force tasks), and the results are assessed using the relative percent difference (RPD) between duplicate measurements. Precision objectives are presented for each analytical method in the corresponding Pace Analytical Standard Operating Procedure (SOP).

Accuracy is a statistical measurement of correctness and includes components of random error (variability due to imprecision) and systematic error. It therefore reflects the total error associated with a measurement. A measurement is accurate when the value reported does not differ from the true value or known concentration of the spike or standard. Analytical accuracy is typically measured by determining the percent recovery

of known target analytes that are spiked into a field sample (a surrogate or matrix spike) or reagent water (laboratory control sample [LCS] or QC check sample). Surrogate compound recovery is reported and is used to assess method performance for each sample analyzed for volatile and semivolatile organic compounds.

Both accuracy and precision are calculated for analytical batches, and the associated sample results must be interpreted by considering these specific measures. Calculation of precision and accuracy to measurement sample results is discussed in the QC section of each SOP.

The QC limits for accuracy and precision are developed based upon laboratory derived data. When applicable, interlaboratory control limits are used to judge acceptability of data generated by the laboratories. Where EPA acceptability criteria does not exist for a given method being utilized for the first time, the laboratories may establish control limits derived from a minimum of four data points. Until verified by a statistically significant data population, the control limits will be considered as advisory limits only and will not automatically initiate a rerun or reanalysis criteria if they are not met.

Generally, QC acceptance limits are laboratory specific, having been statistically derived from an individual laboratory's data. QC objectives for a specific laboratory are included in a project specific QAPP or as a facility specific addendum to this document.

5.3 COMPLETENESS

Completeness is a measure of all information necessary for a valid scientific study. For completeness, it is expected that the methodology proposed for chemical characterization of the samples collected will provide data meeting QC acceptance criteria following standard laboratory data review and validation for at least 95% of all samples collected. Completeness may also be defined as a comparison of the number of tests successfully completed (with acceptable QC) to the number of tests requested. Discrepancy reports are completed to provide explanation when QC criteria are not met.

5.3.1 Random Error

EPA has established (preamble to 40 CFR Part 136, Vol. 49, No. 209, October 26, 1984) that there is a 5% probability that the results obtained for any one analyte will exceed the control limits established for the test due to random error. As the number of compounds measured increases in a given sample, the probability for statistical error also increases.

5.4 REPRESENTATIVENESS

Representativeness is a qualitative element that is related to the ability to collect a sample that reflects the characteristics of that part of the environment that is to be assessed. Sample representativeness is dependent on the sampling techniques used and is considered individually for each project. It is specifically addressed in the work plan.

5.5 COMPARABILITY

Comparability is also considered during preparation of a site specific work plan. One objective of comparability is to ensure that results of similar activities conducted by different parties are comparable. This often involves the use of two independent laboratories on a project or site, whereby the second laboratory is used to confirm a pre-established percentage of sample analyses. Pace Analytical uses EPA-approved or other methods and procedures to ensure comparability with data from previous or following studies. Pace Analytical participates in external and interlaboratory performance evaluation (PE) and proficiency test (PT) studies as additional means of establishing comparability in the laboratory.

5.6 TRACEABILITY

Traceability is the extent to which results can be substantiated by documentation. Traceability documentation exists in two forms: that which links final numerical results to authoritative measurement standards, and that which explicitly describes the history of each sample from collection to disposal. Refer to the sections on sample custody and records management for more specifics on Pace Analytical procedures.

5.7 PERSONNEL QUALITY OBJECTIVES

Pace Analytical is committed to the philosophy that quality operations result from quality planning, design, and work performance by skilled operational personnel. Pace Analytical's policy is to perform its varied types of technical work in accordance with standard quality assurance practices including Good Laboratory Practices (GLP) and the EPA protocols and methodologies, as well as other appropriate regulatory agency guidelines and requirements. Each laboratory within Pace Analytical has a Quality Assurance Officer responsible for maintenance of standard operating procedure records, performance of laboratory audits, tracking performance evaluation and proficiency test sample performance, monitoring federal and state certifications and documenting quality assurance activities.

Each laboratory worker is responsible for knowing standard operating procedures; following these procedures during routine analyses; recording quality control information required by those procedures in the proper location, and taking appropriate corrective action including suspending analyses when quality control criteria are not met.

6.0 SAMPLING PROCEDURES

6.1 INTRODUCTION

Obtaining representative samples and maintaining their integrity are critical parts of any monitoring program. Analytical methods have been standardized but the results of analyses are only as good as the sampling and the sample preservation methods. Defining the magnitude and the nature of an environmental problem requires collecting representative samples for laboratory analysis and data evaluation. Defining in detail the numerous available sampling procedures and their associated quality elements applicable to environmental testing is beyond the scope of this document. Quality elements required to meet the DQOs for a given sampling event must be contained in a project specific sampling plan or within an overall site work plan. The plans should present the best approved techniques currently available for sampling and sample preservation.

In sampling, the objective is to remove a small portion of an environment that is representative of the entire body. Once the sample is taken, the constituents of the sample must stay in the same condition as when collected. The length of time that these constituents will remain stable is related to their character and the preservation method used. Since preservation methods relate to the parameters to be analyzed, these techniques are classified by parameter.

6.2 SAMPLING SERVICES

Various Pace Analytical locations provide a variety of sampling services. A well-defined communication mechanism is critical to obtaining samples which are representative of site conditions. Figure 6.1 lists minimum elements which must be established, communicated, and followed during each phase of the sampling and analysis project. Listed below are the types of sampling events for which Pace Analytical can provide services.

6.2.1 Ground Water Monitoring

Collection and analysis of ground water samples from sanitary landfills, Superfund sites, abandoned hazardous waste dumps and spill sites involves the use of an extensive array of state-of-the-art sampling equipment with the ability to pre-pump and sample wells of all sizes, to depths of more than 200 feet.

6.2.2 Waste Water Monitoring

Collection of samples for routine wastewater monitoring; special compliance monitoring for metals, cyanide and total toxic organics (TTO); NPDES permit application monitoring; and more, as required by local, state of federal agencies.

6.2.3 Hazardous Waste Sampling

Pace Analytical can conduct an inventory, collect and analyze samples, and repackage and properly label hazardous waste for shipment.

6.2.4 Flow Monitoring

Monitoring flow in most types of discharges through installation of wiers or flumes and also determine flow using fluormetric dye tracing methods.

6.2.5 Soil & Soil Gas Sampling

Typically this involves collecting soil samples for volatile and semi-volatile organics, inorganics, hazardous waste constituents and most other chemical parameters of concern.

6.2.6 PCB Services

Collection of samples from transformers, electrical switches and capacitors to be tested for the presence of PCBs. Handling of PCB-related spills includes the collection and analysis of wipe, swab or soil samples.

6.2.7 Ambient Air Monitoring and Stack Emission Testing

Pace Analytical has experience in providing sampling as specified in the Toxic Organic (TO method series) protocols for ambient air monitoring, along with NIOSH and AIHA specified applications. Full capability stack sampling and testing (e.g., VOST, impinger, etc.) is available for process optimization and emission monitoring.

6.3 FIELD SUPPORT

Pace Analytical provides shipping containers, custody documents, cooler and/or sample custody seals as needed, sample bottles, labels, chemical preservatives for water samples, and trip, temperature and field blanks to support field sampling events. Tables 6.1, 6.2 and 6.3 list general guidelines for sample container types, preservatives and holding times for a variety of methods. Note that all analyses listed are not necessarily performed at all Pace Analytical locations and there may be additional laboratory analyses performed that are not included in these tables. Certain Pace Analytical locations can provide pick up and delivery services to their clients.

Upon receipt of the field samples at the laboratory, Pace Analytical ensures that sample bottles are maintained according to preservation requirements and that sample storage conditions do not contribute to the presence of test analytes in the samples.

<u>Pace Analytical Shipping Containers</u>

Pace Analytical typically uses commercial coolers for the transport of environmental samples from the field to the laboratory. Chain-of-custody seals and forms, employed for each cooler packed at Pace Analytical ensure complete documentation and provide evidence of unbroken custody of the cooler contents. Coolers meet or exceed all protocol requirements (i.e., DOT, USEPA, ASTM) for shipping. Coolers are prepared at the laboratory to provide the client with all of the sample containers needed for the analyses required by a project.

6.4 PRESERVATION

Pace Analytical provides the required chemical preservatives for water samples. High quality, reagent grade chemical preservatives are used. It is the responsibility of those collecting the samples to properly use these materials and ensure that proper preservation techniques are performed and preservative requirements are met, including the maintenance of proper temperature.

Upon receipt of samples at the laboratory, the temperature of each cooler is measured and recorded on the chain of custody or other supporting documents. Similarly, the pH of bottles to which chemical preservative was added is measured (with the exception of sample collected for volatile organic compounds and TOX), and recorded. A disposable pipette, or similar procedure to prevent sample contamination, is used to remove an aliquot of the sample for the pH check.

6.5 SAMPLE CONTAINERS

Pace Analytical provides pre-cleaned sample containers (with or without preservative) in the shipping containers for sample collection. Sample bottles are never reused by the laboratory.

6.6 SAMPLE RECEIPT SCHEDULE

Samples are usually accepted at Pace Analytical facility during normal business hours within one day following field sampling unless different arrangements are made in advance with an authorized Pace Analytical representative. Shipping containers received at the laboratory on business holidays, weekends or after normal work hours will be placed in the walk-in refrigerator and opened on the next regular business day unless prior arrangements are made in advance for that day's receipt and log-in.

Figure 6.1

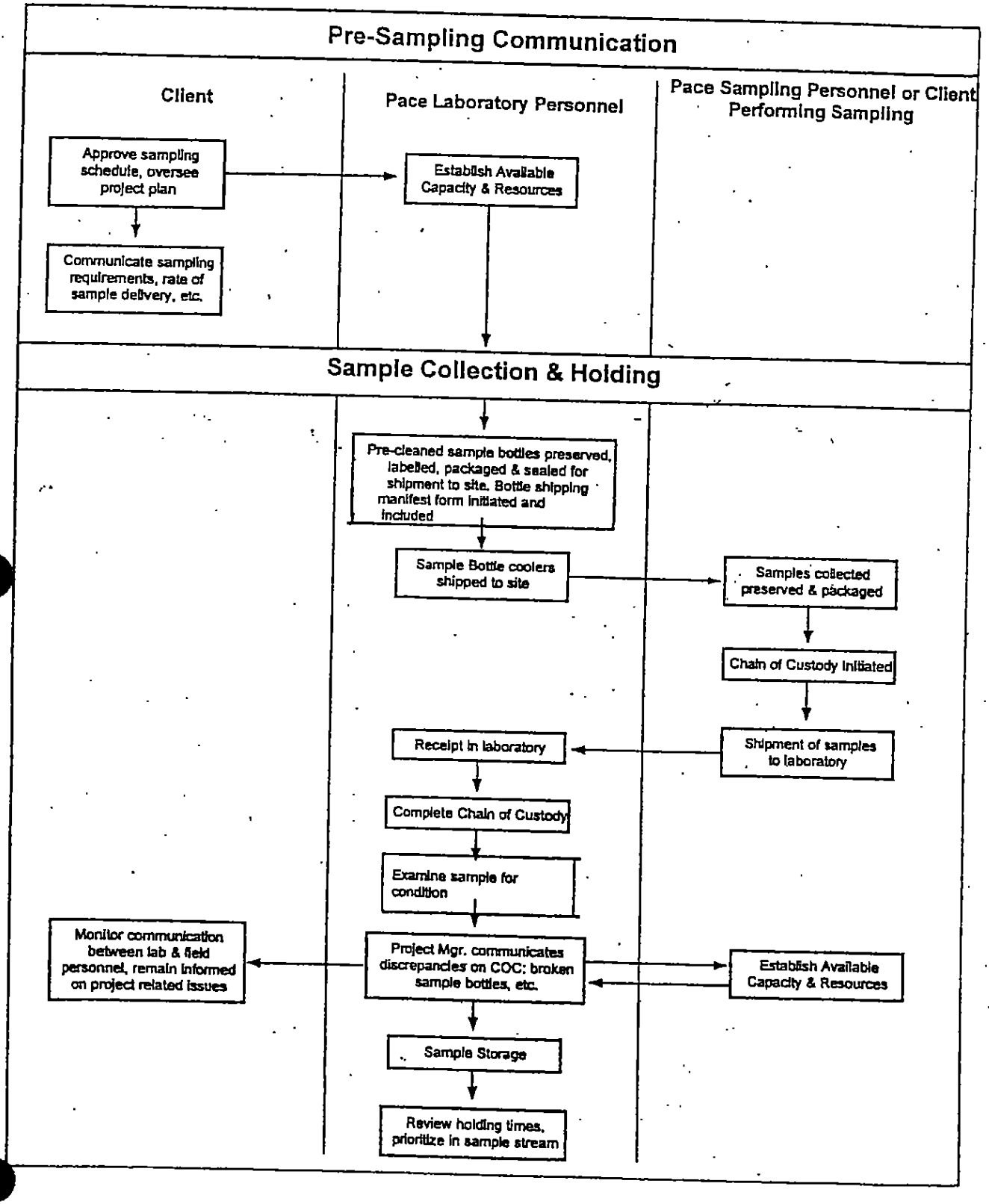

Pre-Sampling Communication
Client
Pace Laboratory Personnel
Pace Sampling Personnel or Client Performing Sampling
Approve sampling schedule, oversee project plan
Establish Available Capacity & Resources
Communicate sampling requirements, rate of sample delivery, etc.
Sample Collection & Holding
Pre-cleaned sample bottles preserved, labelled, packaged & sealed for shipment to site. Bottle shipping manifest form initiated and included
Sample Bottle coolers shipped to site
Samples collected preserved & packaged
Chain of Custody Initiated
Shipment of samples to laboratory
Receipt in laboratory
Complete Chain of Custody
Examine sample for condition
Project Mgr. communicates discrepancies on COC: broken sample bottles, etc.
Establish Available Capacity & Resources
Monitor communication between lab & field personnel, remain informed on project related issues
Sample Storage
Review holding times, prioritize in sample stream

TABLE 6.1 List of Containers, Preservatives and Holding Times for Inorganic and Organic Analyses of Aqueous Samples

NAME	CONTAINER[1]	PRESERVATION[2]	MAXIMUM HOLDING TIME[3]
Inorganic Tests:			
Acidity	P,G	Cool, 4°C	14 days
Alkalinity	P,G	Cool, 4°C	14 days
Ammonia	P,G	Cool, 4°C, H_2SO_4 to pH<2	28 days
Biochemical oxygen demand	P,G	Cool, 4°C	48 hours
Bromide	P,G	None Required	28 days
Biochemical oxygen demand, carbonaceous	P,G	Cool, 4°C	48 hours
Chemical oxygen demand	P,G	Cool, 4°C, H_2SO_4 to pH<2	28 days
Chloride	P,G	None Required	28 days
Chlorine, total residual	P,G	None Required	Analyze immediately
Color	P,G	Cool, 4°C	48 hours
Cyanide, total amenable to chlorination	P,G	Cool, 4°C, NaOH to pH>12 0.6g ascorbic acid[4]	14 days
Fluoride	P	None Required	28 days
Hardness	P,G	HNO_3, to pH<2, H_2SO_4 to pH<2	6 months
Hydrogen ion (pH)	P,G	None Required	Analyze immediately
Kjeldahl and organic nitrogen	P,G	Cool, 4°C, H_2SO_4 to pH<2	28 days
Metals:			
Chromium VI	P,G	Cool, 4°C	24 hours
Mercury (SW846)	P,G	HNO_3 to pH<2	28 days in glass
Mercury (CLP, 200 series)	P,G	HNO_3 to pH<2	28 days
Metals, except chromiumVI and mercury	P,G	HNO_3 to pH<2	6 months
Nitrate	P,G	Cool, 4°C	48 hours
Nitrate-nitrite	P,G	Cool, 4°C, H_2SO_4 to pH<2	28 days
Nitrite	P,G	Cool, 4°C	48 hours
Oil and grease	G	Cool, 4°C, H_2SO_4 to pH<2	28 days
Organic carbon	P,G	Cool, 4°C, H_2SO_4 to pH<2	28 days
Orthophosphate	P,G	Filter immediately, Cool, 4°C	48 hours
Phenols	G only	Cool, 4°C, H_2SO_4 to pH<2	28 days
Phosphorus (elemental)	G	Cool, 4°C	48 hours
Phosphorus, total	P,G	Cool, 4°C, H_2SO_4 to pH<2	28 days
Residue, total	P,G	Cool, 4°C	7 days
Residue, filterable	P, G	Cool, 4°C	7 days
Residue, nonfilterable (TSS)	P, G	Cool, 4°C	7 days
Residue, Settleable	P, G	Cool, 4°C	48 hours
Residue, volatile	P, G	Cool, 4°C	7 days
Silica	P	Cool, 4°C	28 days

TABLE 6.1 (cont.) List of Containers, Preservatives and Holding Times for Inorganic and Organic Analyses of Aqueous Samples:

NAME	CONTAINER[1]	PRESERVATION[2]	MAXIMUM HOLDING TIME[3]
Inorganics Continued:			
Specific conductance	P,G	Cool, 4°C	28 days
Sulfate	P,G	Cool, 4°C	28 days
Sulfide	P,G	Cool, 4°C, add zinc acetate & sodium hydroxide to pH>9	7 days
Sulfite	P,G	None Required	Analyze immediately
Surfactants	P,G	Cool, 4°C	48 hours
Turbidity	P,G	Cool, 4°C	48 hours
Organic Tests:			
Oil and Grease	G	Cool, 4°C, HCl or H_2SO_4 to pH<2	28 days
Organic carbon, Total (TOC)	P,G	Cool, 4°C, HCl or H_2SO_4 to pH<2	28 days
Purgeable Halocarbons	G,Teflon-lined septum	Cool, 4°C, 0.008% $Na_2S_2O_3$[4], HCl[5,6] to pH<2	14 days
Purgeable Aromatic Hydrocarbons	G,Teflon-lined septum	Cool, 4°C, 0.008% $Na_2S_2O_3$[4], HCl[5,6] to pH<2	14 days
Acrolein and acrylonitrile	G,Teflon-lined septum	Cool, 4°C, 0.008% $Na_2S_2O_3$[4] Adjust pH to 4-5	14 days
[illegible]ols	G,Teflon-lined cap	Cool, 4°C, 0.008% $Na_2S_2O_3$[4]	7 days until extraction, 40 days after extraction
nzidines	G,Teflon-lined cap	Cool, 4°C, 0.008% $Na_2S_2O_3$[4]	7 days until extraction, 40 days after extraction
Phthalate esters	G,Teflon-lined cap	Cool, 4°	7 days until extraction, 40 days after extraction
Nitrosamines	G,Teflon-lined cap	Cool, 4°C, store in dark, 0.008% $Na_2S_2O_3$[4]	7 days until extraction, 40 days after extraction
PCBs	G,Teflon-lined cap	Cool, 4°C	7 days until extraction, 40 days after extraction
Nitroaromatics and cyclic ketones	G,Teflon-lined cap	Cool, 4°C, store in dark, 0.008% $Na_2S_2O_3$[4]	7 days until extraction, 40 days after extraction
Polynuclear aromatic hydrocarbons	G,Teflon-lined cap	Cool, 4°C, 0.008% $Na_2S_2O_3$[4]	7 days until extraction, 40 days after extraction
Haloethers	G,Teflon-lined cap	Cool, 4°C, 0.008% $Na_2S_2O_3$[4]	7 days until extraction, 40 days after extraction
Chlorinated Hydrocarbons	G,Teflon-lined cap	Cool, 4°C, HCl or H_2SO_4	7 days until extraction, 40 days after extraction
Dioxins and Furans	G,Teflon-lined cap	Cool, 4°C, 0.008% $Na_2S_2O_3$[4]	40 days until extraction, 40 days after extraction
Total organic halides (TOX)	G,Teflon-lined cap	Cool, 4°C, HCl or H_2SO_4 to pH <2	28 days
Pesticides	G,Teflon-lined cap	Cool, 4°C pH 5-9	7 days until extraction, 40 days after extraction

[illegible] Footnotes:
[illegible]yethylene (P) or glass (G)
[illegible]ample preservation should be performed immediately upon sample collection.
[illegible]olding times are based from time of sample collection.
Should only be used in the presence of residual chlorine.
[5] Free chlorine must be removed prior to addition of HCl by the appropriate addition of $NA_2S_2O_3$
[6] Sample receiving no pH adjustment must be analyzed within seven days of sampling.

Table 6.2 Required Containers, Preservation Techniques, and Holding Times for Non-Aqueous, Soil or Solid Matrices (as specified in SW-846):

NAME	CONTAINER	PRESERVATION	MAXIMUM HOLDING TIME[1]
Semivolatile Organics/Organochlorine Pesticides/PCBs and Herbicides			
Concentrated waste samples	8 oz. wide mouth glass w/Teflon liner	None	14 days until extraction, 40 days after extraction
Liquid samples, no residual Chlorine present	1 gal. or 2 1/2 gal. amber glass w/Teflon liner	Cool, 4°C	Samples must be extracted within 7 days & extracts analyzed within 40 days
Residual Chloride, present	1 gal. or 2 1/2 gal. amber glass w/Teflon liner	Add 3mL 10% sodium thiosulfate	Samples must be extracted within 7 days & extracts analyzed within 40 days
Soil/sediments and sludges	8 oz. wide mouth glass w/Teflonlliner	Cool, 4°C	14 days until extraction, extracts analyzed within 40 days.
Volatile Organics			
Concentrated waste samples	8 oz. wide mouth glass w/Teflonlliner	None	14 days
Liquid samples, no residual Chlorine present	3x40 mL vials w/Teflon lined septum caps	Cool, 4°C[2]	14 days
Residual Chlorine, present	3x40 mL vials w/Teflon lined septum caps	Collect sample in a 4 oz. soil VOA container which has been pre-preserved w/4 drops of 10% sodium thiosulfate. Gently mix sample & transfer to a 40mL VOA vial[2]. Cool to 4°C	14 days
Acrolein & Acrylonitrile	3x40 mL vials w/Teflon lined septum caps	Adjust to pH 4-5, Cool to 4°C	14 days
Soil/sediments and sludges	4 oz. (120mL), wide mouth glass w/Teflon liner or wide mouth glass container sealed w/a septum	Cool to 4°C	14 days

[1] Holding times are based from time of sample collection.
[2] Adjust pH<2 w/H_2SO_4, HCl or solid $NaHSO_4$

Table 6.3 Required Containers, Preservation, and Technical Hold Times for Air Methods:

TEST	MEDIA	PRESERVATION	MAXIMUM HOLDING TIME [1]
TO1	Tenax tubes	Freezer - 20°C	14 days
TO2	Carbo Sieve	Cool to 4°C	14 days
VOST	Tenaz/Tenaz-charcoal	Cool to 4°C	14 days
TO4	Puf 3" long, 60mm diameter	Freezer - 10°C or below	Extracted 7 days after collection
TO1O	Puf 10cm long, 20mm diameter	Cool to 4°C	Extracted 7 days after collection
TO11	Absorbent cartridge	Cool to 4°C	30 days
TO13	Puf XAD/XAD		Extracted 7 days after collection
TO14	Summa canisters	Room temperature	Not specified
	Tedlar bags	Room temperature	48-72 hours (dependant on client)
T09	PUF XAD/XAD	Cool to 4°C	30 days
Method 3C	Summa cannisters	Room temperature	15 days
	Tedlar bags		
Method 23	XAD	Cool to 4°C	30 days

1. Holding times are based from time of sample collection.

7.0 SAMPLE CUSTODY

7.1 SAMPLE RECEIPT AND ACCEPTANCE

Sample shipments are received at the sample receiving area. Sample management personnel verify the number of shipping containers received against the numbers listed on the shipping manifest/chain-of-custody. Any damage to the shipping containers or other discrepancies observed are noted on the chain-of-custody or on the sample receiving non-conformance report. A copy is filed for future reference.

The external chain-of-custody is signed by the carrier for relinquishment of samples and signed by sample management personnel for sample receipt. The actual chain-of-custody may be supplied by Pace Analytical (Figure 7.1), or may be the client's own form. The chain-of-custody remains in the project file at all times.

7.2 CHAIN OF CUSTODY

Chain-of-Custody encompasses three major elements: field sampling, laboratory analysis and final data file. A Chain-of-Custody (COC) document may be the means in some types of legal proceedings by which evidence of custody of samples from time of receipt to completion of analysis is proven in the courts. Pace Analytical has implemented standard operating procedures to ensure that sample custody objectives of traceability and responsibility are achieved for every project. This section covers quality related activities from the receipt of samples at the laboratory through the issuance of final analytical data and the storage of data in its final data file.

Field personnel or Client representatives complete a Chain-of-Custody Form for all samples. Samples are received by the laboratory accompanied by these forms.

The sampler is responsible for providing the following information:

- Client project name
- Project location
- Field sample number/identification
- Date and time sampled
- Sample type
- Preservative
- Analysis requested
- Sampler signature
- Signature of person relinquishing samples
- Date and time relinquished
- Sampler remarks
- Custody Seal Number (if applicable)

The record is filled out completely and legibly. Errors are corrected by drawing a single line through and initialing and dating the error. All transfers of samples except to and from commercial couriers must be recorded on the Chain-of-Custody via the "relinquished" and "received by" sections. All information except signatures should be printed.

7.3 SAMPLE VERIFICATION

7.3.1 Upon arrival of a sample shipment, sample management personnel perform sample inspection. Pace Analytical's Sample I.D. and Condition Sheet, or equivalent (Figure 7.2), serves as a check-off list of procedures to follow and as documentation of the following:

1. Presence/absence of custody seals or tapes of the shipping containers and the condition of the seals (i.e., intact, broken).

2. Presence/absence of chain-of-custody; (if present, is it complete?)

3. Presence/absence of sample tags; (if present, are they removable?)

4. Agreement/non-agreement between the sample tags, chain-of-custody, and any client documentation.

5. Condition of the samples when received, including:

   - Sample temperature
   - Intact, broken/leaking
   - Headspace in VOA vials
   - Sample holding time
   - Sample pH when required
   - Adequate sample volume provided
   - Appropriate containers/preservatives used

If discrepancies are found, the Pace Analytical's project manager is contacted immediately (verbally and by using a Discrepancy Report Form, or equivalent (Figure 7.3). If the project manager is not available, the QAO is contacted for further directions. Discrepancies will be reported with analytical results.

7.4 SAMPLE LOG-IN

7.4.1 General Policies

a. Upon completing sample receipt/custody procedures, all sample and analysis data must be complete and documented on the chain of custody or accompanying forms for input into the Laboratory Information Data Management System (EPIC).

   Sample and analysis data must include:

   - Client name and contact
   - Client number
   - Pace Analytical project number
   - Pace Analytical project manager
   - Sample descriptions
   - Due date
   - List of analyses requested