Attachment D-2

Brief Description of Operation, Nature of Business

Veolia ES Technical Solutions, L.L.C. (Veolia) is a full service hazardous waste management company with locations throughout the United States. To service our customers who generate universal waste, Veolia operates four universal waste destination facilities. The Tallahassee, FL facility is one of the four universal waste destination facilities.

The Tallahassee facility is designed to recycle mercury containing devices, including fluorescent lamps, HID lamps and mercury containing manufactured articles (MCMA).

- Fluorescent lamps are recycled using a combination of manual and automated dry separation processes to separate the primary components of the lamps; glass, aluminum and the phosphor powder. Glass and aluminum are shipped off-site for further reuse. The phosphor powder derived from the fluorescent lamps is accumulated on-site and the mercury contained in the powder is reclaimed using a retort oven. In the recycling process small amounts of other scrap metals and plastics are also generated.
- HID lamps are recycled using a combination of manual and automated separation processes to separate the outer lamp glass, brass or aluminum bases and the mercury containing arc tube. The arc tubes are crushed and loaded into containers for retort processing to recover the mercury.
- MCMA is recycled through a combination of manual separation followed by retort processing or the articles may be placed directly into the retort oven.

All fluorescent lamp processing equipment, with the exception of the feed belt, is contained within a separate room that is equipped with special air handling systems. The air handling systems maintain a negative air pressure within the room. The HID process is performed within the controlled environment of the HID machine. Some HID lamps due to their construction, are dismantled by hand, however the arc tubes removed from these lamps are feed into the HID machine for crushing. All phases of the separation process are conducted within a negative pressure enclosure. The retorting of mercury containing materials, including phosphor powder, crushed arc tubes and MCMA, occurs in a separate room with its own air handling systems. The systems impart a negative pressure to the room to control mercury vapors.

Elemental mercury is recovered from the retort operation and shipped to a mercury refiner/seller. This company may sell the mercury as is or may further refine the mercury and repackage for sale for use in the manufacture of new products.

In addition to the recycling of mercury containing lamps and MCMA, the facility also operates as a handler of other universal wastes and non-RCRA-regulated wastes such as computer equipment and lamp ballasts. The facility also conducts hazardous and nonhazardous waste transporter and transfer activities.

Attachment D-3

Daily Design Capacity and
Annual Quantities

Daily Design Capacities

Activity	Material Description	Quantity
Storage	Mercury ~~Containing Lamps, including fluorescent~~containing lamps~~ and HID lamps;~~, Mercury containing manufactured articles (MCMA), Mercury containing in-process material and other universal wastes such as universal waste batteries, or non-RCRA hazardous materials	~~7424~~13,504 ft3 of lamps, or 844 55 gallon drum equivalents
~~Storage~~	~~Mercury Containing Manufactured Articles (MCMA) and Mercury Containing Phosphor Powder~~	~~108 drums~~
Fluorescent Lamp Processing	Fluorescent Lamps, including straight lamps, circular lamps, u-tube lamps, compact lamps and UV lamps	~~96~~156,000 lamps/day (~~4,000~~6,500 lamps/hr X 24 hr/day)
HID Processing	HID Lamps, including mercury vapor lamps, metal halide lamps and high and low pressure sodium lamps	96,000 lamps (4,000 lamps/hr X 24 hr/day)
Retort Processing	Phosphor powder, MCMA, Crushed Arc Tubes	3 drums/day

Annual Quantities (Maximum Design Capacity)

Activity	Material Description	Quantity
Storage	Mercury ~~Containing Lamps, including fluorescent~~containing lamps~~ and HID lamps,~~, Mercury containing manufactured articles (MCMA), Mercury containing in-process material and other universal wastes such as universal waste batteries, or non-RCRA hazardous materials	~~7424~~13,504 ft3 of lamps, or 844 55 gallon drum equivalents
~~Storage~~	~~Mercury Containing Manufactured Articles (MCMA) and Mercury Containing Phosphor Powder~~	~~108 drums~~
Fluorescent Lamp Processing	Fluorescent Lamps, including straight lamps, circular lamps, u-tube lamps, compact lamps and UV lamps	~~34,560~~56,160,000 lamps (~~4,000~~6,500 lamps/hr X 24 hr/day X 360

~~Revised 8/19/2011~~

		days/year)
HID Processing	HID Lamps, including mercury vapor lamps, metal halide lamps and high and low pressure sodium lamps	34,560,000 lamps (4,000 lamps/hr X 24 hr/day X 360 days/year)
Retort Processing	Phosphor powder, MCMA, Crushed Arc Tubes	1,080 drums (3 drums/day X 360 days/year)

Attachment D-4

Maximum Storage Capacity

Below is a table listing the maximum storage capacity by storage area and by material type. The maximum volume of waste to be stored on-site at any one time will not exceed the capacity of the individual storage areas.

Storage Area Capacities

Description	Quantity
~~Container~~ Storage Areas #1 - #5, combined ~~–~~Mercury Containing Manufactured Articles (MCMA~~)~~ ~~–~~), Dental Amalgam and Traps ~~–~~, Universal Waste Lamps, Mercury Containing Phosphor Powder ~~–~~, HID Arc Tubes ~~–~~, Prep Room Debris and PPE ~~–~~, Condensate Water ~~–~~, Spent Carbon	~~1600~~13,504 ft3 ~~(1)~~of lamps, or 844 55 gallon drum equivalents
Storage Area #1	960 ft3 of lamps, or 60 55 gallon drum equivalents
~~Non-hazardous~~ Storage ~~Areas~~ ~~– Retorted Phosphor Powder~~ ~~– Non-hazardous PPE~~ ~~– Other Retorted Articles and Debris~~Area #2	~~800~~1,280 ft3 ~~(2)~~of lamps, or 80 55 gallon drum equivalents
~~Inbound Universal Waste~~ Storage Area ~~– Fluorescent Lamps~~ ~~– HID Lamps~~ ~~– Other universal wastes (universal waste – batteries, or non-RCRA hazardous materials)~~ #3	~~7,424~~768 ft3 ~~(3)~~of lamps, or 48 55 gallon drum equivalents
Storage Area #4	4,352 ft3 of lamps, or 272 55 gallon drum equivalents
Storage Area #5	6,144 ft3 of lamps, or 384 55 gallon drum equivalents
South Building ~~–~~Universal Waste Batteries ~~–~~, Non-hazardous Batteries ~~–~~, Lead Acid Batteries ~~–~~, Computers and associated peripherals ~~–~~, CRTs and Televisions ~~–~~, Lamp Ballasts, Other non-hazardous materials	72 pallets
Glass in roll-offs in North Yard	~~80~~100 tons
Aluminum in cube boxes	10 cubic yard boxes (5 Tons)

~~Revised – 8/24/11~~

Plastics/Trash in roll-~~off~~offs adjacent to drive	30 tons
Cardboard in bales in North Yard	30 tons
Elemental Mercury in Prep Room	~~2800~~500 pounds

~~(1) Storage area size based on one area of 6 double stacked pallets and one single stacked pallet with a per pallet storage volume of 4'X4'X4' within a 176 ft2 area and one area of 6 double stacked pallets with a per pallet storage volume of 4'X4'X4' within a 128 ft2 area.~~

~~(2) Storage area size based on one area of 6 double stacked pallets with a per pallet storage volume of 4'X4'X4' within a 128 ft2 area and one area of 2 single stacked pallets with a per pallet storage volume of 4'X4'X4' within a 90 ft2 area.~~

~~Storage area size based on 58 pallets (4' X 4') X 8' tall, stored within 1,376 square feet of floor space.~~

ATTACHMENT D-5

5.0 Operations Plan

5.1 Introduction

Veolia ES Technical Solutions, ~~LLC~~L.L.C. (Veolia) is currently permitted as a Mercury Recovery and Reclamation Facility under the provisions of Permit Number 71455-HO-007 issued by the Florida Department of Environmental Protection (Department). Veolia is renewing the permit and this operations plan is intended to describe the current mercury recovery and reclamation activities at the facility~~.~~ as well as proposed modifications. This plan addresses the following topics:

General Facility Information
Incoming Material Acceptance Procedures
Outgoing Material Shipments and Documentation
Material Processing Descriptions
Air Pollution Control Technology
Container Storage Areas
Recovered Material Quality Control
Operating Records
Hazard Prevention
Facility Inspection Procedures
Maintenance Procedures
Personnel Training

5.2 General Facility Information:

A general description of the Veolia ES Technical Solutions, LLC (Veolia) facility, as required by 40 CFR 270.14(b) (1), follows:

Company Name:	Veolia ES Technical Solutions, LLC.
Corporate Address:	~~700 East Butterfield Road~~4760 World Houston Parkway, Suite ~~201~~100 ~~Lombard, IL 60148~~Houston, TX 77032
Facility Address:	342 Marpan Lane Tallahassee, FL. 32305
Telephone Number:	850-877-8299
Facsimile Number:	850-878-3349
EPA Identification Number:	FL0000207449
Facility Contact:	~~Linda Dunwoody~~Matthew Melott, Operations Manager

Veolia operates a mercury recovery and reclamation facility that provides full-service recycling for articles containing mercury. For the purpose of this plan, mercury-

containing manufactured articles (MCMA) includes but is not limited to fluorescent lamps, high intensity discharge lamps, devices containing elemental mercury, dental amalgam and clean up articles from the clean-up of releases of or components of mercury-containing manufactured articles. Based on the volumes of wastes received and the methods of recycling, fluorescent and HID lamps will be addressed as a category of waste separate from the other types of MCMA. The remaining waste types will be referred to generically as MCMA throughout the plan.

In addition to the mercury recovery and reclamation operations, Veolia also conducts the following operations under the management and direction of the facility:

- On-site Universal Waste Battery accumulation and storage
- On-site Lamp ballast accumulation and storage
- On-site Electronic ~~scrap~~Waste accumulation, sorting and ~~storage~~disassembly
- On-site Hazardous Waste Transfer
- Off-site Universal Waste Transport and Transfer
- Off-site Hazardous Waste Transport
- Off-site PCB Transport and transfer

5.2.1 Company Chronology

July 1, 2006 to present FL0000207449	Veolia ES Technical Solutions, L.L.C. 342 Marpan Lane, Tallahassee, FL 32305
January 2005 to July 1, 2006 FL0000207449	Onyx Environmental Services, LLC 342 Marpan Lane, Tallahassee, FL 32305
January 2003 to December 2004 FL0000207449	Onyx Special Services, Inc. 342 Marpan Lane, Tallahassee, FL 32305
January 2000 to January 2003 FL0000207449	Superior Special Services, Inc. 342 Marpan Lane, Tallahassee, FL 32305
August 1996 to January 2000 FL0000207449	Recyclights, Inc. 4972 Woodville Hwy, Tallahassee, FL 32305

5.2.2 Compliance History of Facility

Inspection dates and any alleged violations and associated Notices of Violation (NOVs) are summarized in this section as reference to the compliance history at the facility.

Table 5.1 Compliance History

Date	Agency	Program	Description of Violation(s)	Penalty Assessed
12/18/96	FL DEP	RCRA	No violations	None
9/5/1997	FL DEP	RCRA	No violations	None

3/19/98	FL DEP	RCRA	No violations	None
9/17/99	FL DEP	RCRA	No violations	None
12/2/99	FL DEP	RCRA	No violations	None
3/6/00	FL DEP	Solid Waste	No violations	None
11/16/00	FL DEP	Solid Waste	No violations	None
1/17/01	FL DEP	RCRA	Notice of Violation-exceeding Permitted capacity, achieving <99 percent recovery, and not submitting samples in a timely manner	$6,600.00 (**1**)
3/9/01	FL DEP	Solid Waste	No violations	None
8/30/01	FL DEP	Air	No violations	None
2/13/02	FL DEP	Solid Waste	No violations	None
5/22/02	FL DEP & US EPA	RCRA	Improperly sealed container, inadequate aisle space	$1,234 fine and a Pollution Prevention Project of $2,275.00 **(2)**
2/3/03	FL DEP	RCRA	No violations	None
2/28/03	FL DEP	Air	No violations	None
5/15/03	FL DEP	Air	No violations	None
6/3/03	FL DEP	RCRA	No violations	None
7/14/04	FL DEP	RCRA	No violations	None
8/11/04	City of Tallahassee	Water	No violations	None
12/29/04	FL DEP	Air	No violations	None
4/1/05	FL DEP	NPDES	No violations	None
4/20/05	FL DEP	RCRA	No violations	None
9/20/05	FL DEP	RCRA	Self Report to FLDEP of improper storage of material offsite	$42,450.00 **(3)**
10/17/05	FL Dept of Health	Precription Drug Inspection	No violations	None
1/30/06	FL DEP	Air	No violations	None
5/4/06	FL DEP	RCRA	Storage of material in excess of 10 days on trailers in transfer lot	2,750.00 (**4**)
7/18/06	FL DEP	RCRA	No violations	None
11/15/06	FL DEP	Air	No violations	None
5/16/07	FL DEP	RCRA	Residual contaminant level in aluminum in excess of permit limit	$4,300.00 **(5)**
5/29/07	City of Tallahassee	Wastewater	No violations	None
4/2/08	FL DEP	Air	Only monitoring discharge from HID machine after second	$2,500.00 **(6)**

			carbon filter and not prior to second carbon filter	
8/28/08	FL DEP	RCRA	Non-compliance letter regarding glass in north lot. Response submitted and no violations cited.	None
3/16/09	FL DEP & US EPA	RCRA	No violations	None
4/22/09	FL DEP	Air	No violations	None
1/27/10	FL DEP	RCRA	No violations	None
4/8/10	FL DEP	Air	Processing lamps outside a negative pressure area (preparing CFLs for recycling	$800.00 **(7)**
6/8/10	FL DEP	Air	No violations	None
12/7/10	FL DEP & US EPA	RCRA	Warning letter issued NOV - temporary placement of containers outside of processing building, container missing accumulation start date, failure to implement contingency plan for small spill of glass on soil.	$18,600.00 with $6,100.00 offset by P2 project **(8)**
8/1/2011	FLDEP	Air Resources	Possible issue with two sample points	No further action
8/1/2011	USEPA	PCB's	No violations noted	
9/12/2011	FL DEP	Air Resources	NOV - Exceeding permitted limit between carbon filters on retort equipment	$1,300.00 **(9)**
6/11/2012	FL DEP	RCRA	No violations noted - report pending	
8-20-12	FL DEP	Air	No Violations	None
10-16-12	US EPA & FL DEP	RCRA	No Violations	None
11-6-12	City of Tallahassee/ Leon ~~County~~Cnty	Water	No Violations	None
12-11-13	FL DEP	Air	No Violations	None
1-7-14	FL DEP	RCRA	No Violations	None

9-3-14	FL DEP	Water	No Violations	None
6/2/2015	FL DEP	RCRA	No violations noted	None
12/17/2015	FL DEP and US EPA	RCRA	Report pending	

Footnote 1- Superior Special Services was inspected by Florida Department of Environmental Protection (FLDEP) on January 17, 2001. The inspection revealed violations for exceedance of storage capacity, not submitting samples for analytical testing in a timely manner, and not able to demonstrate 99 percent recovery of mercury in material processed at the facility. A warning letter was issued by FLDEP on February 26, 2001. A consent order was issued by FLDEP on April 26, 2001 with penalties of $6,100.00 for violations and $500.00 to reimburse the department for a total of $6,600.00. Superior made payment of the violation on May 22, 2001.

Footnote 2- Veolia Special Services, Inc was inspected on May 22, 2002 by FLDEP and US EPA in a cross media inspection for RCRA compliance. The inspection revealed violation for employee training, insufficient aisle space, and containers not secured. The inspection also revealed evidence of glass in an unpaved area north of the facility which may have caused cross contamination to that area of the facility. A warning letter was issued by FLDEP on July 29, 2002. A consent order was issued on November 14, 2002 with penalties of $2,937.00 for violations and $500.00 to reimburse the department for a total of $3,437.00. FLDEP offered Veolia the option of doing a pollution prevention program that would offset up to 75 percent of the monetary penalty. Veolia conducted a site soil investigation of the unpaved area and had a third party consultant prepare a report detailing no environmental impact to the area. The cost of this assessment was $2,275.00 and Veolia paid FLDEP a total of $1,234.00 to finalize the consent order. A letter was received from FLDEP on June 1, 2004 closing the consent order.

Footnote 3- Veolia Environmental Services, LLC (Veolia) became aware of potential violations involving storing material on trailers offsite at a transfer lot. Veolia conducted a full site investigation and after the findings were complete, Veolia self reported the violations to the Florida Department of Environmental Protection (FLDEP) on September 9, 2005. The department issued a warning letter on October 13, 2005 for unpermitted operations, contingency plan, operating records, and maximum quantity stored. As part of the warning letter from FLDEP an investigation of the transfer lot was order to determine if any of the improperly stored material resulted in environmental impact to the yard area. Veolia hired Environmental Consulting and Technologies (ECT) to conduct soil sampling of the transfer yard. Veolia met with FLDEP on December 14, 2005 to come to an amicable resolution of the matters as outlined in the warning letter. Veolia submitted a report titled Soil Sampling and Analysis for Mercury to FLDEP on February 15, 2006. FLDEP issued a Site Rehabilitation Completion order on June 8, 2006 closing the transfer yard investigation. On June 27, 2006 a Consent Order OGC #06-1307-37HW was issued to Veolia with a proposed fine of $40,950.00 with $1,500.00 to reimburse Department costs for a total of $42,450.00. Veolia made payment of the penalty on August 22, 2006.

Footnote 4- Veolia was inspected by FLDEP at our transfer location located at 4972 Woodville Highway, Tallahassee, FL. The inspection revealed several trailers in the transfer yard that were stored in excess of the allotted ten day storage requirement as allowed by rule. The FLDEP subsequently issued a letter on August 2, 2006 to Veolia which included a copy of the inspection report detailing the storage violations, a warning letter for exceeding storage times, and a consent order OGC #06-1373-37HW with a proposed fine amount of $2,750.00. Veolia made payment of the penalty on August 22, 2006.

Footnote 5- Veolia was inspected by the FLDEP on May 16, 2007 and during that inspection it was found that the sampling result for one of the weekly samples for aluminum had been entered into the facility records as 1.4 mg/kg whereas the final retest result for this sample was actually 14 mg/kg. The FLDEP subsequently issued a warning letter August 6, 2007 for failure to comply with the residual mercury standards. A short form consent order was entered into and a penalty of $4,600 was paid by Veolia.

Footnote 6- Veolia was inspected by the FLDEP on April 2, 2008 and during that inspection it was found that the exhaust monitoring for the automated HID system was occurring following the final carbon canister. The FLDEP subsequently issued a warning letter May 19, 2008 identifying the monitoring of the exhaust discharge after the final carbon, as opposed to between the primary and final carbon absorbers, and failing to record the results of the monitoring on the retort room air handling system as a potential violations. At no time did the actual discharge of mercury exceed any regulatory limit. A short form consent order was entered into and a penalty of $2,250 was paid by Veolia.

Footnote 7- Veolia was inspected by the FLDEP on April 8, 2010 and during that the preparation of compact fluorescent lamps for recycling was occurring outside of a negative pressure area. The FLDEP subsequently issued a warning letter May 18, 2010 citing the processing of compact fluorescent lamps outside a negative pressure area as a potential violation. A short form consent order was entered into and a penalty of $800 was paid by Veolia.

Footnote 8- Veolia was inspected by the FLDEP on December 7, 2010. As a result of that inspection the FLDEP has issued a warning letter alleging six violations of the hazardous waste and mercury recovery facility regulations. Veolia has submitted a response to the warning letter. A short form consent order was entered into and a penalty of $18,600 was assessed with an offset of $6,100 for the implementation of a pollution prevention program. The penalty amount of $12,500 was paid by Veolia and the pollution prevention project was completed in November 2011.

Footnote 9- Veolia was inspected by the FLDEP on August 10, 2011 and during that inspection it was found that the exhaust monitoring data recorded for the retort system exceeded the authorized permit limit on June 24 and August 1-5, 2011. The FLDEP subsequently issued a warning letter September 12, 2008 alleging a violation of the pollution control permit requirements. A short form consent order was entered into and a penalty of $1,300 was paid by Veolia.

5.3 Incoming Material Acceptance Procedures:

All waste materials brought into or through the facility must be profiled and entered into the waste tracking system. Profiles are completed by the generator or completed by Veolia based upon information provided by the generator of the waste prior to receipt and are kept on file at the facility. Veolia uses three different types of profiles for the materials received.

Prior to receipt of a waste at the Veolia facility, specific waste evaluation and acceptance procedures are employed to qualify a generator's waste materials for acceptance and to ascertain RCRA status, chemical and physical characteristics, and compatibility with the on-site recycling operations or availability of off-site outlets for the material. Veolia has

developed a tiered process to acquire the necessary data and conduct this evaluation. There are three categories of approvals under this program:

- Standard Approvals, this category applies to universal wastes. Standard material profiles have been developed for these wastes and are maintained on file at the facility.
- Generic Approvals, this category applies to materials that are not federal universal wastes; however, there is little variation between generators yet the materials may be subject to varying degrees of regulation, requiring additional review and evaluation.
- Case-by-case Approvals, this category applies to waste that may vary between generators and requires a detailed review of the physical and chemical properties of the material prior to approval.

The written generator notification as required under 40 CFR 264.12(b) may vary from generator to generator depending on the type of material that the generator is shipping to Veolia and the type of contract/arrangements that the generator has in place. This notification may take the form of an Approval Letter, be contained in a Quotation, printed directly on packaging materials provided to generators by Veolia, or some other form of written communication as deemed appropriate at the discretion of the facility. An example of an Approval Letter is included in Appendix ~~5-2~~D-5-I to this Attachment.

Since the facility only accepts mercury containing manufactured articles and clean up articles and PPE from handling of manufactured articles, generator knowledge will typically be sufficient to properly characterize the waste. If at any point during the approvals process, analytical testing is needed to provide additional information, generators will be required to submit analytical data obtained using methods specified by the US EPA or FLDEP as applicable.

5.3.1 Standard Approvals

Once Veolia has been notified by a generator that they wish to ship materials subject to the standard approvals process, the generator's information will be recorded and the generator will be notified in writing that Veolia has the appropriate licenses and processing capabilities to accept their material for recycling. Since these wastes are universally generated and will not vary from generator to generator, the generators of these types of materials will not be required to submit a site specific waste material profile sheet for waste contained in this category.

5.3.2 Generic Approvals

Generators wishing to ship materials contained in the generic approvals category will be required to submit a site specific waste material profile sheet. The waste material profile sheet must contain specific information regarding the identity of the waste, physical and chemical properties of the waste, and the regulatory status of the waste.

This information will then be reviewed by the Operations Manager or his designee to ensure that the material can be received at the facility. Once the material has been approved the generator will be notified in writing that the facility has the appropriate licenses and the processing capabilities to accept the waste. A sample waste material profile sheet is included as Appendix ~~5-1~~D-5-I to this Attachment.

5.3.3 Case-by-case Approvals

Generators wishing to ship materials contained in the case-by-case approvals category will be required to submit a site specific waste material profile sheet. The waste material profile sheet must contain specific information regarding the identity of the waste, physical and chemical properties of the waste, and the regulatory status of the waste. This information will then be reviewed by the Operations Manager or his/her designee and by corporate approvals staff to ensure that the material can be received at the facility. Once the material has been approved the generator will be notified in writing that the facility has the appropriate licenses and the processing capabilities to accept the waste. A sample waste material profile sheet is included as Appendix D-5-~~1~~I to this Attachment.

As part of the above referenced procedures, Veolia staff will assign a product code to each profile. The product code is an internally assigned code designating the type of material~~ and~~, the type of process to be used for the management of the material~~.~~ and links the material to pricing categories. A list ~~of the waste streams accepted~~containing common product codes used by ~~Veolia for mercury recovery and reclamation~~the facility is included below along with a reference to the applicable product codes and approvals category. Product codes may be added or may include a suffix that may be added to one of the codes listed below which further identifies the material.

5.3.4 ~~Veolia~~Common Product Codes and Waste Descriptions

5.3.4.1 Lamps

Product Code	Description	Approval Category
LP-F	Fluorescent Lamps	Standard
LP-FCIRC	Circular Fluorescent Lamps	Standard
LP-FCMP	Compact Fluorescent Lamps	Standard
LP-FDM	Crushed Lamps	Standard
LP-FSS	Shielded Fluorescent Lamps	Standard
LP-FUT	U-Tube Lamps	Standard
LP-FUV	UV Fluorescent Lamps	Standard
LP-H	HID Lamps	Standard
LP-MH01	Metal Halide Lamps	Standard
LP-MISC	Miscellaneous Specialty Lamps	Standard
LP-MV01	Mercury Vapor Lamps	Standard
LP-NEON	Neon Lamps	Standard
LP-SHP	High Pressure Sodium Lamps	Standard

5.3.4.2 Mercury

Product Code	Description	Approval Category
MC-BATT	Mercury Batteries	Standard
MC-AMALG	Dental Amalgam	Generic
MC-DE~~-RE~~	Mercury Contaminated Clean-up Articles and PPE	Generic
MC-HG	Mercury	Generic
MC-HGREG	Mercury Containing Gas Regulators	Generic
MC-LABPACK	Mercury Containing Lab packs, used for packages contained mixed types of acceptable wastes	Case-bycase
MC-MA	Mercury Containing Articles	Standard
MC-PD	Phosphor Powder	Generic

Product codes are internally generated codes which may be periodically updated or revised. However, these revisions will not alter the types of materials being received by Veolia.

5.3.5 Scheduling Material Into the Facility

There are four methods by which materials may be transported to the facility:

- Generator self transport
- Common carrier transport
- Generator arranged transport, and
- Veolia arranged transport.

5.3.5.1 Generator self transport and common carrier transport

In order to promote the recycling of fluorescent lamps from small businesses, Veolia has developed and marketed a line of packaging which includes the prepayment for the transport and recycling of the materials. Under this program, a generator purchases the container, fills the container with the designated universal waste, calls a phone number that is preprinted on the packaging to schedule the pick up of the package by a common carrier, such as FedEx Ground, and the container is transported to Veolia's facility. The delivery of these containers and generator self transported universal waste will arrive at the facility without prior notice to the facility. FedEx Ground makes their deliveries at approximately the same time each day and accommodations are made at the facility to accept the delivery of these shipments. With respect to other self-transported materials, the deliveries are of a small volume and the nature of the material, only universal wastes, allow the facility to accept these materials as they arrive. (See Section 5.3.6)

5.3.5.2 Generator arranged transport

In the case where a generator arranges for the transportation of materials to the facility, the generator will contact the facility and request a permission to deliver

the material on a particular date. If the delivery does not conflict with other deliveries already scheduled the generator will be given an appointment. If there is a conflict an alternate date for the delivery of the material will be proposed. Under this scenario, the generator, or his agent is responsible for ensuring that the materials are accompanied by the appropriate shipping papers. If the material is subject to the hazardous waste manifesting requirements, the procedures outlined below will be used by the facility for the completion and distribution of the manifest.

5.3.5.3 Veolia arranged transport

Generators will contact Veolia to request the pick up of approved materials. Customer Services Representatives will then enter all of the pertinent customer information into our waste tracking system. The system tracks the customer's location of pickup, billing address, pickup contacts, phone numbers, and what material is scheduled to be picked up. Once this information is entered into the waste tracking system it creates an open sales order which transportation can then put onto the schedule for pickup. Customers are then notified by phone of the day and approximate time that the material will be picked up. Veolia will normally assist the customer is preparation of the shipping documents for the pickup.

5.3.5.4 Completion of the Uniform Hazardous Waste Manifest

Before collection or delivery occurs, the customer will provide the Veolia with the following information:

Type and quantity of containers
Material classification(s)
Scaled or estimated weight(s) and/or lamp counts
Date(s) accumulation began
Labels, placards and markings on containers
Generator's USEPA ID number
Generator's State ID number (if applicable)
State hazardous waste permit number (if applicable)
Transporter ID numbers, dates, and times

Based on the above information, the appropriate federal or state manifest, non-hazardous waste manifest, or bill of lading will be completed to the extent possible and either mailed to the customer prior to scheduled shipment or accompany the transport vehicle. Upon arrival at the generator's facility, any necessary changes are made to the manifest, such as entering the actual quantity of material to be transported, and it is subsequently signed and dated by the generator and transporter according to procedures under 40 CFR 262.20-23. Upon receipt of material by Veolia, the manifest is signed and dated by the receiving agent and significant discrepancies are noted, pursuant to 40 CFR 264.70-72.

5.3.6 Receipt of Material Into the Facility

Upon arrival of a shipment at the Veolia facility, the following sequence of events occurs:

a. The driver presents the paperwork for the load to the shipping and receiving coordinator or designated representative trained to receive material into the facility.
b. Veolia personnel will compare shipping documents and material description against the material profiles and the material actually received.
c. If the shipping documents conform to the material profile, the truck will be unloaded by personnel qualified to operate a forklift or pallet jack and staged in the loading dock area or on the paved area immediately north of the facility for inspection.
d. The containers are visually inspected to verify that the shipment contains only the waste material as described in the material profile and shipping document.
e. Upon verification, the shipping documents are signed acknowledging receipt of the material at the facility and copies of the shipping document/hazardous waste manifest are then forwarded to the generator (and customer if they are not the same) within 30 days.
f. Should Veolia deny acceptance of the delivery, the shipment will be returned to the generator or shipped to an alternate facility selected by the generator.
g. Upon off-loading, each container is logged into the waste tracking system and placed into an appropriate storage area or transferred directly to a processing area.
h. A Veolia receiving record is executed to record all pertinent information. Sample Receiving Reports are included in Appendix D-5-~~1~~I to this Attachment.

5.3.6.1 Waste Rejection

Wastes will be rejected for the following reasons:

- Waste does not conform to the material profile and the waste contains materials that the facility is not permitted to accept.
- Other wastes that cannot be accepted by Veolia are included in the shipment.
- Unscheduled load that would cause Veolia to exceed permitted storage limit.

5.3.6.1.2 Rejection Procedures

Upon discovery of the material that cannot be accepted at the facility, a generator will be contacted and notified of the unacceptable material. The facility will request direction from the generator as to whether the material is to be forwarded to an alternate facility or returned to the generator. Based on the instructions from the generator the following procedures will be used to document the rejected shipment.

For materials shipped to the facility on a uniform hazardous waste manifest, the facility will follow the procedure contained in 40 CFR 264.72 for the manifesting of rejected shipments. Any material designated to be rejected that cannot immediately be reloaded for off-site shipment will be marked with a label noting the material as non-conforming and will be placed into one of the container storage areas. If the material is a liquid it will be placed on a spill containment pallet for storage. Once a material is designated for rejection the facility will have 60 days to arrange for the transport of the material to an alternate facility or back to the generator.

If a non-conforming material is discovered after the material has been accepted by the facility, the generator will be notified and the material will be rejected in accordance with the above rejection procedures.

For materials that are not subject to uniform hazardous waste manifesting, the facility will note that the material is being rejected on the original bill-of-lading and complete a new bill-of-lading for use in shipping the material back to the generator or to an alternate facility.

5.3.6.2 Manifest Discrepancies

Upon receipt of materials at the Veolia facility, shipments are checked for significant discrepancies, according to 40 CFR 264.72. Discrepancies are noted on the manifest by the receiving personnel. Discrepancies in quantity or type of hazardous waste are reconciled with the generator through telephone calls by Veolia personnel within 15 days following receipt at the Veolia facility. If a significant discrepancy cannot be resolved within 15 days after receipt of the waste, Veolia shall immediately submit a letter report, including a copy of the manifest to the Department.

5.3.6.3 Un-manifested Waste Report

If Veolia receives an un-manifested shipment of hazardous waste not specifically authorized by the regulations, Veolia will prepare and submit an un-manifested waste report to the Department within 15 days of receipt of the un-manifested waste.

5.4 Process Information

To more accurately reflect the nature of the processes that occur on-site, the processes will be addressed in five general categories, material handling, fluorescent lamp processing, HID lamp processing, mercury retort processing, and management of site generated wastes. Below is a listing of some of the materials recycled and generated by the facility.

- Fluorescent Lamp Process

- Straight lamps,
- Circular lamps,
- U-tube lamps, and
- Compact fluorescent lamps

- High Intensity Discharge Lamp Process
  - Mercury vapor lamps,
  - High pressure sodium lamps, and
  - Metal halide lamps.
- Mercury Retort Process
  - Phosphor powder derived from the recycling of fluorescent lamps,
  - Crushed arc tubes from HID lamps,
  - Devices containing elemental mercury, such as thermometers, thermostats, pressure regulators and switches,
  - Dental amalgam and dental traps and filters, and
  - Clean-up articles (debris) from the clean up of releases of mercury containing manufactured articles,
- ~~Other~~ Site Generated Wastes
  - Personal Protective Equipment used when handling mercury containing manufactured articles.
  - Spent filter material from lamp processing equipment,
  - Spent carbon from emission control devices, and
  - Waste water from facility cleaning operations and condensate water from retort operations.
  - Other wastes to be evaluated on a case by case basis

5.4.1 Material Handling

For the purpose of this permit, material handling activities as defined below are performed within the internal confines of the building(s):

- movement of containers within the facility,
- staging lamps for recycling,
- staging universal waste batteries, electronic waste or other non-hazardous materials prior to moving them to their designated storage area,
- unpacking and sorting of various lamp types,
- separating lamps and other devices from any packing materials that may be present in the packages, including removing tape from lamps that have been taped together prior to shipment,
- disassembly of lighting fixtures and other electronic equipment, and
- removing lamps from protective plastic tubes or removing plastic coatings from lamps

These activities do not alter the portion of the device that contains the mercury or release elemental mercury. As such these activities may be performed throughout the facility. These activities may periodically be performed within the universal waste storage area.

5.4.2 Fluorescent Lamp Processing

5.4.2.1 Manual Preparation of Lamps for Recycling

A number of lamp types require some type of processing prior to placement into the automated recycling equipment. The purpose of this step is to remove non-recyclable components or to remove components that will cause the failure of the automated recycling equipment. This process includes removing the bases from compact fluorescent lamps and opening and separating the components of broken shattershield lamps.

The manual processing will take place in the space immediately behind lamp line 2 and will be contained within a vinyl curtained area and under negative pressure. This area makes use of the same air handling system as the retort room to supply the negative pressure to the space. The system is comprised of a blower rated for 1500 cubic feet of air per minute and discharged through a series of two carbon filter systems. The exhaust from the carbon filters is them discharge through an exhaust vent located along the west wall just south of the centerline of the building. The exhaust gases are monitored on a daily basis for mercury. When mercury readings approach a regulatory limit the carbon is removed from the system, and shipped off-site for recycling. In addition to the air handling system that provides negative pressure to this area, the use of a downdraft table may also be used in this area for improved work safety.

5.4.2.2 Automated Recycling Systems

The facility is equipped with two processing lines for the recycling of fluorescent lamps. Both lines use the same technology for the separation of the various lamp components.

The fluorescent lamp recycling systems are dry separation processes utilizing both manual and automated systems. The processing equipment is contained within a separate room with an area of approximately 500 square feet located in the northwest corner of the building. This equipment has a maximum design capacity of approximately 52,000 4-foot lamp equivalents per 8-hour shift with an asset recovery rate of approximately 100%. Of total bulb weight, roughly 96% is recovered as glass, 2% as aluminum, less than 2% as phosphor powder and less than 1% as mercury for refining. The equipment is able to process a variety of lamp types and sizes with great efficiency. Routine monitoring of mercury values in all recovered materials, through total mercury testing and TCLP mercury testing when applicable, is standard operating procedure.

Lamps are brought into the mercury recycling area on pallets containing lamps within cardboard boxes or ~~lamp~~ fiber drums. The lamps are brought to the lamp feed staging area where they enter the recycling process. In-feed to

the process consists of pallets moved from storage to a staging area where the shipping containers are opened and the lamps are manually inserted into the system for initial crushing.

The lamps are removed from the boxes, bins or drums and placed onto an in-feed conveyor. In the case of circular, U-tube and certain compact fluorescent lamps, excess plastics and metals are manually removed prior to placement onto the in-feed container. ~~This manual processes either at~~When the removal of these items meets the definition of processing, this activity will be conducted as described above. Where this activity does not alter the mercury containing portion of the lamp and is done at either the staging point for the in-feed conveyor or adjacent to the HID processing area. The lamps then enter a pre-breaker. From the pre-breaker, the lamps are transported to a sizing crusher. The sizing crusher, a dual drum crusher, sizes the material for transfer to the separation equipment. The separation step agitates the lamp components and separates the crushed lamps into glass, aluminum end caps and phosphor powder. The mercury-bearing phosphor powder is collected by a bag tower which consists of filters which trap the powder and purges into a 55 gallon drum for further processing. Recovered glass (cullet) is transferred to a roll-off container for transport off-site for beneficial reuse or recycling. Aluminum end caps are discharged from the separation process to a transfer belt which conveys the aluminum to a secondary crusher. The discharge from this crusher passes through a magnetic separator prior to being discharged to a hopper for accumulation and off-site recycling. The magnetic components separated from the end caps are accumulated and further processed in the retort on-site or transported off-site for mercury reclamation. Cardboard containers are baled and accumulated for recycling. Plastic lamp components and non-recyclable packaging materials are accumulated for off-site recycling or off-site disposal. All byproducts are analyzed for total mercury in accordance with the facility's waste analysis plan contained in Section 8 and shipped to appropriate recyclers.

A fluorescent lamp process flow diagram is included as Figure 5.1~~ in Appendix 5-1.~~. Figure 5.6, Lamp Room Floor Plan, shows the general configuration of the fluorescent lamp processing equipment~~ and the location of the additional equipment being added to the process.~~. Figure 5.7, Side View – Aluminum Management System, shows the configuration of the mechanism to convey the aluminum end caps to the crusher. Figure 5.8, Top View – Aluminum Management System shows the configuration of the aluminum management system separate from the existing lamp processing equipment.

The powder recovery system imparts a negative pressure to the processing equipment and processing room. This system ensures that mercury emissions are controlled and that particulates containing mercury and mercury vapors are collected in the emissions control equipment. The air stream from the equipment is directed first through a bag tower that filters out particulate

matter, phosphor powder and glass fines from the lamps. The bag tower consists of 20 bags that are 95 inches long. The powder collects on the bags ~~and at~~causing the pressure drop across the filter to increase. When that pressure drop reaches a ~~predetermined interval~~set point, below the maximum operating range of the filter, the bags are purged using compressed air~~ which forces~~. This liberates the powder from the filter media allowing the powder to drop into a collection container. When the exhaust air leaves the bag tower it is then directed through a HEPA filter system to capture any particulates which may pass through the bag tower. Once the air exits the HEPA filter any residual mercury vapor is collected by a series of eight carbon canisters that are connected to the HEPA filter system. The carbon is impregnated with sulfur, which facilitates the adsorption of mercury vapors from the exhaust air. Each canister contains approximately 130 pounds of sulfur impregnated carbon. The exhaust from the carbon filters is then discharged through a stack located at the northwest corner of the building. The exhaust gases are monitored on a daily basis for mercury. When mercury readings approach a regulatory limit the carbon is removed from the system, and shipped off-site for recycling. In addition to the mercury monitoring conducted on the exhaust gases, each emission control device is equipped with a magnahelic that is checked daily to ensure that the system is operating properly. The HEPA filter and carbon canister system have a combined efficiency rating of greater than 99 percent for the capture of mercury emissions from the system.

Veolia is proposing to replace or reconfigure the existing mercury canisters to facilitate the installation of additional handling equipment. See Section 5.5 for a detailed discussion of the emission control equipment.

5.4.3 HID Lamp Processing

5.4.3.1 Manual Processing

HID lamps that cannot be processed by the automated HID process are manually processed to separate the various components of the lamps. This processing occurs in one of two locations within the facility, at the feed station to the HID automated process equipment or in the CFL processing area immediately behind lamp line 2. Manual processing begins with the ~~removal of the outer globe glass from the lamp. Sorting~~sorting and removal of ~~the manufacturer's~~any packaging material (the corrugated cardboard sleeves~~) of the~~ or wrap) used to prevent breakage during transport. This removal of packaging material from the HID lamps is considered material handling and not processing. The next step involved in manually processing HIDs is the removal of the outer globe glass. The remaining base, harness and arc tube are then manually separated. The ceramic or metal base of the lamp is ~~separated and~~ placed into a container for recycling. The arc tube which contains mercury is separated and containerized for further processing. The remaining metal from the HID lamp is containerized for recycling. If necessary to meet

recycler specifications, the HID outer glass is run through the lamp processing equipment to properly size the material for off-site shipment. Cardboard containers are combined with the cardboard from the lamp recycling operation and baled for recycling. Non-recyclable packaging material is placed into the roll-off with the non-recyclable materials from the lamp processing operation for off-site disposal. All byproducts are analyzed for total mercury in accordance with the facility's Quality Control Plan contained in Section 8 and shipped to appropriate recyclers.

The HID arc tubes are further processed by placing the tube into a crusher which breaks the arc tube and sizes it for placement into the retort oven. The crushed arc tubes are collected and consolidated into 55 gallon drums. Full 55 gallon drums are placed into the retort oven for processing. The retorted arc tubes are consolidated and shipped off-site for disposal.

~~An HID Manual Processing flow diagram is attached as Figure 5.2 in Appendix 5-1.~~

5.4.3.2 Automated HID Process

Veolia uses a custom built HID lamp machine to process various types of HID lamps. ~~HID lamps with rigid ceramic bases cannot not be processed in the HID lamp machine and need to be manually processed.~~ The system is comprised of conveyor belts, crushers, and air pollution control equipment to control fugitive mercury emissions.

The HID lamp process is a dry separation process that uses mechanical equipment to separate the components of the HID lamp. The lamps are initially ~~fed onto a primary~~placed onto an incline belt that feeds the automated process. The lamps are then transferred to a conveyor belt which moves the lamp to a squeeze point which breaks the outer glass from the lamp. The outer glass drops into a collection drum and is then transferred to the fluorescent lamp processing equipment for further sizing~~.~~ or is sampled and accumulated for off-site beneficial reuse or recycling. From there the glass goes into a roll-off container for off-site beneficial reuse or recycling. After the outer glass is broken, the remaining components of the lamp are dropped into a roller crusher which breaks the arc tube separating it from the base and metal wire which holds the arc tube in place. The arc tubes are discharged from the crusher into a drum and are collected for retorting. The brass end caps and metal are picked up by a magnet separator and conveyed into another collection drum for recycling. The recovered metals are accumulated and shipped off-site for recycling. The crushed arc tubes are retorted to remove the mercury. The retorted arc tubes are then consolidated and shipped off-site for disposal. Cardboard containers are combined with the cardboard from the lamp recycling operation and baled for recycling. Non-recyclable packaging material is placed into the roll-off with the non-recyclable materials from the

fluorescent lamp processing operation for off-site disposal. All byproducts are analyzed for total mercury in accordance with the facility's waste analysis plan contained in Section 8 and shipped to appropriate recyclers.

The process is under negative pressure to the outside and the entire machine is enclosed. The air stream from the equipment is directed first through a bag tower that filters out particulate matter and glass fines from the lamps. The bag tower consists of 20 bags that are 95 inches long. The particulate matter collects on the bags and at a predetermined interval the bags are purged using compressed air which forces the material into a collection container. When the exhaust air leaves the bag tower it is then directed through a HEPA filter system to capture any particulates which may pass through the bag tower. Once the air exits the HEPA filter any residual mercury vapor is collected by a series of six carbon canisters that are connected to the HEPA filter system. The carbon is impregnated with sulfur, which facilitates the adsorption of mercury vapors from the exhaust air. Each canister contains approximately 150 pounds of sulfur impregnated carbon. The exhaust from the carbon filters is then discharged through a stack. The exhaust gases are monitored on a daily basis for mercury. When mercury readings approach a regulatory limit the carbon is removed from the system, and shipped off-site for recycling.

An HID Automated Processing flow diagram is attached as Figure 5.~~3 in Appendix 5-1~~2.

5.4.4 Mercury Retort Processing

As part of the mercury recycling process, the mercury retort operation consists of a completely enclosed room located within the same building as the lamp recycling operation and immediately to the south of the lamp feed station. Initially, mercury-containing devices are disassembled using pneumatic or manual equipment within the prep area of the retort room. Clean metals, glass and plastics removed from intact devices are segregated for recycling or disposal. Once the metals, glass, and plastics have been recovered from the device, where possible, the elemental mercury is drained from the device into a mercury flask. The remaining components are consolidated into a drum for placement into the retort oven. During consolidation, the drum is kept within the prep room. In addition to processing mercury containing devices the retorts are used to recover elemental mercury from drums of mercury containing phosphor powder and crushed arc tubes generated in the lamp recycling operation.

The retort operation is comprised of an oven which is used to heat the mercury containing waste, liberating mercury vapors. The mercury vapors are drawn off the oven using a vacuum pump and are pulled through a series of heat exchangers. Within the heat exchangers the mercury is condensed back into a liquid form. The liquid mercury is then decanted from the collection point on the heat exchangers and consolidated into a mercury flask. Once the mercury

flask is filled, the mercury is sold to other companies for repackaging and sale or additional refining In accordance with the Boiler and Industrial Furnace (BIF) regulations contained in 40 CFR 266.100, only inorganic materials or specific organic materials contained in Appendix 13 of 40 CFR 261 may be processed in the retort oven. Furthermore any materials processed in the retort must contain recoverable levels of mercury. As such, all retort materials will be visually inspected prior to retort processing. Any organic materials, such as rubber gloves, tyvek suits and plastic sheeting that appear to be uncontaminated will be segregated from the retort material and accumulated for off-site disposal.

5.4.5 Site Generated Wastes

As part of the mercury recycling processes, Veolia generates the below listed waste streams for which there are currently no viable markets for recycling or beneficial reuse of the materials.

5.4.5.1 PPE from Lamp Processing

In order to protect employee health, Veolia has conducted a thorough review of the lamp recycling operation and determined what personal protective equipment (PPE) is necessary for employees to wear while working in this area. The PPE required for use in this area is defined in the Employee Health and Safety Plan included in Attachment 7. Spent PPE is accumulated in cubic yard boxes and is stored in the area adjacent to staging area. Based on past analytical testing, this material does not fail the TCLP for mercury and is managed as a non-hazardous waste. This material will be periodically retested in accordance with the quality control procedures contained in Attachment 8.

5.4.5.2 PPE and debris from retort operations

In order to protect employee health, Veolia has conducted a thorough review of the retort operation and determined what personal protective equipment (PPE) is necessary for employees to wear while working in this area. The PPE required for use in this area is defined in the Employee Health and Safety Plan included in Attachment 7. In addition to spent PPE this waste stream also includes non-recyclable non-contact materials removed from mercury containing manufactured articles. This waste stream is accumulated in 55 gallon drums ~~and~~or cubic yard boxes and when full is stored in one of the ~~drum~~ storage areas within the facility. This material has a high degree of variability and levels of contamination can vary significantly. As such, this material will be assumed to be a hazardous waste and will be managed in accordance with the land disposal restriction standards for hazardous debris. Although this waste has the potential for high levels of contamination, work practices have been established to minimize ~~contamination~~this potential and to meet treatment facility acceptance requirements. . This material will be

periodically tested in accordance with the quality control procedures contained in Attachment 8.

5.4.5.3 Retort Residues (excluding retorted phosphor powder)

As part of the retort operation Veolia will generate residues from the retorting of mercury containing articles that is a mixture of metals, glass and other inorganic residues. Because of the nature of the material, viable recycling markets are not currently available. This material is accumulated in 55 gallon drums or cubic yard boxes and stored in one of the ~~processed powder~~ storage ~~area~~areas within the facility. Once a sufficient quantity of the material is accumulated, the material will be sampled in accordance with the quality control procedures contained in Attachment 8 and shipped off-site for disposal. In the event that the material does not meet the quality control standards required of this material, it will be re-sampled or reprocessed in the retort.

5.4.5.4 Condensate Water

As part of retort operation, water contained in wastes and humidity from the ambient air that is drawn into the oven is condensed in the heat exchangers. Additionally, water from the ambient air in the room will condense on the exterior of the heat exchangers. The water is ~~physically separated from the elemental mercury~~collected and placed into 55 gallon drums. Once a drum is filled the drum is moved to one of the ~~drum~~ storage areas to await shipment off-site for recycling or disposal. In addition to condensate water, the facility will occasionally generate mop/decon water. This material is collected and combined with the condensate water for off-site management as hazardous waste or is tested and disposed in accordance with the results of the analysis.

5.4.5.5 Spent Carbon

The air emission control devices use a sulfur impregnated activated carbon for the control of mercury vapors. As air emissions approach an emission limit, the carbon is removed and replaced with new carbon. The spent carbon is accumulated in 55 gallon drums and stored in one of the drum storage areas to await shipment off-site for recycling or disposal.

5.5 Air Pollution Control Systems

All mercury recycling processes located at the Veolia facility are equipped with emission control devices in accordance with Rule 62-296.417 F.A.C.

5.5.1 Fluorescent Lamp Processing Equipment

The emission controls systems on the fluorescent lamp processing equipment ~~consist~~ currently consists of ~~a~~one bag tower followed by a secondary panel filter for the control of particulate matter and a series of carbon filters for the control of mercury vapors. As part of this renewal, Veolia is proposing to add a second air emission control system to increase the air flow through the processing equipment and provide greater control of fugitive emissions.

5.5.1.1 Air Flow Rates

Maximum flow rate	1500 ACFM
Average flow rate	1200 ACFM

5.5.1.2 Bag Tower Specification

The bag tower currently in use on the fluorescent lamp processing ~~equipment was manufactured by~~ line is a SLY, Inc. SBR-45-8 bag tower. This tower is equipped with ~~24~~20 cloth bag filters with a surface area of ~~10~~12 ft^2 per bag for a total surface area of 240 ft^2. At the maximum flow rate this will result in a 5:1 air to cloth ratio. Based on manufacturer data this ratio of air to cloth will provide for a maximum emission of 0.02 gr./CF (0.458 g/m^3). A copy of a letter from the manufacturer is included in Appendix ~~5-3~~D-5-II to this Attachment.

Veolia is proposing to add a second bag tower to the lamp processing operation. The second bag tower will be designed and constructed to provide the same capture efficiency as described for the SLY bag tower currently is use at the facility.

5.5.1.3 Secondary ~~Panel~~Pleated Filter

The air handling system for the fluorescent lamp processing equipment is designed to use a commercially available standard size ~~secondary panel~~pleated air filter (24” x 24” x 11 ½”). As such, a number of manufacturers offer stock filters that can be used in this application. The filters are at least 95% efficient to a particle size of 0.3 microns. The filters are constructed of a microfiber paper or glass microfiber material supported by corrugated metal separators between the pleats of the filter. Technical specifications for two commercially available filters are included Appendix ~~5-3~~D-5-II to this Attachment.

Veolia is proposing to add a second pleated air filter associated with the second bag tower proposed for installation. This filter will utilize the same size and style of filter currently in use and provide the same capture efficiency as described above.

5.5.1.4 Carbon Filtration

The carbon filtration system on the fluorescent lamp processing equipment is currently comprised of ~~six~~eight carbon canisters configured to have four canisters serving as the primary carbon filters~~ and~~, two canisters as secondary filters~~.~~ and two carbon canisters as a tertiary filter. Figure 5.~~4 in Appendix 5-1~~6 shows a graphic representation of the configuration. The carbon canisters are cylindrical with overall dimensions of 16 inches in diameter and 48 inches tall. Each canister is capable of holding 130 pounds of activated carbon. This configuration provides for a residence time of 0.4 seconds in the primary filter and an overall residence time of greater than 0.8 seconds of residence time within the carbon bed. The system uses a sulfur impregnated activated carbon for the removal of mercury vapors. Technical specifications for the activated carbon are included in Appendix ~~5-3~~D-5-II to this Attachment.

Veolia is proposing to replace the current carbon canister train with two dual filter carbon filter systems. These filter systems will be comprised of commercially available carbon canisters design for vapor capture. The canisters will be configured in series providing a redundant filter system as required by the air pollution control general permit for mercury recovery facilities. These carbon canisters will provide for a residence time of equal to or greater than 0.3 seconds per filter. These filters will utilize the same carbon as is currently used by the facility.

5.5.2 HID Lamp Processing Equipment

The emission controls systems on the automated HID lamp processing equipment consist of a bag tower followed by a secondary panel filter for the control of particulate matter and a series of carbon filters for the control of mercury vapors. The bag tower and panel filter used on the HID lamp processing equipment is the same as that used on the fluorescent lamp processing equipment. The carbon filters are configured in the same pattern as that of the fluorescent lamp equipment but the dimension of the canisters is slightly different.

5.5.2.1 Air Flow Rates

Maximum flow rate	1500 ACFM
Average flow rate	1200 ACFM

5.5.2.2 Bag Tower Specification

The bag tower in use on the HID lamp processing equipment was manufactured by SLY, Inc. This tower is equipped with ~~24~~20 cloth bag filters with a surface area of ~~10~~12 ft^2 per bag for a total surface area of 240 ft^2. At the maximum flow rate this will result in a 5:1 air to cloth ratio. Based on manufacturer data this ratio of air to cloth will provide for a maximum

emission of 0.02 gr./CF (0.458 g/m^3). A copy of a letter from the manufacturer is included Appendix ~~5-3~~D-5-II to this Attachment.

5.5.2.3 Secondary ~~Panel~~Pleated Filter

The air handling system for the HID lamp processing equipment is designed to use a commercially available standard size ~~secondary panel~~pleated air filter (24" x 24" x 11 ½"). As such, a number of manufacturers offer stock filters that can be used in this application. The filters are at least 95% efficient to a particle size of 0.3 microns. The filters are constructed of a microfiber paper or glass microfiber material supported by corrugated metal separators between the pleats of the filter. Technical specifications for two commercially available filters are included in Appendix ~~5-3~~D-5-II to this Attachment.

5.5.2.4 Carbon Filtration

The carbon filtration system on the HID lamp processing equipment is comprised of six carbon canisters configured to have four canisters serving as the primary carbon filters and two canisters as secondary filters. Figure 5.~~4~~9 in ~~Appendix 5-1~~ shows a graphic representation of the configuration. The carbon canisters are cylindrical with overall dimensions of 25 inches in diameter and 38 inches tall. Each canister is capable of holding 175 pounds of activated carbon. The system uses a sulfur impregnated activated carbon for the removal of mercury vapors. Technical specifications for the activated carbon are included in Appendix ~~5-3~~D-5-II to this Attachment.

5.5.3 Retort Equipment

The emission controls systems on the retort equipment consist of a series of two carbon filters for the control of mercury vapors. The carbon filters are configured in series to provide primary and secondary filtering of exhaust gases. This system discharges to the air handling system that provides negative pressure to the retort and preparation rooms. The air flow rates for this system will range from 30 to 90 CFM.

The carbon filtration system on the retort is comprised of two carbon canisters configured in series. Figure 5.~~5 in Appendix 5-1~~10 shows a graphic representation of the configuration. The carbon canisters are cylindrical with overall dimensions of 16 inches in diameter and 48 inches tall. Each canister is capable of holding 130 pounds of activated carbon. The system uses a sulfur impregnated activated carbon for the removal of mercury vapors. Technical specifications and for the activated carbon are included in Appendix ~~5-3~~D-5-II to this Attachment.

5.5.4 Fugitive Emission Controls

To prevent fugitive emissions from escaping from the retort room and retort prep room are connected to an air handling system. This system imparts a negative pressure to each of these process areas. The system is comprised of a prefilter, a primary carbon canister, a blower, and secondary carbon filter system.

5.5.4.1 Air Flow Rates

Maximum flow rate	1500 ACFM
Average flow rate	1200 ACFM

~~5.5.4.2 Particulate Pre-filter~~
~~5.5.4.3~~
~~The purpose of the pre-filter is to remove the majority of particulate matter prior to the carbon filters preventing the carbon filters from becoming fouled by particulates and reducing the efficiency of the filters.~~

5.5.4.2 Primary Carbon Filter

The primary carbon filter is a cylindrical tank with a diameter of 36 inches and an overall height of 90 inches. A total of 1,000 pounds of activated carbon is used in the primary filter. This amount of carbon results in a carbon column of at least 48 inches. With an air flow rate of 1200 CFM, the air stream travels through the filter with a linear velocity of ~~2.86~~9.43 ft/sec. At this velocity the air stream has a contact time of ~~1.40~~0.42 seconds with the activated carbon.

5.5.4.3 Secondary Carbon Filter

The secondary carbon filter system is comprised of six carbon banks in a parallel configuration. Each bank contains three trays of carbon in series. Each tray is 24 inches wide by 24 inches deep by 3 inches high. Each tray contains one cubic foot of carbon for a total of 18 cubic feet, or 620 pounds of activated carbon.

5.5.5 Internal Mercury Vapor Monitoring

Internal air quality is routinely monitored for mercury vapor in the air. Veolia monitors specific areas of the facility on a daily basis to ensure that the mercury levels are below the OSHA PEL of 0.1 mg/m^3. The areas where monitoring is performed are shown on the Mercury Vapor Monitoring Log. Veolia takes ambient air readings with a Jerome 431 X mercury analyzer or similar instrument. Air readings are taken in an office area, the warehouse area, and the process equipment areas. The mercury monitoring form will list the sampling location and air monitoring readings obtained. Samples are taken at varying times throughout the work day. The log records the date/time of sampling, location, sampler's name, and mercury vapor reading. A sample Mercury Vapor Monitoring form is included in Appendix ~~5-3~~D-5-II to this Attachment.

Veolia also does routine Industrial Hygiene monitoring to ensure that personnel are working in a safe environment and that the equipment is operating properly. The IH monitoring results are used to evaluate engineering controls and if additional PPE is necessary to work in a particular area of the facility.

5.5.6 Subpart CC Emission Controls

40 CFR 264 Subpart CC was written to control organic air emissions from tanks, surface impoundments, and containers at hazardous waste treatment, storage and disposal facilities and large quantity generator facilities. The Subpart CC rules apply to those materials that:

a. are hazardous wastes, and
b. have a volatile organic (VO) concentration of greater than 500 ppmw.

Veolia does not accept any wastes with a VO concentration in excess of 500 ppmw. This provision is verified through the waste approvals procedures described above and detailed in the Waste Analysis Plan included in Attachment 7.

5.6 Storage Areas and Container Management Practices

As a mercury recovery and reclamation facility, Veolia is required to store all incoming mercury containing universal wastes in designated storage areas. ~~The Veolia facility has two types of designated areas, the Universal Waste Storage Areas for the storage of lamps and the Container Storage Areas for the storage of MCMA and other non-lamp mercury containing wastes.~~ In addition to these requirements, as a large quantity generator of hazardous waste, Veolia may accumulate containers of hazardous waste within designated areas. On-site generated hazardous waste must be stored within the ~~Container~~ Storage Areas prior to being reclaimed on-site or shipped off-site to another permitted facility. Facility Map, Figure ~~1, shows the location of the each of these storage areas.~~ 5.5, shows the location of the each of these storage areas. The storage areas, as shown on Figure 5.5 and as described below define the maximum storage capacity of the facility. However, in order to efficiently operate the facility, other equipment or non-hazardous material may be located within one or more of these storage areas. The placement of this equipment or other non-hazardous material will reduce the actual amount of material authorized to be stored in this areas. However to provide for operational flexibility and to ensure adequate closure funding, each of these areas is being described based on its maximum capacity.

These storage areas will be used primarily for the storage of the following waste types:

- Universal waste lamps that cannot be immediately transferred to the staging area for processing,
- Universal waste mercury containing equipment prior to on-site processing in the retort,
- Mercury containing materials derived from the processing of universal and hazardous waste lamps awaiting on-site processing, and
- Hazardous wastes derived from the recycling of mercury containing universal wastes prior to shipment for recycling or treatment and disposal.

Due to the size and configuration of the facility, it may be necessary to locate a cardboard baler or other non-hazard process equipment and safety equipment within this storage area. When other equipment is located within this storage area, the footprint occupied by the equipment will be deducted from the overall storage capacity. These areas may, on occasion, also be used for the storage of other universal wastes and non-hazardous materials. Due to the limited size of the facility, other universal wastes, such as universal waste batteries, or non-RCRA hazardous materials may be temporarily placed within this area. When other materials are placed into this

storage area the overall volume of lamps will be decreased to correspond to the remaining space available.

~~Container~~ The storage areas will also be used by employees for the performance of material handling activities including the repackaging of lamps for storage, removing excess packaging materials prior to recycling and removing lamps from protective plastic shields and coatings.

5.6.1 Storage ~~Areas~~Area #1

~~Container~~ Storage Area #1 is located in the northeast corner of the facility. The area is approximately 8' deep by 22' wide and has a capacity for the storage of 7 double-stacked pallets and one single pallet for a total of 15 pallets. This storage configuration will provide for a minimum 2 foot aisle space on each side of the pallet allowing access to all containers for inspection and responding to potential emergencies. ~~Based on these dimensions and storage~~ With this configuration~~, this~~ the storage area has a ~~total~~ capacity for 60 drums or 960 cubic feet of ~~60 x 55 gallon drum~~lamps. This volume of lamps would be equivalent to the storage of 16,320 4-foot lamp equivalents. The lamp equivalents is based on the following calculations and assumptions.

- ~~Container~~ A 4'x 1'x 1' box will hold 68 T-12 lamps.
- Each pallet will hold 4 boxes per tier.
- Each pallet can be stacked to a height of 8'
- 4 boxes/tier X 8 tiers/pallet X 68 lamps/box = 2,176 lamps/pallet
- 7.5 pallets X 2,176 lamps/pallet = 16,320 lamps

Figure 5.5 shows the location of these storage areas and the configuration of each of these storage areas.

5.6.2 Storage Area #2

Storage Area #2 is located within the northern portion of the warehouse adjacent to the east wall of the lamp processing room. This area has overall dimensions of 8' deep by ~~16'~~28' wide and has a capacity for the accumulation of ~~6~~10 double stacked pallets for a total of ~~twelve~~twenty pallets in this area. This provides an area sufficient to accumulate ~~48~~80 x 55 gallon drum equivalents. With this configuration the storage area has a capacity for 80 drums or 1280 cubic feet of lamps. This volume of lamps would be equivalent to the storage of 21,760 4-foot lamp equivalents. The lamp equivalents is based on the following calculations and assumptions.

- ~~Container Storage Areas #1 and #2~~A 4'x 1'x 1' box will hold 68 T-12 lamps.
- Each pallet will hold 4 boxes per tier.

- Each pallet can be used for the storagestacked to a height of mercury containing manufactured articles received from off-site, hazardous wastes generated on-site or non-hazardous process residuals generated on-site as long as aisle space and stacking requirements (no stacking of containers over 8’
- 4 boxes/tier X 8 tiers/pallet X 68 lamps/box = 2,176 lamps/pallet
-) are met. 10 pallets X 2,176 lamps/pallet = 21,760 lamps

Figure 115.5 shows the location of these storage areas and the configuration of each of these storage areas.

5.6.25.6.3 Universal Waste Storage Area #3

Storage Area #3 is located in the northern half of the facility adjacent to the employee decon room. This area is approximately 16’ wide by 8’ deep with a capacity of 6 pallet spaces. If each space holds 8 drums on double stacked pallets this equals a total capacity of 48 drums. The Universal Waste With this configuration the storage area has a capacity for 48 drums or 768 cubic feet of lamps. This volume of lamps would be equivalent to the storage of 13,056 4-foot lamp equivalents. The lamp equivalents is based on the following calculations and assumptions.

- A 4’x 1’x 1’ box will hold 68 T-12 lamps.
- Each pallet will hold 4 boxes per tier.
- Each pallet can be stacked to a height of 8’
- 4 boxes/tier X 8 tiers/pallet X 68 lamps/box = 2,176 lamps/pallet
- 6 pallets X 2,176 lamps/pallet = 13,056 lamps

Figure 5.5 shows the location of these storage areas and the configuration of each of these storage areas.

5.6.4 Storage Area, commonly referred to as the lamp storage area, #4

Storage Area #4 is located in the southern portion of the facility. This area is divided into two separate storage areas divided by a located to the west of the center aisle large enough to allow for the movement of a forklift within this area. The storage area along the west walland is approximately 40’ by 20’ and has a capacity for the storage of 34 pallet spaces. The total number of pallet spaces is based on 5 pallets per row and 7 rows of pallets with a 2 foot aisle space between each row, with the exception of the northernmost rowtwo rows which isare only able to store 4 pallets because athe carbon filtration system located along the back wall occupies one of the pallet spaces. The storage area along the east wall is approximately 36’ by 16’ and has a capacity for the storage

~~of 24 pallet spaces. The total number of pallet spaces is based on 4 pallets per row and 6 rows of pallets with a 2 foot aisle space between~~ in each row. ~~With this configuration the storage area has capacity for 126,208 4-foot lamp equivalents. This capacity is based on the following calculations and assumptions.~~

With this configuration the storage area has a capacity for 272 drums or 4,352 cubic feet of lamps. This volume of lamps would be equivalent to the storage of 73,984 4-foot lamp equivalents. The lamp equivalents is based on the following calculations and assumptions.

- A 4'x 1'x 1' box will hold 68 T-12 lamps.
- Each pallet will hold 4 boxes per tier.
- Each pallet can be stacked to a height of 8'

- ~~4 boxes/tier X 8 tiers/pallet X 68 lamps/box = 2,176 lamps/pallet~~
- ~~58~~4 boxes/tier X 8 tiers/pallet X 68 lamps/box = 2,176 lamps/pallet
- 34 pallets X 2,176 lamps/pallet = ~~126,208~~73,984 lamps

Figure 5.5 shows the location of these storage areas and the configuration of each of these storage areas.

5.6.5 Storage Area #5

Storage Area #5 is located in the southern portion of the facility. This area ~~will be used~~is located along the east wall and is approximately 74' by 16' and has a capacity for the storage of ~~universal waste~~48 pallet spaces. The total number of pallet spaces is based on 4 pallets per row and 12 rows of pallets with a 2 foot aisle space between each row.

With this configuration the storage area has a capacity for 384 drums or 6,144 cubic feet of lamps ~~that cannot be immediately transferred~~. This volume of lamps would be equivalent to the ~~staging area for processing. The majority of these lamps will be HID~~storage of 104,448 4-foot lamp equivalents. The lamp equivalents is based on the following calculations and assumptions.

- A 4'x 1'x 1' box will hold 68 T-12 lamps~~, U-tube~~.
- Each pallet will hold 4 boxes per tier.
- Each pallet can be stacked to a height of 8'
- 4 boxes/tier X 8 tiers/pallet X 68 lamps~~ and other specialty~~/box = 2,176 lamps~~ that require manual processing before they can be placed into the recycling equipment.~~/pallet

~~This area may on occasion also be used for the storage of other universal wastes and non-hazardous materials. Due to the limited size of the facility, other universal wastes, such as universal waste batteries, or non-RCRA hazardous materials may be placed within this area. When other materials are placed into this storage area the overall volume of lamps will be decreased to correspond to the remaining space available.~~

~~This area will also be used by employees for the performance of material handling activities including the repackaging of lamps for storage, removing excess packaging materials prior to recycling and removing lamps from protective plastic shields and coatings.~~

- 48 pallets X 2,176 lamps/pallet = 104,448 lamps

Figure 5.5 shows the location of these storage areas and the configuration of each of these storage areas.

~~5.6.3~~5.6.6 Non-hazardous Waste ~~Storage Areas~~Accumulation Area

The facility has ~~two~~one designated non-hazardous waste ~~storage~~accumulation areas. ~~These areas~~This area are located in the ~~northern half~~center area of the facility~~.~~ near the loading docks. Non-haz ~~Area #1, located adjacent to the employee decon room, will be used for the storage of non-hazardous process residuals, such as retorted phosphor powder and arc tubes, and PPE. Non-haz Area #2~~Acc. Area, located adjacent to the scale at the loading dock, will be used for the accumulation and storage of electronic components removed from lighting fixtures, such as lamp ballasts, small capacitors from HID fixtures and dry transformers removed from HID and neon lamp fixtures. These devices may arrive at the facility separately or within the fixtures~~. Non-haz Area #1~~.. This area~~ is approximately 16' wide by 8' deep with a capacity of 6 pallet spaces. If each space holds 8 drums on double stacked pallets this equals a total capacity of 48 drums. Non-haz Area #2~~ is approximately 9' by 10' including the space for the scale. Within this space is room for 8 drums. Figure ~~11~~5.5 shows the location of these storage areas and the configuration of each of these storage areas.

~~5.6.4~~5.6.7 Satellite Accumulation Containers

Veolia generates two waste streams on an ongoing basis which are accumulated in containers that meet the definition of "Satellite Accumulation". These waste streams are phosphor powder and ~~mercury prep room debris and PPE.~~flammable liquids from aerosol cans. The containers used to accumulate these hazardous wastes must meet the following requirements.

- Container is stored at or near the place where the waste is generated, and under the control of the operator of the process generating the waste.
- No more than 55 gallons of waste is stored at the point of generation.

- The date the container becomes full is marked on the label.
- The container is moved to the 90 day accumulation area or the hazardous waste storage area within 3 days of becoming full.
- The container is inspected weekly.

5.6.8 South Building

In addition to the operations within the mercury recovery and reclamation facility, Veolia also occupies ~~two~~three areas in the building located immediately to the south. ~~A third~~An additional area within this building in not occupied by Veolia. The operations in this building ~~are comprised of packaging storage~~include the following:

- Storage and shipping of packaging materials and ~~e~~supplies,
- Storage of maintenance and safety supplies
- E-waste ~~and universal waste~~ handler activities~~.~~,
- Universal waste battery handler activities
- Scrap metal and other non-hazardous material handler.

The packaging material storage and shipping is located in the western end of the building. The e-waste ~~and~~, universal waste battery handler activities, and are conducted within the area located in the center of the building. The storage of maintenance and safety supplies is located within the easternmost portion of the areas occupied by Veolia.

Handler activities include the accumulation and storage of e-waste, universal waste batteries, and other non-hazardous material. The other non-hazardous materials will primarily be comprised of ~~material~~scrap metals and materials that are similar to or derived e-waste and universal waste batteries ~~but do not technically qualify as universal waste because they do not meet any of the criteria for a hazardous waste.~~. This may include partially disassembled electronic components and appliances. These materials do not meet any of the characteristics of a hazardous waste or are specifically excluded from regulation.

Handler activities also will include the sorting and disassembly of certain items. The most common of these will be the removal of batteries from hand-held tools and appliances. However, this may also include the disassembly of certain electronic items on a less frequent basis.

This area has the capacity to store 72 pallet spaces of material. This will be comprised of a mixture of universal waste batteries, non-hazardous batteries, electronic waste and non-hazardous items.

5.6.9 Hazardous Waste 10-Day in Transit Material

Veolia has registered with the FL DEP as a Hazardous Waste Transfer Facility and can store 100 55-gallon drums or 55 gallon drum equivalents of hazardous waste ~~on~~at the facility in trailers or transport vehicles at any given time for a period to not exceed 10 days. The storage areas are either of the trailer storage areas in the loading docks or within the paved portion of the fenced yard. See Figure 1.

The requirements of 62-730.171 are followed including but not limited to:

- Waste is stored in proper DOT containers and is inspected daily when the facility is in operation and 10-Day in transit material is present.

- A 10~~-~~Day log is maintained which notes the manifest number for the shipment or other identifying number for a CESQG, the day the material is received and shipped, generators name and EPA/DEP identification number or name and address for a CESQG, amounts of hazardous waste and waste codes associated for each shipment.

- The waste is stored in containers in trailers or transport vehicles on a manmade surface which is capable of preventing spills or releases to the ground.

5.6.10 North Yard

The area immediately north of the mercury recovery and reclamation building is used for the accumulation of processed glass in roll-of containers, empty poly and steel drums and pails, wooden pallets and baled cardboard generated from on-site activities. In addition this area is used for the storage of reusable poly bins and salvage drums for use within the facility as needed. ~~Located to the north of the paved area are two storage trailers. One is used for the storage of packaging materials intended to be shipped to customer for use in shipping lamps and universal waste to the facility and the other contains maintenance supplies and spare parts for the recycling equipment.~~This area may also be used for the placement of storage trailers for equipment and supplies.

The north yard ~~is~~may also used for the unloading and staging of material delivered to the facility in vehicles that are not dock height trucks. These materials are off-loaded, sorted and palletized on the paved area of the north yard then immediately moved into the facility for processing or storage. A second type of staging activity is the staging of outgoing non-hazardous materials prior to shipping. These materials may be temporarily staged in the north yard in order to make final preparations to the containers for shipment. These preparations may include putting new labels or markings on the containers, inspecting containers in order to ensure they are properly closed and sorting the containers to assure they are loaded in the proper order.

This area is also used as a designated parking area for any trailer that may contain manifested hazardous wastes which are on-site as 10 day in-transit materials.

5.7 Container Marking and Labeling

All material that is in process, storage, or transportation must be clearly marked and labeled to communicate the contents of the materials in each container. Veolia uses a variety of labels to accomplish this, these are listed below:

- Generator applied labels and markings – Containers of lamps staged for processing, without being placed into storage will remain marked with generator applied markings. These markings will typically identify the containers as "Universal Waste Lamps"
- Hazardous Waste Label- Hazardous Waste labels are affixed to RCRA hazardous waste containers that are site generated. wastes that are designated for off-site shipment. These labels will go on phosphor powder drums, mercury debris containers, mercury contaminated water and containers of spill clean-up materials that are characteristically hazardous.
- In-process Waste Labels – In-process Waste labels are affixed to mercury containing materials that are derived from the lamp recycling process and designated for on-site mercury recovery. These labels will go on phosphor powder drums and crushed arc tubes from HID lamps.
- Universal Waste Label- Universal Waste labels are affixed to lamps, batteries, MCMA,lamp, battery, and mercury containing equipment containers. Crushed Fluorescentfluorescent lamps, and batteries
- Non-Hazardous Waste Labels or Waste for Disposal Labels- One received from off-site will be labeled as a universal waste; however, if the generator of the lamps has chosen to label them as a hazardous waste, these labels will be maintained.
- Other Waste Labels - Other labels will be affixed to each container of TSCA exempt small capacitors and lamp ballasts, non-PCBhazardous and non-RCRA waste to identify the contents of the container. Examples of these types of materials includes lamp ballasts, electronic waste, non-hazardous waste derived from retort processing (retorted phosphor powder, arc tubes and debris), and non hazardous scrap metal containers.
- Unused chemicals, such as, unused carbon, and unused floor sweeping compound will be marked in a manner appropriate to identify the product, such as an original manufacturers label, NFPA label or other markingsGHS compliant labels that indicate the material is an unused product.

A sample of each label is provided in Appendix 5-2.
Sample labels are included as Figures 5.11 through 5.14.

5.8 Recovered Material Quality Control

All by-products and wastes generated in the recycling of mercury containing materials will be tested on a periodic basis to establish compliance with the 62-737. FAC**.**

Attachment 8, Quality Control Plan, contains a detailed description of the recovered material quality control sampling and testing procedures.

5.9 Outgoing Material Shipments and Documentation

Veolia tracks and maintains accurate records for all off-site shipments to end users. Materials that are shipped off-site from Veolia include: Cullet Crushed Glass, Processed Phosphor Powder, Aluminum End Caps, Retort Residues, and Elemental Mercury. All by-products derived from the recycling of mercury containing lamps will be tested to ensure compliance with Rule 62-737.840(3) F.A.C. In addition to the processed materials Veolia generates additional wastes as part of the facility operations including spent activated carbon and filter material from emission control devices, condensate water from retort operations and used personal protective equipment. Veolia enters all off-site shipments into our waste tracking system which details what type of material is being shipped, container size, weight of shipment, and the destination of the material. If the material must leave the facility on a Hazardous Waste Manifest it is done in accordance with Chapter 62-730, F.A.C. See Quality Control Plan in Attachment 8.

5.10 Operating Record

Veolia maintains written records that document receipt of lamps, MCMA, universal waste batteries, electronic scrap and other non-hazardous wastes associated with batteries and electronics. These records include information on the quantity, source (generator and/or transporter), date received, number of lamps in storage, source of the lamps, amount of other mercury-containing wastes in storage, date shipped to Veolia, products and wastes from recycling, dates products were shipped from the facility, and quantities shipped from the facility. In addition to this information Veolia retains waste analysis results, incident reports, manifests, inspection records (regulatory and facility), closure plan, biennial reports, and employee training records.

5.11 Hazard Prevention

This section contains a discussion of procedures at Veolia to prevent hazards associated with management of universal wastes, mercury containing manufactured articles and the by-products and waste derived from the recycling operations. This section includes a discussion of security measures, inspection protocols, and preparedness and prevention procedures.

5.12 Security

The Veolia facility is located in an industrial park that does not receive a significant volume of traffic from the general public. The west side of the facility is bordered by National Forest and there is no access from the facility yard area. The facility is locked and secured during non business hours and the yard area of the facility is secured by chain link fence. The fence is topped with barbed wires. The exterior of the facility is well-lit at night. Access gates are maintained locked at all times that the facility is not in operation. Access to the building and yard area is only permitted to personnel who have signed into the visitors' log which is maintained in the main office of the facility.

Appropriate warning signs are posted at perimeters and elsewhere in the facility as necessary.

5.12.1 Barrier and Means to Control Entry

During normal business hours access to the facility is controlled. Access to the buildings and the yard areas are available only through the main front building entrances. Personnel outside of the company requiring access to the waste handling portions of the facility must register at the front desk and will be escorted into the facility. Specific personnel, typically the Operations Manager and/or the Operations Supervisor, retain keys to open the gates. In addition to the barriers, internal communication devices are employed, including telephones, and a paging system.

5.12.2 Warning Signs

Appropriate warning signs are posted at the perimeter of the facility and elsewhere in the facility, as needed. These include "No Trespassing" and applicable "Hazardous Materials" signs.

5.12.3 Preparedness and Prevention

The Veolia facility is 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 and ground water that could threaten human health or the environment.

A description of emergency equipment and internal and external communications equipment is provided in the Contingency Plan, contained in Attachment 6.

Veolia's communication, alarm, fire protection, spill control, and decontamination equipment are periodically tested and inspected to ensure proper operation during an emergency. Veolia's Inspection Schedule (Attachment 12) includes the inspection checklists for site safety and emergency equipment.

5.12.4 Preventive Procedures, Structures and Equipment

Veolia strives to prevent hazards to human health or the environment through the preventive procedures, structures, and equipment described in this section.

5.13 Loading/Unloading Operations

The loading and unloading of containers transported in dock height vehicles is conducted within the loading dock area. Loading and unloading of vehicles that are not dock height will be conducted on the paved area north of the facility or at the loading dock.

5.13.1 Unloading at the loading docks

The unloading of containers at the loading dock is done by employees who are trained in waste receiving procedures. The containers are off-loaded and transferred into the building and are placed into the receiving/staging area. Containers are then inspected and logged into the facility's waste tracking system. Once the receiving procedures have been completed, the incoming materials are transferred to either the processing area or a storage area.

5.13.2 Unloading in north lot

Under normal circumstances the unloading of containers in the north lot will only occur when delivery of materials is performed in vehicles where the cargo portion of the vehicle is not at dock height~~.~~ and activities on the loading dock prevent the unloading of the vehicles in that area. This includes pick-up trucks, cargo vans typically used by electrical contractors and panel delivery trucks as used by package delivery services such as FedEx Ground. Containers are manually off-loaded and placed onto pallets. The containers are inspected then moved into the building upon conclusion of the off-loading process. Once moved into the building, the materials are logged into the facility's waste tracking system and transferred to to either the processing area or a storage area.

5.13.3 Managing improperly packaged containers and material spills

In the event that materials arrive in packaging which does not conform ~~with~~to the universal waste standards, provisions will be made for moving that material directly to the processing area or for the repackaging of the material. In most cases the material will be repackaged during off-loading; however there may be occasions where the material is first moved to a storage area and repacked within the storage area. In the event of a release during off-loading, facility personnel will clean up the spill in accordance with the procedure contained in Attachment 6 for routine or non-routine clean-up activities as appropriate to the scenario.

5.14 Environmental Controls

Environmental controls are required because of the toxicity of mercury. It is a contaminant when introduced into the atmosphere, the soil or ground water. The following controls are installed to minimize the hazard associated with handling of the lamps during the process.

- Processing is conducted within areas that are maintained under negative pressure for the control of particulates and mercury vapors.
- A portable Jerome mercury vapor analyzer, or similar analyzer, is used to monitor mercury vapor concentrations in the air throughout the work place, on a daily basis.
- The atmosphere exhausted from the crusher, separator, and dust collector is treated by carbon ~~filtering~~filters to remove any mercury in the vapor phase.

5.15 Personal Protective Equipment

Veolia provides personal protective equipment (PPE) to every operations and maintenance employee. The PPE is issued for use during routine operations and for emergency situations. A detailed description of the PPE available at Veolia, its locations, and capabilities is provided in the Contingency Plan contained in Attachment 6

5.16 Prevention of Reaction of Ignitable, Reactive or Incompatible Wastes

Veolia does not receive any ignitable or reactive hazardous wastes at the facility with the exception of materials that are handled as 10-day in transit hazardous waste. The only other potentially incompatible materials received are universal waste batteries. Veolia requires the generators of the universal waste batteries to package the batteries in accordance with the US DOT requirements for the shipment of hazardous materials. As such, incompatible batteries should not be received in the same outer shipping container. If during the visual inspection of the incoming materials, it is identified that the batteries are not properly packaged the batteries are immediately repacked by Veolia personnel.

5.17 Contingency Plan

The Contingency Plan for Veolia, required under 40 CFR 270.14(b)(7) and 40 CFR 264, Subpart D, is included in Section 6 herein.

5.18 Inspection Programs

This section presents the inspection schedule as required by 40 CFR 270.14(b)(5). Additionally, Veolia's inspection program also meets the general requirements of 40 CFR 264.15 and the container requirements of 40 CFR 164.174.

As part of its weekly safety inspection and audit program, Veolia inspects facility areas, structures, and equipment to ensure proper condition and operation. The following is a list of the general safety items that are inspected on a weekly basis:

Egress / Housekeeping
Hazard Communication Information
Material Storage / Handling and Process Equipment
Electrical
Fire Prevention

Emergency Response
Contractor Safety

An example of the weekly *Safety Inspection* form is included in our Inspection Program contained in Attachment 12. Veolia conducts daily visual inspections and weekly documented inspections to check for equipment malfunctions, structural deterioration, and any other deficiencies that could threaten human health, safety, or the environment or cause a release of waste materials. Inspections are conducted by assigned qualified individuals. The condition of items being inspected is noted along with corrective actions to be taken, the name of the inspector, and the date of the inspection. When a hazard is imminent or has already occurred, corrective action is taken immediately. The inspection form is reviewed by the Operations Manager to verify the completion of the inspection and that actions were taken, or were scheduled to be taken, to correct deficiencies. Completed inspection forms are maintained in Operations Managers office for review.

The container storage areas and universal waste storage areas are inspected weekly for containers that may be deteriorated (40 CFR 264.174). Loading, unloading, and process areas (or other areas subject to spills) are inspected daily when in use (40 CFR 264.15(b)(4)).

~~Appendix~~Attachment 12~~-2~~ contains a listing of all regularly scheduled inspections as well as the forms to be used for those inspections.

5.19 Maintenance Programs

Veolia's maintenance program is designed to identify and correct conditions relating to equipment and systems that can cause environmental degradation or endangerment of public health and safety before the equipment or system fails. The preventive maintenance polices and procedures are required to be followed by Veolia personnel at the facility in Tallahassee, Florida.

The preventive maintenance program is facilitated through a number of inspections that take place daily, weekly, quarterly, and annually on the process equipment. Inspection results are communicated to the Operations Manager. The equipment and systems are inspected to ensure that they are operating as per the manufacturer's specifications. A supply of high wear items and replacement parts are maintained in inventory and are available if equipment should breakdown.

5.19.1 Objectives

The objectives of the maintenance program are as follows:

- To ensure that the facility operations are safe
- To determine what maintenance work must be performed
- To document and confirm the actions taken and to measure their effectiveness

5.19.2 Maintenance Notification System

Because Veolia's recycling processes rely heavily on properly functioning equipment and machinery, our employees are trained to quickly identify any malfunctions and subsequently notify the appropriate personnel so that corrective action may be taken. Upon identification of a problem, the employee who discovers the problem immediately notifies the Operation Supervisor. The Operators are responsible for assessing the situation and notifying the Operations Supervisor of the malfunction. Once the ~~Operation~~Operations Supervisor has dispatched personnel to the work area where the malfunction has occurred, he will work with the Operations Manager to take the necessary corrective actions. Depending on the nature of the problem, corrective actions will vary.

Because Veolia relies on immediate notification of problems in order to maintain operations, problems are identified quickly and resolved in as timely a fashion as possible, depending on the nature of the problem. In order to document significant maintenance activities, Veolia uses a Corrective Action Form or a Maintenance Work Order form, contained in ~~Appendix~~Attachment 12~~-2~~. This form contains information regarding the nature and date of the problem identified a description of the corrective actions taken, and the date the problem was remedied. Each form is signed off by the Operations Manager, who is responsible for reviewing the forms. The Corrective Action Forms are maintained in the Operations Managers office along with the Weekly Inspection Logs.

5.20 Housekeeping Program

The purpose of Veolia's housekeeping / daily visual inspection program is to perform housekeeping practices that will reduce the possibility of accidents, including spills, and safety hazards to facility personnel. It is essential that the facility be operated in a manner providing the greatest degree of safety for employees and visitors. Proper housekeeping assists significantly in providing safe operating conditions. It is the responsibility of each individual to contribute to proper housekeeping by correcting deficiencies where feasible and informing supervisors of housekeeping needs beyond their individual capability. In addition to those items identified on the inspection schedules, housekeeping issues include the following:

OUTSIDE AREA:	
1.	Perimeter fence will be maintained in a good state of repair.
2.	Grass, trees, shrubs will be cut and trimmed.
3.	Outside storage of spare construction materials and equipment are to be positioned neatly for easy retrieval. The materials stored will be periodically reviewed to ensure there is a need for retention.
4.	The bulk trash container areas will be kept neat with all trash in the container. If there are large items to be discarded which cannot be put in the trash container, they will be neatly stacked near the container. Additional trash pick ups will be arranged if required.
5.	Outside lights are to be maintained in good operating order
6.	Roadway and parking areas are to be maintained in good order.

ADMINISTRATIVE AREA
1. The entry/reception area, lavatories, and offices will be kept clean at all times. 2. The administrative area is to be cleaned daily.
FACILITY OPERATIONS AREA
1. Ensure proper and orderly storage of all pallets and containers 2. Provide for proper containment and regular refuse pickup and disposal 3. Maintain all areas in a clean condition 4. Debris from any lamps broken during shipment will be cleaned up and processed or placed into waste accumulation drums for storage prior to processing. 5. Debris from any lamps broken during processing will be cleaned up and processed or placed into waste accumulation drums for storage prior to processing. De minimis amounts of broken glass will be cleaned up periodically throughout the day and at the end of each shift or work period. For example, prior to going on break or lunch. 6. Ensure proper storage of containers, equipment, tools, etc. Ensure that there are no obstructions of walkways, pathways, or roadways. 7. Restrooms, showers, lockers, and lunch areas must be clean and orderly.

Appendix D-5-I

Sample Waste Approval and Receiving Forms

Appendix D-5-II

Emission Control Equipment Information

Attachment D-6~~.0~~
Contingency Plan

6.1~~.~~ Introduction

The purpose of this document is to describe the contingency plan and emergency procedures for Veolia ES Technical Solutions, L.L.C. (Veolia) operations pursuant to 40 CFR Part 264, Subpart D. and Florida Administrative Code 62-730-180 (1)

6.2 Identification

Veolia's mercury reclamation and recovery facility is located at 342 Marpan Lane in Tallahassee Florida. A site layout is presented in Figure 6.1 which identifies the location of the building. Figure 6.2 is a ~~Site map~~is a floor plan with evacuation routes for the main building located at 342 Marpan Lane. Figure 6.3 is a floor plan with evacuation routes for the South building. A representative sample of ~~the facility. Appendix 6-1 contains Material~~ Safety Data Sheets for ~~each of~~ the lamp types processed on-site and a ~~Material~~ Safety Data Sheet for elemental mercury are included in Appendix D-6-I to this plan.

6.3 System Overview

Mercury bearing lamps and mercury-containing devices are stored in the designated storage areas inside the building. Veolia has a mechanical processing system that is capable of processing fluorescent and high intensity discharge (HID) lamps that contain mercury. Mercury-containing devices such as thermometers, thermostats, blood pressure cuffs are processed by a combination of manual and mechanical processing. The entire process consists of receiving, staging, crushing, separating, and distillation to recover reusable mercury. The receiving process involves unloading, staging and inventorying product received. The staging process reflects setting up the lamps for crushing. The crushing process reduces the lamps into glass, aluminum end caps, and mercury bearing phosphor powder. The distillation process removes mercury from the phosphor powder. The recovered materials are stored on-site until sufficient quantities are collected and transported off site to an end user.

6.4 Documents Overview

This document describes emergency procedures and requirements for the Emergency Coordinator and Veolia employees. The personnel action requirements include emergency notification, emergency response, and evacuation procedures. This document includes a list of emergency equipment and proof of local authorities notification.

6.5 Purpose of Plan

6.5.1 Implementation of Plan

The provisions of this 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 (40 CFR 264.51(b)).

6.5.2 Amendment of Contingency Plan

The Contingency Plan will be reviewed and immediately amended, if necessary, whenever any of the following occur:

- The facility permit is revised.
- The plan fails in an emergency.
- The facility changes its design, construction, operation, maintenance, or other circumstances in a way that materially increases the potential for fires, explosions, or releases of hazardous waste or hazardous waste constituents, or changes the response necessary in an emergency.
- The list of Emergency Coordinators changes.
- The list of emergency equipment changes.

6.5.3 Reporting Procedures Emergency for Personnel

Aisle space is maintained at the facility in order to ensure the unobstructed movement of personnel, fire, and spill control equipment in an emergency. The provisions of this plan must be carried out immediately whenever there is a medical emergency, fire, explosion, or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment. The Operations Manager is the designated Emergency Coordinator (EC).

In the event of a medical emergency, Veolia personnel shall notify the Emergency Coordinator and then the local authorities by calling **911**.

The Emergency Coordinator shall call in the report and include the following information:

1. Veolia ES Technical Solutions, L.L.C. – telephone number 850-877-8299

2. Address:
   Veolia ES Technical Solutions, L.L.C.
   342 Marpan Lane
   Tallahassee, FL 32305

3. Mercury Reclamation/Recovery & Storage Areas:

Loading Dock
Office
Locker Room/Shower
Break Room
Distillation Room
Processing Room
Staging/Receiving Area
Storage Area

4. Type of incident: (medical, fire, explosion)

5. Missing personnel and suspected location.

6. Extent of injuries, if any.

7. Name of material and quantity if known.

8. Possible hazards to human health outside facility.

In the event of fire, explosion, or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment, the Emergency Coordinator or his designee shall immediately perform the following activities:

9. Notify all on-duty personnel to evacuate the facility.

10. Activate internal facility alarm/communication system.

11. Identify the character, exact source, amount, and extent of any released material(s) by observation or review of facility records and manifests.

12. Assess possible hazards to human heath or the environment that may result from the release, fire or explosion.

13. Notify appropriate State and Local agencies with designated response roles (if their help is needed) per section 6.10.

6.6 Emergency Procedures

6.6.1 Emergency Coordinator (EC) designation and Duties

Emergency Coordinator List

Primary EC	**Alternate EC**	**Alternate EC**
Scott Fulton	Randy Williams	Matthew Melott
4169 Fred Hatfield Court	94 Christian Loop	24098 Lake Talquin Rd

Tallahassee, FL 32310	Havana, FL 32333	Tallahassee, FL 32310
C (850) 688-8252	C (850) 251-4930	C(850) 274-7842
O (850) 877-8299	O (850) 877-8299	O (850) 877-8299
H (850) 210-2376	H (850) 539-9732	H (850) 509-9187

Veolia uses an on call system to notify the Emergency Coordinator. The primary Emergency Coordinator (listed first) is responsible for assigning a designee per 40 CFR Part 264.55. The EC shall have the authority to commit the necessary resources to contain and respond to the emergency. The EC shall be responsible for government notification and implementing the emergency response procedures. In the event the primary EC is not available you should contact the alternate EC's listed above.

6.6.2 Emergency Response Contractor

Veolia uses a network of emergency response contractors throughout the United States for the purpose of responding to emergencies at Veolia facilities or customer sites. For the Tallahassee facility, Veolia has established a contract with the below listed company for the provision of hazardous materials emergency response and remediation activities.

SWS Environmental Services
Panama City Beach
1617 Moylan Road
Panama City Beach, Florida 32407
Phone: (850) 563-0822
24-Hour Emergency Response: (877) 742-4215

6.7 Emergency Response Procedures

The EC shall take all reasonable measures necessary to ensure that fires, explosions, and releases do not occur, reoccur, or spread to other locations which contain hazardous materials. Veolia personnel shall be at a minimum in LEVEL C personal protective equipment pursuant to CFR 29 Part 1910.120 Appendix B. The following procedures will be carried out.

6.7.1 Containment Procedure

Isolate unprocessed powder canisters from fire hazards located in distiller area.

Closure of any open containers of mercury containing manufactured articles and lamps.

6.7.2 Equipment Shut Down Procedures

In the event of a fire or explosion, the following steps shall be taken.

1. Press one of the emergency off switches on the fluorescent lamp processing equipment. The emergency off switches are located adjacent to the in feed conveyors and on the main control panel.

2. Turn off HID capsule crusher system located in crusher-separator room.

3. Evacuate all personnel from the building and gather at rally point.

6.7.3 Personnel Injury

1. Quickly evaluate the extent of the injury.

2. Call 911 for all injuries other than those of a minor nature.

3. Administer emergency first aid on injured person.

4. Assign a person to the facility entrance to direct emergency services.

~~4.~~5. Move injured person to safety if it is safe and will not further harm the affected person.

6.7.4 Fire of Explosion

The EC shall take all reasonable measures necessary to contain the emergency. The following steps shall be taken if appropriate.

1. Call 911 emergency services and notify the operator that Veolia Electronics Recycling has a Contingency Plan.

2. Evacuate all personnel from the area.

3. Assign a person to the facility entrance to direct emergency services.

4. If appropriate, execute the Containment Procedure.

5. If appropriate, execute the Equipment Shut down Procedure.

6. Assign a person to monitor the facility for mercury vapor.

6.7.5 Spill

There are two types of spills (i.e. liquid mercury and solids contaminated with mercury) that could occur at Veolia. Each type of spill requires a

different cleanup procedure. Personnel shall wear safety glasses, gloves, and shoes for all types of spills. Further protection may be required depending on the mercury vapor level and the size of the spill.

6.7.5.1 Liquid Mercury Spill Clean-Up Procedures: Routine Spills

A routine spill is defined as a small spill of less than one pound that occurs during normal work operations. A routine spill is further defined as one that is confined onsite and occurs near the distiller or liquid mercury storage containers and does not enter drains, storm water runoff outfalls, wells and/or soil.

1. Report spill to emergency coordinator.

2. Don personnel protective equipment gloves, protective clothing and respiratory protection appropriate to the nature of the spill.

3. Use Mercury Vapor Analyzer to monitor spill area to determine airborne mercury vapor levels. If the mercury vapor concentration exceeds 0.025 mg/m^3, a respirator is required.

4. Assemble spill cleanup equipment near the spill site, use mercury vacuum, mercury sponges and/or mercury spill powder to adsorb or chemically amalgamate mercury.

5. Clean spill area as many times as necessary to remove visible mercury.

6. Place collected mercury into a metal storage container.

7. Use Mercury Analyzer to carefully monitor airborne mercury vapor levels especially close to the surface of the spill. Refrain from drawing mercury droplets into the instrument. Levels above 0.025mg/m^3 require additional cleaning.

8. Decontaminate as necessary if airborne mercury levels near the spill surface are above background.

9. Use as a final clearance step, use mercury indicating swabs or mercury indicator powder on the cleaned surfaces and/or equipment to determine residual amounts and repeat cleaning steps as necessary to achieve background.

10. Place spill materials and contaminated equipment in hazardous waste containers and label for recovery or disposal.

11. Make record of spill incident and resolution.

6.7.5.2 Liquid Mercury Spill Clean-Up Procedures: Non-Routine Spills

Non routine and large spills require a similar response to routine spills, but usually require more personnel. Large spills take more time to assess and complete associated tasks. Large spills can be a larger threat to the environment if not handled immediately by qualified personnel. A non-routine spill is defined as a spill involving greater than one pound of mercury and/or where personal injury or outside contamination (I.e. soil, water, drains) occur as a part of the spill or as a result of the spill.

1. Report spill to onsite supervisor and determine spill extent.

2. Notify applicable government agencies per Section 4.0.

3. Assemble spill response equipment. Call outside contractor for help as necessary.

4. Use Mercury Vapor Analyzer to check airborne levels. Use airborne mercury data to determine extent of personnel protective equipment required for the incident. If airborne concentrations are unknown Veolia requires the use of a SCBA and high level (A, B) protective clothing to protect the skin.

5. Set up a safe staging area based on air tests and surface contamination.

~~5.~~6. Begin clean up after donning personnel protective equipment and setting up decontamination area, assigning roles and carefully defining objective(s).

~~6.~~7. Accomplish cleanup as necessary by following steps outlined in Routine Spills above.

~~7.~~8. Submit written reports to regulatory agencies per Section 6.10.

6.7.5.3 Solids Contaminated with Mercury Spill Clean-Up Procedures: Routine Spills

Routine spills of solids contaminated with mercury include spills of small amounts of broken lamps or debris contaminated with mercury is a concentration similar to that of broken lamps. Routine spills are further defined as ones that are confined onsite.

1. Report spill to emergency coordinator.

2. Don personnel protective equipment gloves, protective clothing and respiratory protection.

3. Assemble spill cleanup equipment near the spill site, use mercury vacuum, mercury sponges and/or mercury spill powder to adsorb or chemically amalgamate mercury.

4. Clean spill area to remove any visible signs of spilled material.

5. Place collected material into an appropriately marked and labeled storage container or place the material directly into the processing equipment.

6. Make record of spill incident and resolution.

6.7.5.4 Solids Contaminated with Mercury Spill Clean-Up Procedures: Non- Routine Spills

Non routine and large spills require a similar response as routine spills, but usually require more personnel. Large spills take more time to assess and complete associated tasks. Large spills can be a larger threat to the environment if not handled immediately by qualified personnel. A non-routine spill is defined as a spill involving greater than one pound of mercury and/or where personal injury or outside contamination occur as a part of the spill or as a result of the spill.

1. Report spill to onsite supervisor and determine spill extent.

2. Notify applicable government agencies per Section 4.0.

3. Assemble spill response equipment. Call outside contractor for help as necessary.

4. Use Mercury Vapor Analyzer to check airborne levels. Use airborne mercury data to determine extent of personnel protective equipment required for the incident. If airborne concentrations are unknown Veolia requires the use of a SCBA and Level B protective clothing to protect the skin.

5. Set up a safe staging area based on air tests and surface contamination.

~~5.~~6. Begin clean up after donning personnel protective equipment and setting up decontamination area, assigning roles and carefully defining objective(s).

~~6.~~7. Accomplish cleanup as necessary by following steps outlined in Routine Spills above.

8. Verify clean-up through the use of direct reading instruments or sampling as appropriate for the media.

9. Submit written reports to regulatory agencies per Section 6.10.

6.7.5.5 Bomb Threat

1. The person receiving the bomb threat shall attempt to obtain as much information as possible from the caller.

2. The person receiving the bomb threat shall immediately notify the Emergency Coordinator.

3. Evacuate all personnel from the area (see evacuation procedures).

4. Lock exterior doors.

5. Call 911 from a separate location and follow their instructions.

6. Call building management company.

6.7.5.6 Civil Disturbance

1. Call 911 personnel and request appropriate assistance.

2. Notify the Emergency Coordinator.

3. Direct all personnel to a safe area.

4. Lock exterior doors if the disturbance is outside of the facility (see evacuation procedures).

5. Evacuate all personnel if the disturbance is inside the facility.

6. Lock as many doors as possible.

6.8 Emergency Equipment

Veolia shall have the following emergency equipment available and in working condition:

1. Fire – Portable fire extinguishers are located in the building (complying with local building codes). See Figures 6.2 and 6.3. They would be used to

extinguish a fire if one should occur. An employee inspects each one monthly to determine that it is fully charged. An outside firm conducts annual inspections for each unit; each one is weighed and the hoses checked for wear.

1.2. Mercury Vacuum- Mercury vacuums are designed for the cleanup of mercury spills and have a air collection system that collects mercury vapor in a HEPA filter. Mercury vacuums are the only type of vacuum that should be used to clean up spills.

2.3. Mercury Spill Kit

There are two commercial kits located at the site is in a white box located in the distiller room. The other is in the Operations Managers office See Figure 6.2. The box is marked "Mercury Spill Control Station". The spill kit contains absorbent powder, absorbent sponges, and a pump. Directions on how to use the equipment are located in the cover of the box. The spill kit is used to collect liquid mercury in the event of a spill. The Operations Manager ensures that it is complete.

3.4. Respirators

There are four full-face respirators with mercury vapor cartridges and HEPA filters available for use in an emergency. Respirators are used to protect employee health. They are inspected monthly. They are located in the small lockers in the hallway between the break room and the locker roommaintenance area in the unlocked units marked building to the south of the mercury recovery facility and labeled "For Emergency Use Only".

4.5. Protective Clothing – Tyvek

Tyvek full-body coveralls provide short-term protection against hazards such as fluorescent lamp powder (i.e. dust) and mercury particulates. SixA supply of Tyvek suits are located in the small lockersmaintenance area in the hallway betweenbuilding to the break roomsouth of the mercury recovery facility and the locker room in the unlocked units marked labeled "For Emergency Use Only".

5.6. Eye Wash Stations

Three emergency eye wash stations are installed at the facility. Liquid mercury is considered to be corrosive if it is splashed into the eye. An eye wash is necessary to wash out eyes in the event of an emergency. They are located.

- .a. Immediately north of the restroom on the east end of the facility
- .b. Immediately south of the baler on the east wall at the south end of the facility
- .c. Inside the north door in the lower building (E-waste/battery). This unit also has a drench hose attachment for safety purposes.

6.7. First Aid Kit

A commercially sold first aid kit is maintained at the facility. The contents will be used in the event of an accident. The Operations Manager ensures that it is complete. It is located in the restroom of the main office. The facility is also equipped with a portable first aid bag which is kept in the Operations Manager office should a situation require use of a portable unit.

~~7.~~8. Automated External Defibrillator (AED

The facility is equipped with one Automated External Defibrillator (AED) it is stored in the Operations Manager office on the east wall immediately after the entry door.

~~8.~~9. Mercury Vapor Detector

The Mercury Vapor Analyzer is available to monitor mercury vapor emissions in an emergency. The directions on how to operate the instrument are found in a file in the Supervisors office. The mercury detector is located in the Supply room in the north side of the building adjacent to the break room. The detector is used to monitor internal mercury vapor concentrations. The unit is annually calibrated by Arizona Instruments, the manufacturer.

~~9.~~10. Access to Communication

A telephone is available which facility personnel could use to call 911 and summon emergency assistance.

~~10.~~11. Access to Alarm

The telephone system is equipped with a paging system which will alert all facility personnel to evacuate the building. The emergency coordinators can activate the paging system from any telephone in the facility. Should the telephone system not be available, the facility maintains one (1) megaphone and one (1) airhorn. Both are located in the Operations Managers office.

6.9 Evacuation Procedures

Veolia employees shall evacuate the building via the nearest exit (see Figures 6.2 and 6.3). Upon evacuation, all personnel shall meet at the designated evacuation point which is located in the driveway by the telephone pole. The EC shall account for all personnel on duty.

The EC shall be available to help appropriate officials decide whether the local areas around the facility should be evacuated.

6.10 Notification Procedures

It is the responsibility of the Emergency Coordinator (EC) or designee to oversee all response actions and ensure that proper notifications are made. The EC shall notify all appropriate agencies ~~after completing steps 1 and 2~~following identification and assessment of the incident as described below.

1. Identification of Released Material

   The EC shall immediately identify the character, exact source, amount, and extent of any released materials. The EC may do this by observation, review of facility records, or chemical analysis.

2. Assessment of Hazards

   The EC shall evaluate 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; the effects of any toxic, irritating gases that are generated; and the effects of any hazardous surface water run-off from or chemical agents used to control fire and heat inducing explosions.

~~The EC shall be available to help appropriate officials decide whether the local areas around the facility should be evacuated.~~

The EC shall report releases in the order presented below.

6.10.1 Local – City and County

By calling **911,** Leon County's Division of Emergency Management will be contacted and informed of the situation.

6.10.2 State

Department of Environmental Protection

Veolia must comply with General Condition 16B of the Facility Permit. General Condition 16B states: "Notification of any non-compliance which may endanger health or the environment, including the release of any hazardous waste that may endanger public drinking water supplies, or the occurrence of a fire or explosion from the facility which could threaten the environment or human health outside the facility, **shall be verbally submitted to the Department within 24 hours and a written submission provided within15 days.** The verbal submission within 24 hours shall contain the name, address, I.D. number, and telephone number of the facility and owner or operator, the name and quantity of materials involved, the extent of injuries (if any), an assessment of actual or potential hazardous, and the estimated quantity and disposition of recovered material. The written submission shall contain the following:

1. A description of and cause of the non-compliance; and
2. If not corrected, the anticipated time the non-compliance is expected to continue and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance."

6.10.3 Other State Requirements

The EC will immediately notify the Florida DEP 24 Hour emergency response at 850-413-9911 of any release of (a) hazardous substance(s) from the facility in a

quantity equal to or exceeding the reportable quantity (RQ) in a 24-hour period. **The RQ for Mercury is one pound.**

The Telephone number for the District FDEP is 850-595-8300 ext 1100, and during normal business hours calls 850-595-8360 ext 1253. The EC will report the following information:

1. Name, address, and telephone number of person reporting.

2. Name, address, and telephone number of person responsible for the discharge or release, if known.

3. Date and time of the discharge of release.

4. Type or name of substance discharged or released.

5. Estimated amount of the discharge or release.

6. Location or address of the discharge or release.

7. Source and cause of the discharge or release.

8. Size and characteristics of area affected by the discharge or release.

9. Containment and cleanup actions taken to date.

10. Other persons or agencies contacted.

Within **fifteen (15) days** after the emergency situation, the facility shall submit a written report to the Florida DEP which described the situation. The report shall include the following information:

1. Name, address, and telephone number of the facility owner or operator.

2. Name, address, and main telephone number of the facility.

3. Date, time, and type of emergency situation (e.g. spill, fire, explosion).

4. Name and quantity of material(s) involved.

5. The extent of injuries (if any).

6. An assessment of actual or potential hazards to human health or the environment, where this is applicable.

7. Estimated quantity and disposition of recovered material that resulted from the incident.

6.10.4 Federal

The EC shall **immediately** notify the National Response Center (NRC) by using their 24-hour toll free number: 1-800-424-8802.

The person calling in the report shall include the following:

1. Name and telephone number of reporter.

2. Name and address of facility.

3. Time and type of incident.

4. Name and quantity of material(s) involved, to the extent known.

5. The extent of injuries (if any).

6. The possible hazards to human health or the environment outside the facility.

If the release is subject to SARA Title III requirements, then the emergency notice must be submitted which contains the following information:

1. The chemical name or identity of any substance involved in the release.

2. An indication of whether the substance is on the list of extremely hazardous substances.

3. An estimate of the quantity of any such substance that was released into the environment.

4. The time and duration of the release.

5. The medium or media into which the release occurred.

6. Any known or anticipated acute or chronic health risks associated with the emergency and, where appropriate, advice regarding medical attention necessary for exposed individuals.

7. Proper precautions to take as a result of the release, including evacuation (unless such information is readily available to the community emergency coordinator pursuant to the emergency plan); and

8. The name and telephone number of the person(s) to be contacted for further information.

6.11 Local Notification Requirements

The following local authorities were sent a copy of the Contingency Plan via certified mail or package delivery service where a signature is obtained document receipt. Each party is aware of the operation and has been invited to tour the facility.

Leon County Division of Emergency Management
301 South Monroe Street
Leon County Courthouse
P-301
Tallahassee, FL 32301
850-488-5921
(The Division will forward copies of this plan to police and fire authorities.)

Emergency Services Manager
Tallahassee Memorial Regional Medical Center
1300 Miccosukee Road
Tallahassee, FL 32308
850-681-5592

Director of Critical Care
Capital Regional Medical Center
2626 Capital Medical Boulevard
Tallahassee, FL 32308
850-656-5170

6.12 Arrangements with Local Authorities

After receiving and reading this document, local authorities and select DEQ staff become familiar with the facility layout, the properties, materials handled at the facility, associated hazards, processing areas with in the building, the evacuation point and types of injuries or illnesses that could result from fires, explosions, or releases at the facility. The Operations Manager personally called and invited local authorities to tour the facility and gain greater familiarity with the operations. Organizations identified in Section 6.11 were asked to review this plan and provide Veolia with a written response regarding any actions they may take responding to an emergency.

6.13 Mitigate Effects of Equipment Failure

Veolia management recognizes the importance of preventative maintenance. The lamp recycling system consists of two major components. The first is a crushing unit and the second is a distillation unit. Both units, and support equipment, have routine daily and/or weekly inspection and maintenance procedures. The support equipment is inspected and maintained per the suppliers recommendations by Veolia and/or qualified maintenance

companies. Common repair/spare parts are available on-site for immediate use. Veolia maintains maintenance records for all of our lamp recycling equipment.

6.13.1 Prevent Hazards During Unloading

Veolia's mercury reclamation facility has two dock doors with dock levelers. The dock levelers can be adjusted to accommodate different sized trucks. All containers are moved from the truck into the building using either a pallet jack or forklift. Wheel chocks are used to prevent the truck from moving away from the dock.

6.13.2 Personal Protective Clothing

OSHA 1910.120 Subpart I addresses personal protective equipment (PPE). When exposure to hazards can not be engineered completely out of normal operations or maintenance work, and when safe work practices can not provide sufficient additional protection, a further method of control is the use of protective clothing or equipment. The reason for wearing personal protective equipment is to protect employees from potential health hazards associated with the chemical Veolia works with. PPE such as respirators, safety glasses, safety shoes, gloves, and coveralls are provided to each employee.

Veolia supervisors and operations employees are trained on the proper selection, use, and maintenance of PPE. Employees are trained on the hazards present in the work place and why the equipment is necessary, how it benefits the employee, and the limitations of each type of PPE. Employees become familiar with and comfortable wearing PPE. Veolia provides all employees the required PPE at no charge to the employees. Typical PPE used by Veolia employees are: full-face respirators with mercury cartridges and HEPA filters; safety glasses; safety shoes; gloves; and Tyvek suits.

Employees are properly trained on how to don and doff the equipment, how to wear it properly, how to test for proper fit, and end of service life markings on respirator cartridges. Proper fit is essential if the respirator is to provide the intended protection. All employees required to wear a respirator is fit tested.

Veolia adheres to and complies with 29 CFR 1910.134(b) regarding a written respiratory protection program. The written respiratory plan addresses the following elements: inspection, maintenance, cleaning, storage, training, work place evaluation, fit testing, and medical certification.

6.14 Preventing Releases

Veolia's facility is designed, operated, and maintained in a manner that ensures protection of human health and the environment. Our facility's design provides for environmental protections. Our processing equipment (the crusher-separator and

distillation units) are enclosed in separate rooms for noise, dust, and mercury vapor control. The processing rooms are maintained under negative air-flow. The air stream from the crusher-separator first passes through a bag house and a HEPA filter to capture dust particles. The air stream then passes through sulfur impregnated carbon filters to capture mercury vapor from the processing equipment. Two carbon filters are also present for the distillation process.

Our technology captures approximately 99%, by weight, of all mercury which is processed by our lamp recycling technology. Consequently, we are able to significantly minimize mercury exposure to human and other environmental receptors.

On-site distillation of mercury phosphor powder eliminates the need to transport hazardous waste off-site. Our distiller separates the mercury from the powder and collects the elemental mercury in a liquid form. The extracted mercury is greater than 99% pure and is no longer classified as a waste. Liquid mercury will be shipped to Veolia approved facility in DOT approved flasks which are designed for transportation of mercury. By distilling on-site in a controlled environment, we have minimized exposure to human beings or any other receptors to a hazardous waste.

Veolia staff is very concerned about potential releases to the environment. We conduct daily facility and weekly hazardous waste storage area inspections of our facility and record them in a log book. We also test and maintain our communication and fire protection equipment to ensure proper operation at all times.

Veolia uses a portable Jerome Mercury Vapor Analyzer to monitor for mercury vapor within the facility. However, for the purpose of this plan the term Mercury Vapor Analyzer will be used to refer generically to any direct read mercury vapor meter with equivalent or greater sensitivity as the Jerome. Examples of other meters include the Ohio Lumex model RA 915 or Mercury Instruments model VM3000. We have selected multiple locations where we monitor for mercury vapor exposure. Monitoring is conducted every day the facility is operating.

Appendix D-6-I

Safety Data Sheets

~~7 WORKER HEALTH AND SAFETY PROGRAM~~

Attachment D-7
Worker Health and Safety Program

7.1 ~~Puposes~~Purpose

Veolia ES Technical Solutions, L.L.C. (Veolia) is a safety-oriented environmental company that specializes in the recovery of mercury and mercury related materials from fluorescent lamps and mercury bearing devices. The nature and diversity of this business presents unique situations not normally encountered in typical workplace environments which may routinely expose Veolia employees to potentially hazardous conditions. Veolia has developed the following **Health, Safety and Training Plan** which details specific procedures to be followed and, to be used as a training guide by all Veolia employees, thus ensuring continual maintenance of their health and welfare.

7.2 Company Safety Policy

Veolia's employees are its most valuable resource. Loss of the skills of a valued employee, however temporary, can adversely impact our ability to provide quality service. It is paramount that our employees know of management's commitment and policy to develop and maintain a safe and healthy work site for all Veolia employees, contractors and the general public.

This shall be accomplished through the application of the following policies and procedures outlined in this manual. **During any Veolia activity, safety shall take precedence over more expedient unsafe operations.**

Veolia requires strict compliance with this Health, Safety & Training Plan. Failure on the part of **any** employee to comply with this plan may result in disciplinary action and possible termination of employment. In addition, all subcontractors visiting the facility shall be expected to abide by the provisions of the Veolia Health and Safety Policy.

This manual provides guidance and advises employees on how to interpret particular requirements.

This written program supersedes all previous Veolia Health and Safety programs and shall not be altered or deviated from without formal revision or amendments by the Environmental Health and Safety Manager. This manual will be reviewed and updated as situations and services change.

7.3 Organization and Responsibilities

The Veolia Health and Safety Program, with all of its related elements, are administered by the Environmental Health and Safety Manager. All plans, procedures, equipment requirements, training, personnel and site monitoring, and program audits are directed by the Environmental Health and Safety Manager. Any employee that discovers an unsafe condition has the authority to stop the unsafe operation until full compliance with the program is met.

The following information more clearly defines each team member's role in the Health and Safety Program:

7.3.1 Environmental Health and Safety Manager

Environmental Health and Safety Manager

1. Manages the overall medical monitoring and surveillance program
2. Audits written plans and the administration of health and the safety program
3. Develops and directs monitoring programs for ambient air and personnel exposure
4. Assures compliance with the OSHA Hazard Communication Standard and other OSHA regulations
5. Develops and maintains health and safety standard operating procedures and policies
6. Provides guidance on the selection of proper health and safety equipment and clothing
7. Provides guidance on site-specific health and safety plans and issues
8. Provides guidance for accident investigations
9. Develops specialized health and safety plans for unique project requirements

7.3.2 Operations Manager and Supervisors

The Operations Manager and facility supervisors will assist the Environmental Health and Safety Manager with the implementation of the Health and Safety Program. Specifically the Operations Manager and Operations Supervisors will:

1. Assists with accident investigation and injury/illness record keeping in the event of an occupational accident
2. Conduct periodic safety audits within the respective office and in the operational portion of the facility
3. Administers the facility's Hazard Communication Program
4. Organizes Veolia's safety meetings

5. Assists with the preparation and review of the facility's air monitoring log
6. Responsible for reporting information and providing ideas and feedback to the Environmental Health and Safety Manager
7. Ensure that all employees have been properly informed regarding safety policies and proper safety procedures
8. Ensure that all necessary training and medical surveillance has been provided prior to the employee's initial work assignment
9. Providing all necessary safety equipment to the employees
10. Supervise the safety performances of the staff to ensure that the required work practices are employed
11. Arranging appropriate medical attention for employees in the event of an injury
12. Promptly reporting to the Environmental Health and Safety Manager and the occurrence of any work-related injury or illness
13. Ensure that safety procedures have been prepared and reviewed for all appropriate personnel

7.3.3 Operations Employees

Ultimately, the responsibility for safety at Veolia rests with the employees themselves. They are responsible for:

1. Following all Veolia safety policies and procedures
2. Utilizing all safety equipment in the proper manner
3. Promptly reporting all unsafe situations to their supervisor
4. Promptly reporting all work-related injuries and illnesses, to their supervisor
5. Promptly seeking appropriate medical attention when injured on the job

7.3.4 Environmental Health and Safety Councils

Purpose: Veolia's internal policies require any facility with greater than 10 full time employees to establish an Environmental Health and Safety Council (EHS Council). If a facility has less than 10 full time employees the entire work force is the EHS Council.

The scope of the EHS Council will be the involvement of employees directly in the safety effort and monitoring the on-going implementation of the safety program.

1. The EHS Council will be comprised of the Environmental Health and Safety Manager, the Operations Manager, and appropriate employee representatives.

2. The council will meet on a periodic basis, and meetings will follow an established agenda. The meetings should be devoted primarily to the following:

   a. Reviewing all accidents that have occurred since the previous meeting, along with corrective measures that have been implemented or scheduled.
   b. Reviewing status of corrective actions generated by inspection reports.
   c. Discussion of unsafe work practices/procedures and hazardous conditions that have been observed by committee members.
   d. Promotional and educational activities.

3. The council will conduct an assessment of a selected activity, including where available, use of checklists, and evaluate any safety related conditions which may be apparent.
4. The EHS Council will assign a secretary to the committee, who in turn will be responsible for recording and distributing meeting minutes.
5. The chairman will chair the meetings; assign council responsibilities, and report council activities and recommendations.

7.4 Interrelated Safety Programs

The overall Veolia Safety Program consists of several interrelated components. These individual programs, together with their separate written policies and procedures are generally outlined in this manual, and comprise the entire comprehensive company health, safety & training program. A Job Safety Assessment (JSA) has been completed for all tasks performed by Veolia employees. The JSA describes the hazards associated with each task and the physical and the training requirements for each task. Copies of the Job Safety Assessments have been included as Appendix D-7-~~1~~II to this Attachment. Below is an overview of the health and safety programs implemented at the facility:

7.4.1 VEOLIA HAZARD COMMUNICATION PROGRAM

Veolia's Hazard Communication (HAZCOM) Program is established in compliance with 29 CFR 1910.1200. Commonly referred to as the "Employee Right to Know" standard, it is designed to inform and educate all Veolia employees regarding the hazardous chemicals to which they may be exposed at the facility.

Regulations require that Veolia meet the following specific requirements:

1. A written HAZCOM Program manual which outlines the policy, responsibilities, and all other aspects of the program. **A bound copy of the written plan is retained at the facility.**
2. Maintain a complete chemical inventory of all hazardous chemicals used at the facility. The Operations Manager will maintain the facility's inventory within one section of the written plan.
3. Maintain a binder/folder containing Material Safety Data Sheets (MSDS) for each of the chemicals listed in the facility's inventory. The Operations Manager will maintain an up to date MSDS inventory.
4. Label all hazardous chemical containers. Veolia will utilize the National Fire Protection Association (NFPA) or Hazardous Material Information System (HMIS) system for labeling of all chemicals that are not maintained within their original container. The Operations Manager is responsible for ensuring that the chemicals are properly labeled either from the distributor or by Veolia personnel.
5. Provide Chemical Hazard Awareness Education Training which will be provided to all new and existing employees under the direction of the Operations Manager. This training is to be provided prior to initial assignment to a job function that involves potential exposure to hazardous chemicals. Each employee will receive training information and safety data specifically concerning mercury, from the Operations Manager.

7.4.2 VEOLIA MEDICAL SURVEILLANCE PROGRAM

A comprehensive medical surveillance program has been developed for all Veolia operational personnel. Veolia has developed this program to help ensure the continuing welfare of each employee exposed to potentially hazardous situations. Specifically, the program is designed to determine the ability to safely wear personal protective equipment, to determine the extent of exposure to hazardous chemicals and to identify any medical conditions which could prevent an employee from safely performing their job functions. All facets of the program have been designed to comply with medical monitoring requirements of §§ 29 CFR 1910.95, 1910.120 and 1910.134.

Participation in the program is currently mandatory for all operational personnel subject to the above referenced regulations.

These employees shall receive baseline, annual, and where determined, exit examinations. If exam results indicate an employee may have received an elevated exposure they will be excluded from activities or on-site conditions with potential for exposure. Likewise, if results indicate a person's inability to safely work under specific physical conditions or to wear specific protective equipment, then that individual will not be placed in elevated exposure situations. In the event of a facility accident, failure of personal protective equipment, or evidence that an exceedance of permissible exposure

limits has occurred, an incident specific evaluation may be performed on the employee. The Veolia Medical Surveillance Program is administered through a licensed Occupational Health Physician. Veolia may at any time alter the frequency of testing based on the recommendations of the occupational physician; however, the interval between tests will not exceed the regulatory requirements.

7.4.3 Recordkeeping

Results of all tests will be maintained in confidence at the office of Veolia's Occupational Medical Provider. Medical clearance forms will be available to Veolia at all times through the use of an internet based system maintained by Veolia's Occupational Medical Provider. Corporate health and safety staff will confer with Veolia's Environmental Health and Safety Manager and the Operations Manager, and the applicable health physician if discrepancies are noted.

7.5 Health and Safety Training

In order to ensure that all personnel on-site are aware of the hazards associated with the materials processed at the facility and what measures are necessary in the event of an emergency, Veolia has developed a comprehensive training program. The program includes jobs descriptions for each position within the facility, a listing of employees currently assigned to those jobs, and the required training for employees. A copy of the current employee listing, job descriptions and required training is contained in Appendix D-7-~~3~~I, Employee Training Documents. The employee list is subject to change without notice, with the exception of key personnel. Key personnel includes the Operations Manager and ~~EH&S Manager.~~Emergency Coordinators.

7.5.1 New Employee Safety Orientation

Upon initial hire and prior to job assignment, each new Veolia employee shall receive health and safety orientation training pertaining to his or her particular duties. At a minimum, this shall include a complete review of all policies and procedures outlined in this training plan. This review shall be conducted under the direction of the Operations Manager. Upon completion of safety orientation, the Operations Manager will document such on a Training ~~Documentation~~Sign-in Sheet / Attendance Form. A sample Training ~~Documentation~~Sign-in Sheet / Attendance Form is included in Appendix D-7-~~3~~I. A copy of this form, or a similar form containing the same basic information, will be kept on file in each active employee's training records which are maintained in the Operations Managers office. Once terminated, employee records are maintained in accordance with OSHA regulations or for a period of three years, whichever is greater. The orientation forms will be periodically reviewed.

Prior to an initial job assignment, the new employee shall be issued all necessary safety equipment and personal protective equipment and shall be given specific instruction on its proper use. Respiratory protective equipment shall conform to the general guidelines outlined in Veolia's *Respiratory Protection Plan.* Employee orientation shall follow the procedures outlined within the written plan. Employees shall be fit tested prior to use of a selected respirator. Employees are provided with personal protective equipment (PPE) at no cost to the employee. PPE requirements are determined by the area of the facility that an employee works in. The minimum level of PPE required for personnel performing material handling duties or recycling activities is level D PPE which includes a work uniform or Tyvek disposable outer garment, steel toed work boots and safety glasses.

Upon initial job assignment, the new employee shall work under the direct supervision of experienced personnel for a period of not less than three (3) days. This time frame may be shortened if it is determined that the individual has worked under similar circumstances in previous job situations.

7.5.2 Hazard Communication Training

Each new Veolia employee must successfully participate in Veolia's Hazard Communication training as required by OSHA 29 CFR 1910.1200. Orientation will be performed under the direction of the Operations Manager. At a minimum, each employee shall receive a briefing on Veolia's written plan (its location and availability), use of Material Safety Data Sheets (or other methods of data delivery), each employee's rights under the federal and state standards, Veolia's use of in-house labels, hazards on non-routine tasks, and specific information concerning the hazards associated with mercury and its related compounds. Employees are encouraged to consult Veolia's Hazard Communication Written Plan for further details.

7.7.3 Hazardous Waste Handler Training

Because of the unique situations and challenges which Veolia employees may encounter when working at this site, a specialized hazardous waste training program has been developed. This training is designed in compliance with Title 40 Code of Federal Regulations: Part 265.16. A training outline is contained in ~~Table 7.5.1 within Appendix 7-3.~~AppendixD-7-I. The hazardous waste handlers training program is designed to provide the employee with an understanding of the Resource Conservation and Recovery Act and the various aspects of the hazardous waste generator's requirements outlined therein.

7.5.4 29 CFR 1910.120 Hazardous Waste Operation's Training Course

The basis of the overall program is an initial 24-hour comprehensive health and safety course. All Veolia employees exposed to facility conditions will successfully complete this 24-hour program comprised of classroom and hands on training within ~~30 days~~6 months of employment. All training will be renewed on an annual basis.

During interim work periods, new employees who have not completed the HAZWOPER awareness training program must not be allowed to work unsupervised. All employee training documents shall be retained for a minimum of seven years with the Operations Manager.

The 24-hour training course must contain or address, at a minimum, the following topics:

1. Basic Toxicology
2. Hazard Communication Program and Hazard Recognition
3. Respiratory Protection
4. Protective Clothing

5. Hearing Conservation
6. Restricted Work Zones
7. Decontamination
8. Instrumentation and Air monitoring
9. Safety Plans
10. Emergency Procedures/Contingency Plan
11. Hazardous Waste Rules and Container Management Standards
12. Medical Surveillance
13. Temperature Stress

7.5.5 Additional Training

Veolia employees trained in the HAZWOPER courses are required to participate in an annual 8-hour refresher course which provides an overview of material presented in the baseline course.

All employees designated as an Emergency Coordinator for the facility will also receive training on Incident Command and their duties as Emergency Coordinator.

7.6 Emergency Procedures

There is always a possibility that Veolia personnel may unexpectedly encounter an emergency situation when working in the facility. The following procedures have been developed to address these situations.

A site-specific emergency plan in the form of the Facility Contingency Plan, as contained in Section 6, has been established for use at the facility. This plan includes information such as basic emergency response procedures, evacuation routes, names and phone numbers of local emergency agencies, emergency decontamination procedures, and emergency reporting protocols. All emergency information will be readily available to all facility personnel as described in the Contingency Plan.

In the event of any emergency, the following general procedures should be initiated.

A) Stop Work Immediately

- Personnel should remove themselves from the hazard or suspected hazard area.

B) Notify the Emergency Coordinator (EC)

- Personnel should immediately inform their supervisor regarding the situation who will then relay the information to the EC or notify the EC directly.

C) Contact the Environmental Health and Safety Manager

- Be prepared to give all details of the situation and instructions on how the Environmental Health and Safety Manager can contact those involved at the site.

Following these actions, personnel will be given proper direction on how to proceed. Remember, if there is any doubt about the safety of Veolia employees in a particular circumstance, initiate this course of action immediately and without hesitation. Detailed emergency evacuation procedures and reporting requirements for an unexpected event are contained in the Facility Contingency Plan.

7.6.1 Personnel Injuries

Because of Veolia's frequent involvement in handling containers which contain broken glass, which may in kind be impacted with mercury or mercury containing compounds, there is an ongoing potential for accidents and injuries to occur. In such circumstances, specific procedures must be followed to:

- Ensure that proper medical attention is received, and
- Ensure that steps are taken to prevent reoccurrence.

7.6.1.1 Medical Assistance

The first priority when an employee is injured is to make sure that prompt and appropriate medical attention is received. One of the first considerations that will be employed by any attending employee who renders assistance to an injured worker will be identifying the need for decontamination of that worker prior to rendering first aid or transporting them to a hospital. For anything more than minor first aid situations, the employee should be sent for medical examination.

7.6.1.2 Accident Investigation

Accident investigations, performed in a timely manner, help identify the causes of an incident and help prevent or control reoccurrences.

Prompt and proper accident investigations help eliminate causal factors that could potentially result in future injury, property damage, and lost production. It is the Operations Manager's responsibility to initiate an accident investigation which at a minimum requires completion of a written accident investigation report. It is essential that a copy of this written report be sent to the Environmental Health and Safety Manager in a timely manner. In the event of serious injuries, the Environmental Health and Safety Manager may assist with the investigation.

7.6.1.3 Notification of On the Job Injury(s)

1. It is the **injured employee's responsibility** to notify his or her supervisor as soon as possible regarding an injury. The supervisor should be notified of all injuries, **no matter how minor**. If any injury occurs in the facility, the event should be recorded on an employee's first report of injury form.

2. **If the incident results in a lost-time injury or any type of chemical exposure, the supervisor must immediately contact the Environmental Health and Safety Manager.**

3. In the event of an occupationally related death, the supervisor must **immediately** contact the Environmental Health and Safety Manager. The Environmental Health and Safety Manager is required by law to notify the State Department of Labor and the regional OSHA office within 8 hours.

7.6.1.4 Recordkeeping

Proper paperwork follow up to any occupational injury or illness is mandated by OSHA for any facility with ten or more employees. Veolia employs these activities in order to document the frequency of injury.

1. In order to follow a prudent management plan, Veolia will require that within 24 hours following any injury, it will be the Operations Manager's responsibility to ensure that the injured employee properly completes a "First Report of Injury" form and that the form is forwarded to the Environmental Health and Safety Manager. If only partial information is available, the Operations Manager must submit the partially completed report within 24 hours and follow up with additional information as it becomes available.

7.6.2 PROPERTY DAMAGE ACCIDENTS

7.6.2.1 Accident Investigation

It is the Operations Manager's responsibility to initiate an investigation into the cause of any on-the-job vehicle accident and will follow the Veolia ES Technical Solutions corporate safety procedures.

7.6.2.2 Notifications

1. It is the responsibility of any employee involved in a property damage accident to notify his or her supervisor as soon as possible regarding the accident.
2. If the accident adversely impacts the safety of facility operations, the supervisor must immediately contact the Environmental Health and Safety Manager.

3. Any incident that is investigated will be followed up with a written report. Reports will be forwarded to the Environmental Health and Safety Manager and a copy will be retained by the Operations Manager.

7.7 Job Safety Assessments

7.7.1 Introduction

Every activity, no matter how trivial, poses some risk of injury or other on-site emergency. In order to be prepared for these emergencies, the need for a job safety assessment must be considered in order to evaluate safe work practices.

Job safety assessments help train and inform employees of what hazards they could be exposed to, when that exposure is likely to occur, and how to protect themselves from the hazards.

Not all activities present an equal number of hazards or risks and as such, different levels of safety should be considered for use. Each aspect of a job safety assessment, as well as the situations to which they apply, are described below. Please note that these job safety assessment formats may need to be modified to fit the particular characteristics of an on-site activity. A copy of the current job safety assessments is included in Appendix D-7-~~1~~I to this Attachment. These documents are reviewed on a periodic basis and will be updated to reflect current conditions.

7.7.2 General Warehouse Laborer

The general warehouse laborer job safety assessment was developed to address the hazards associated with material handling activities and the general hazards of working within the facility.

7.7.3 Lamp Processing Equipment Operator

In addition to the basic tasks of the general warehouse laborer, this job safety assessment includes an assessment of the hazards associated with operating the lamp processing equipment. As such, it includes provisions for employees whose exposure to mercury requires the use of respiratory protection.

7.7.4 Retort Operator

In addition to the basic tasks of the general warehouse laborer, this job safety assessment includes an assessment of the hazards associated with operating the retort equipment and working with significant quantities of elemental mercury. As such, it includes provisions for employees whose exposure to mercury requires the use of respiratory protection.

7.8 Respiratory Protection

Veolia has developed a written respiratory protection program, included as Appendix ~~7-2~~D-7-III to this Attachment, to outline requirements, information, and guidance on the proper selection, training, use, and care of respiratory protective devices. The provisions of this program apply to all operations where exposure to airborne mercury or mercury related compounds which cannot be eliminated or reduced by engineering or administrative controls and where *permissible exposure levels* (PEL) may be exceeded.

7.9 Personal Protective Equipment (PPE)

To ensure complete personal protection from physical and chemical aspects of the mercury compounds, Veolia employees are required to wear protective equipment in various situations. The PPE required for each task is contained in the Job Safety Assessments contained in Appendix ~~7-1~~D-7-II to this Attachment.

7.10 Hearing Protection

Previous studies performed by Veolia at the facility indicate that occupational noise levels exceed 80 decibels (dB). As a result, Veolia's employees have been enrolled within an Occupational Noise Exposure Control Program which includes training in the effects of excessive noise levels, protection from high noise levels and the care and use of sound suppressing equipment, . Personnel conducting work in area(s) identified with high noise (greater than 85dB) will be provided hearing protection for their personal use.

High noise areas are monitored during production activities and documented. Annual audiograms shall be performed in conjunction with the medical monitoring program. Suspected continuous exposure to areas with elevated sound levels will be measured with a noise dosimeter by Veolia.

7.11 Foot Protection

Veolia has developed a comprehensive Safety Footwear Program for all of its operations. Below is a summary of the requirements of that program.

Facility personnel will wear ANSI approved protective footwear in the following situations:

1. All truck loading and unloading activities or any task which contains debris or other foot hazards.
2. Around any pallet or lamp "cart" moving operation
3. Around any heavy equipment operation
4. When handling any size or style of lamp

The use of safety footwear in other situations must be determined by the Environmental Health and Safety Manager based upon the potential for foot injury.

7.12 Head Protection

Veolia employees working in areas where there is a potential for head injury or scalp contact due to impact, or from falling lamps, are required to wear protective coverings. Hard Hat/Head protection is not mandatory. The need for hard hats in other situations must be determined by the Environmental Health and Safety Manager based upon the potential for head injury.

7.13 Eye and Face Protection

Eye and face protection is **mandatory** for Veolia employees when machines or operations present potential eye or face injury from physical, or chemical agents. This area has been determined by the Environmental Health and Safety Manager to be the entire production floor. All eye and face protection must at a minimum meet ANSI Specification Z87.1. Normal prescription eyewear or sunglasses **are not** acceptable for protection against impact. **All** protective eyewear must have side shields. The main cause of eye injury or threat of injury comes from exposure to airborne dusts or flying glass particles.

7.14 Air Monitoring

7.14.1 Ambient Air Monitoring

In an effort to assess potential employee exposure, determine appropriate levels of protective equipment, and establish specific work zones, Veolia will perform ambient air monitoring near all lamp recovery activities and in other hazardous situations. Veolia's Operations Manager will utilize a mercury vapor monitoring instrument for monitoring the mercury vapor levels within the facility on a daily basis. A map indicating the location of the sampling points is included as Figure ~~10~~7.1. All data is entered onto a log sheet and tracked as part of the facility operating record.

7.14.2 Vapors and Gases

A mercury vapor monitoring instrument shall be used to conduct general on-site surveys for the presence of airborne mercury or mercury related compounds. ~~Appendix~~Table 7~~-4~~.1 contains a sample of recently completed air monitoring.

Unlike combustible gases, toxic gases and vapors are variable and dependent upon the permissible exposure limit (PEL) of the substance. The action levels for mercury vapors will be determined prior to project start up and reported in milligrams per cubic meter of air. For additional or more specific information concerning the exposure limitations or associated health effects from mercury exposure, reference Veolia's Hazard Communication Written Plan.

7.14.3 Personal Monitoring

In order to precisely determine an employee's 8-hour time-weighed average exposure to a specific chemical, personal air monitoring may be conducted under the direction of the Environmental Health and Safety Manager. Results from employee exposure monitoring are compared to published permissible exposure limits in order to determine regulatory compliance and the degree of health risk to the worker(s).

Workers to be monitored will be selected based upon their work activity and potential for exposure. Generally, personnel working in the highest risk situations will be monitored. The sampling procedure for personal air monitoring is unique from direct reading methods described previously. Veolia will also reinforce the concentration readings from the mercury vapor monitoring instrument by periodically testing Veolia employees' mercury levels via urine and blood testing. These samples will be evaluated for mercury and the results will be reviewed by the occupational physician. Test results will be forwarded to each employee, with the original lab results maintained on file at the Occupational Health providers office.

7.14.4 Instrument Calibration

All ambient and personal air sampling devices must be calibrated according to manufacturer recommended procedures. The mercury vapor monitoring instrument will be regenerated in accordance with manufacturer recommendations or more frequently if needed. All instrument quality check activities will be documented.

7.15 Decontamination

To prevent the transfer of mercury into clean areas, Veolia has developed and implemented contamination reduction and decontamination procedures. These procedures are incorporated, reviewed and in effect before any lamp enters a recovery

area and shall continue throughout operational activity. The initial procedures may be modified as conditions dictate.

The principal decontamination media used for the facility and equipment decontamination will be a product from Acton Technologies Inc. called "**HgX**" or a similar product demonstrated to have the same ability to decontaminate mercury. This material is a powder that typically is mixed into a solution and sprayed onto surfaces. The HgX material is a soluble sulfide containing powder which converts the mercury and mercury compounds into the stable mineral *cinnabar*.

7.15.1 Personal Decontamination

Veolia provides disposable PPE, work uniforms and safety footwear or boot covers to all employees working within the facility. Disposable boot covers and PPE is removed and placed into designated containers prior to employees leaving designated work zones. Work uniforms and safety footwear must be removed and placed into designated storage areas at the end of each shift. Veolia employees are prohibited from wearing contaminated work uniforms or safety footwear off company property.

Shower and wash facilities are also provided for employees to use at the end of a shift or when leaving a work zone as appropriate.

7.15.2 Emergency Decontamination

In the event of an on-site medical emergency a decision must be made regarding decontamination if the injury occurs in an area of chemical contamination. There is a possibility that decontamination procedures may aggravate or cause more serious health effects.

For minor medical problems or injuries, the normal decontamination procedures should be followed.

If prompt life-saving first aid and medical treatment is required, decontamination procedures may have to be omitted. The emergency coordinator will determine the appropriate actions to in this event.

7.15.3 Equipment Decontamination

Equipment may require decontamination in certain circumstances. Such equipment will be decontaminated by spraying down or wiping down the impacted areas with HgX solution. Wipe tests may be utilized to measure decontamination effectiveness, if deemed necessary.

7.15.4 Disposal of Contaminated Material

All materials and equipment used for decontamination must be disposed of properly. Disposable PPE and supplies will be secured in drums or other containers, properly labeled, and disposed of based on a chemical analysis of the material. Decontaminated equipment will be classified as non-hazardous. In some cases it may be more cost effective to consider a piece of equipment contaminated and dispose of it as opposed to decontaminating it.

7.16 Temperature Stress

Veolia personnel may frequently be required to perform production operations in the facility which does not have air conditioning; this increases the potential for exposure to temperature extremes. The use of required PPE can compound the effects to temperature exposure. Because of the potential seriousness of this problem, the means to recognize, evaluate, and control this specific hazard must be addressed. Veolia training program covers Temperature stress awareness for both cold and heat.

Table 7.1 Air Sampling Data, December 2015

Sampling Point	Description	12/1/15 10:30	12/2/15 11:00	12/3/15 11:30	12/4/15 10:00	12/4/15 10:00	12/7/15 10:00	12/8/15 10:00	12/9/15 14:30	12/10/15 13:30	12/11/15 9:00	12/14/15 14:30	12/15/15 14:30	12/16/15 14:30	12/17/15 14:30	12/18/15 15:30	12/21/15 15:00	12/22/15 14:30	12/23/15 14:30	12/24/15 11:30	12/28/15 11:30	12/29/15 12:30	12/30/15 14:00	12/31/15 14:00
1	Admin Office	0.004	0.000	0.005	0.019	0.014	0.008	0.006	0.003	0.009	0.006	0.008	0.012	0.014	0.011	0.007	0.002	0.010	0.006	0.007	0.003	0.003	0.005	0.006
2	Break/Locker Room	0.005	0.006	0.008	0.017	0.017	0.014	0.010	0.006	0.011	0.009	0.021	0.017	0.013	0.012	0.011	0.009	0.011	0.010	0.009	0.007	0.004	0.004	0.009
3	Storage Area #1	0.007	0.017	0.003	0.004	0.004	0.015	0.014	0.004	0.023	0.013	0.013	0.029	0.022	0.019	0.021	0.006	0.017	0.023	0.019	0.012	0.009	0.011	0.016
4	Lamp Staging Area	0.009	0.020	0.004	0.006	0.006	0.010	0.009	0.000	0.010	0.013	0.016	0.021	0.021	0.018	0.015	0.004	0.015	0.012	0.004	0.004	0.004	0.007	0.011
5	HID Processing Area	0.013	0.017	0.013	0.005	0.005	0.004	0.005	0.005	0.012	0.009	0.003	0.022	0.017	0.012	0.017	0.004	0.010	0.014	0.012	0.000	0.009	0.012	0.004
6	Storage Area #5	0.015	0.020	0.012	0.004	0.004	0.006	0.006	0.006	.	0.000	0.012	0.020	0.023	0.017	0.012	0.005	0.014	0.008	0.007	0.011	0.002	0.006	0.009
7	Storage Area #4	0.009	0.021	0.019	0.015	0.000	0.000	0.005	0.005	0.003	0.010	0.014	0.014	0.017	0.024	0.018	0.018	0.006	0.017	0.006	0.009	0.006	0.004	0.008
8	Loading Dock Door #1	0.000	0.013	0.000	0.000	0.000	0.005	0.006	0.000	0.003	0.000	0.016	0.018	0.018	0.014	0.003	0.000	0.009	0.006	0.004	0.002	0.004	0.005	0.004
9	Loading Dock Door #2	0.005	0.007	0.003	0.003	0.003	0.007	0.007	0.000	0.000	0.004	0.012	0.021	0.020	0.017	0.009	0.000	0.017	0.004	0.006	0.006	0.007	0.012	0.007
10	Mercury Disassembly Room	0.149	0.159	nop	nop	nop	nop	nop	0.087	0.097	0.020	nop	0.023	0.024	0.043	0.055	0.087	0.067	0.082	0.072	0.041	0.037	0.049	0.052
11	Lamp Feed Station	0.014	0.075	0.008	0.010	0.010	0.015	0.012	0.000	0.020	0.007	0.021	0.026	0.023	0.021	0.016	0.005	0.021	0.014	0.004	0.011	0.010	0.007	0.015
12	C/S Between Carbon Filters	0.028	0.021	nop	nop	nop	nop	nop	0.022	0.010	0.008	nop	0.025	0.019	0.017	0.012	0.011	nop	nop	nop	nop	0.017	0.011	0.014
13	C/S After 2nd Carbon	0.006	0.009	nop	nop	nop	nop	nop	0.004	0.009	0.000	nop	0.003	0.002	0.011	0.014	0.014	nop	nop	nop	nop	0.011	0.014	0.012
14	Distiller Between Carbon Filters*	nop	nop	nop	nop	nop	nop	nop	0.097	0.060	0.026	nop	0.057	0.061	0.079	0.071	0.082	0.091	0.098	0.085	0.068	0.049	0.068	0.065
15	Retort Room Air Sys Between Carb	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
16	Retort Room Air Sys after Carbon	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
17	HID Machine between Carbon Filte	0.021	0.022	0.015	0.009	0.009	0.006	0.007	0.011	0.011	0.009	0.010	0.021	0.008	0.009	0.007	0.015	0.021	0.011	0.022	0.014	0.009	0.011	0.016
18	HID Machine after Carbon Filters	0.015	0.018	0.007	0.007	0.007	0.004	0.004	0.005	0.012	0.016	0.016	0.011	0.012	0.012	0.012	0.022	0.012	0.014	0.017	0.007	0.006	0.007	0.012

nop – Not Operating, no sampling data available

* Distiller discharges to retort room carbon filter system. Not an air emission point.

Veolia ES Technical Solutions, LLC
Electronics Recycling Division
Training Sign-in Sheet

Topics: _____

_____

Date:
Time:
Duration:

Training conducted by:

NAME (print)	JOB TITLE	SIGNATURE

Appendix D-7-I

Employee Training Documents

Appendix D-7-II

Job Safety Assessments

Appendix D-7-III

Respiratory Protection Program

~~8.0 QUALITY CONTROL PLAN~~

Attachment D-8
Quality Control Plan

8.1 ~~INTRODUCTION~~Introduction

Veolia ES Technical Solutions, L.L.C. (Veolia) operates a mercury recovery and reclamation facility and in accordance with the requirements of §62-737.840(3) and §62-737.860(4) F.A.C. has developed this Quality Control Plan. The primary quality control procedures used in the recovery and reclamation of mercury from MCMA is through the prequalification of all incoming wastes, the testing of by-products and wastes generated in the recycling process and following standard operating procedures for the collection and analysis of all samples. To address these issues Veolia has developed this Quality Control Plan. The Plan contains the following sections:

- Incoming Waste Analysis Plan
- Recovered Material Testing Plan
- "Standard Operating Procedures for Sampling at Facilities Permitted Under Chapter 62-737, F.A.C., November 14, 1997 Revision"

In addition to these procedures, Veolia has also developed a detailed inspection program and air monitoring program to verify the ongoing effectiveness of the equipment and control devices. The Inspection Plan is contained in Section 12 and the Air Monitoring Plan is contained in Section 4 Operations Plan.

~~8.2 INCOMING WASTE ANALYSIS PLAN~~
8.2 Incoming Waste Analysis Plan

8.2.1 Incoming Material Acceptance Procedures:

All waste materials brought into or through the facility must be profiled and entered into the waste tracking system. Profiles are completed by the generator or completed based upon information provided by the generator of the waste prior to receipt and are kept on file at the facility. Veolia uses three different types of profiles for the materials received.

Prior to receipt of a waste at the Veolia facility, specific waste evaluation and acceptance procedures are employed to qualify a generator's waste materials for acceptance and to ascertain RCRA status, chemical and physical characteristics, and compatibility with the on-site recycling operations or availability of off-site outlets for the material. Veolia has developed a tiered process to acquire the necessary data and conduct this evaluation. There are three categories of approvals under this program:

- Standard Approvals, this category applies to universal wastes. Standard material profiles have been developed for these wastes and are maintained on file at the facility.

- Generic Approvals, this category applies to materials that are not federal universal wastes, ~~will~~may vary slightly between generators and are subject to varying degrees of regulation, requiring additional review and evaluation.
- Case-by-case Approvals, this category applies to waste that may vary between generators and requires a detailed review of the physical and chemical properties of the material prior to approval.

The written generator notification as required under 40 CFR 264.12(b) may vary from generator to generator depending on the type of material that the generator is shipping to Veolia and the type of contract/arrangements that the generator has in place. This notification may take the form of an Approval Letter, be contained in a Quotation, printed directly on packaging materials provided to generators by Veolia, or some other form of written communication as deemed appropriate at the discretion of the facility. An example of an Approval Letter is included in Appendix ~~5-1~~D-8-I.

Since the facility only accepts mercury containing manufactured articles and clean up articles and PPE from handling of manufactured articles, generator knowledge will typically be sufficient to properly characterize the waste. If at any point during the approvals process, analytical testing is needed to provide additional information, generators will be required to submit analytical data obtained using methods specified by the US EPA or FLDEP as applicable.

8.2.2 Standard Approvals

Once Veolia has been notified by a generator that they wish to ship materials subject to the standard approvals process, the generator's information will be recorded and the generator will be notified in writing that Veolia has the appropriate licenses and processing capabilities to accept their material for recycling. Since these wastes are universally generated and will not vary from generator to generator, the generators of these types of materials will not be required to submit a site specific Wastestream Information Profile sheet for waste contained in this category.

8.2.3 Generic Approvals

Generators wishing to ship materials contained in the generic approvals category will be required to submit a site specific Wastestream Information Profile sheet. The Wastestream Information Profile sheet must contain specific information regarding the identity of the waste, physical and chemical properties of the waste, and the regulatory status of the waste. This information will then be reviewed by the ~~facility~~operations manager or his designee to ensure that the material can be received at the facility. Once the material has been approved the generator will be notified in writing that the facility has the appropriate licenses and the processing capabilities to accept the waste. A sample Wastestream Information Profile sheet is included in Appendix ~~5-1~~D-8-I.

8.2.4 Case-by-case Approvals

Generators wishing to ship materials contained in the case-by-case approvals category will be required to submit a site specific Wastestream Information Profile sheet. The Wastestream Information Profile sheet must contain specific information regarding the identity of the waste, physical and chemical properties of the waste, and the regulatory status of the waste. This information will then be reviewed by the ~~facility~~operations manager or his designee and by corporate approvals staff to ensure that the material can be received at the facility. Once the material has been approved the generator will be notified in writing that the facility has the appropriate licenses and the processing capabilities to accept the waste. A sample Wastestream Information Profile sheet is included in Appendix ~~5-1~~D-8-I.

As part of the above referenced procedures, Veolia staff will assign a product code to each profile. The product code is an internally assigned ~~co-~~code designating the type of material and the type of process to be used for the management of the material. A list of the waste streams commonly accepted by Veolia for mercury recovery and reclamation is included below along with a reference to the applicable product codes and approvals category. An additional suffix may be added to the product code to further differentiate materials at the discretion of the facility.

8.2.5Veolia Product Codes and Waste Descriptions

8.2.5.1 Lamps

Product Code	Description	Approval Category
LP-F	Fluorescent Lamps	Standard
LP-FCIRC	Circular Fluorescent Lamps	Standard
LP-FCMP	Compact Fluorescent Lamps	Standard
LP-FDM	Crushed Lamps	Standard
LP-FSS	Shielded Fluorescent Lamps	Standard
LP-FUT	U-Tube Lamps	Standard
LP-FUV	UV Fluorescent Lamps	Standard
LP-H	HID Lamps	Standard
LP-MH01	Metal Halide Lamps	Standard
LP-MISC	Miscellaneous Specialty Lamps	Generic
LP-MV01	Mercury Vapor Lamps	Standard
LP-NEON	Neon Lamps	Standard
LP-SHP	High Pressure Sodium Lamps	Standard

8.2.5.2 Mercury

Product Code	Description	Approval Category
MC-BATT	Mercury Batteries	Standard
MC-AMALG	Dental Amalgam	Generic
MC-DE	Mercury Contaminated Clean-up Articles and PPE	Generic
MC-HG	Mercury	Generic

MC-HGREG	Mercury Containing Gas Regulators	Generic
~~MC-LABPACK~~	~~Mercury Containing Lab packs, used for packages contained mixed types of acceptable wastes~~	~~Case-bycase~~
MC-MA	Mercury Containing Articles	Standard
MC-PD	Phosphor Powder	Generic

Product codes are internally generated codes which may be periodically updated or revised. However, these revisions will not alter the types of materials being received by Veolia.

8.2.6 Scheduling Material Into the Facility

There are four methods by which materials may be transported to the facility:

- Generator self transport
- Common carrier transport
- Generator arranged transport, and
- Veolia arranged transport.

8.2.6.1 Generator self transport and common carrier transport

In order to promote the recycling fluorescent lamps from small businesses, Veolia has developed and marketed a line of packaging which includes the prepayment for the transport and recycling of the materials. Under this program, a generator purchases the container, fills the container with the designated universal waste, calls a phone number that is preprinted on the packaging to schedule the pick up of the package by a common carrier, such as FedEx Ground, and the container is transported to Veolia's facility. The delivery of these containers and generator self transported universal waste will arrive at the facility without prior notice to the facility. Due to the small volume and the nature of the material, only universal wastes, the facility has the capacity to manage these materials as they arrive.

8.2.6.2 Generator arranged transport

In the case where a generator arranges their own transportation for shipments to the facility, the generator will contact the facility and request a permission to deliver the material on a particular date. If the delivery does not conflict with other deliveries already scheduled the generator will be given an appointment. If there is a conflict an alternate date for the delivery of the material will be proposed. Under this scenario, the generator, or his agent is responsible for ensuring that the materials are accompanied by the appropriate shipping papers. If the material is subject to the hazardous waste manifesting requirements, the procedures outlined below will be used by the facility for the completion and distribution of the manifest.

8.2.6.3 Veolia arranged transport

Generators will contact Veolia to request the pick up of approved materials. Customer Services Representatives will then enter all of the pertinent customer

information into our waste tracking system. The system tracks the customer's location of pickup, billing address, pickup contacts phone numbers, and what material is scheduled to be picked up. Once this information is entered into the waste tracking system it creates an open sales order which transportation can then put onto the schedule for pickup. Customers are then notified by transportation of the day and approximate time that the material will be picked up. Veolia will normally assist the customer is preparation of the shipping documents for the pickup.

8.2.6.4 Completion of the Uniform Hazardous Waste Manifest

~~Before collection~~All shipments of hazardous waste subject to the manifesting requirements of 40 CFR 262 will be accompanied by a properly completed Uniform Hazardous Waste Manifest. The manifest will be prepared by the generator of the waste prior to pick up or ~~delivery occurs,~~with the assistance of Veolia. When assisting a generator with the completion of the manifest the customer will provide ~~the~~ Veolia with the following information:

Type and quantity of containers
Material classification(s)
Scaled or estimated weight(s) and/or lamp counts
~~Date(s) accumulation began~~
Labels, placards and markings on containers
Generator's USEPA ID number
Generator's State ID number (if applicable)
State hazardous waste permit number (if applicable)
Transporter ID numbers, dates, and times

~~Based on the above information, the appropriate federal or state manifest, non-hazardous waste manifest, or bill of lading will be completed to the extent possible and either mailed to the customer prior to scheduled shipment or accompany the transport vehicle. Upon arrival at the generator's facility, any necessary changes are made to the manifest, such as entering the actual quantity of material to be transported, and it is subsequently signed and~~At the time of pick up the manifest will be dated by the generator and transporter according to procedures under 40 CFR 262.20-23. Upon receipt of material by Veolia, the manifest is signed and dated by the receiving agent and significant discrepancies are noted, pursuant to 40 CFR 264.70-72.

Shipments of waste that are not subject to hazardous waste manifesting requirements will be accompanied by shipping paper that documents the transfer of the waste from the generator to Veolia.

8.2.7 Receipt of Material Into the Facility

Upon arrival of a shipment at the Veolia facility, the following sequence of events occurs:

a. The driver presents the paperwork for the load to the shipping and receiving coordinator or designated representative trained to receive material into the facility.

1. Driver will bring Shipping documents to the office ~~and must be checked by either~~ where it is reviewed to ensure that there is no unscheduled manifested waste on the ~~Operations Manager or designated representative for~~ trailer ~~contents~~. If there is ~~**Manifested Hazardous Waste**~~manifested hazardous waste destined for Tallahassee facility the trailer ~~must~~will be backed into the loading dock for unloading. The manifested waste ~~must~~will be removed before it can go to the transfer yard. ~~There is no exception to this procedure.~~
2. ~~Receiving~~For trailers that are delivered to the transfer yard the receiving clerk will enter trailer information onto ~~the~~a log ~~accurately and completely. Pay close attention to the calculation of the 10 day drop dead date. Use a calendar to ensure accuracy.~~that is maintained electronically. The following entries ~~must~~will be made on every trailer.

- Trailer Number
- Arrival Date
- ~~Drivers Name who is bringing in the trailer.~~
- ~~Paperwork checked for manifested material. Yes or No~~
- ~~Paperwork screened and entered by. Put your name in this block.~~
- ~~If there is NO MANIFESTED MATERIAL leave the next two cells blank~~
- ~~**IF THERE IS MANIFESTED MATERIAL, enter the manifest document number and the generator name in the designated cells. ANY MATERIAL MANIFESTED TO THE TALLAHASSEE FACILITY MUST BE UNLOADED BEFORE TRAILER CAN GO TO TRANSFER YARD.**~~
    - ~~Drop Dead date refers to the last day a trailer can be in the transfer yard and must be unloaded by this date without exception.~~
    - ~~Unload date is the date the trailer is unloaded at the facility.~~
- ~~Notes are to identify any information about the load that does not fit into any other column. This column is not to be used for recording empty dates or information not necessary on to manage the trailer.~~ Generator Name
- Shipping Paper Number

3. Unload Deadline. This will be 10 days from the date the trailer is placed in transfer yard. ~~There is no exception to this rule.~~
4. Transfer Yard will be checked daily to ensure Log matches physical inventory in Transfer Yard. Trailers should be checked to ensure that they are secure while in the yard. Any discrepancies should be immediately reported to the Operations Manager.
5. The receiving clerk will update ~~and save~~ the ~~spreadsheet back to the shared drive~~log each time a ~~new entry~~change is made~~.~~ to the inventory of material in transfer, additions or removals. Entries ~~must~~will be made in a timely manner and without delay.

6. The Operations Supervisor will update this spreadsheet by 8:00 am each day with information on what trailers are in the dock being unloaded and trailers that were complete the day prior if done during second shift. The Operations Supervisoror designee will review the log on a daily basis. This review will be completed to ensure the log is current and for use in planning histhe production schedule for the day.
7. The Operations Manager will review the log each day prior to the end of the business day to ensure that all trailers are in compliance. The Operations Manager will conduct a physical inventory of the yard twice a week to ensure that the 10 Day Log matches the physical inventory in the yard. Any discrepancies must be corrected immediately.
The information contained on the 10 Day log is a vital record to our business and is a document used to demonstrate compliance. The log must be kept up to date at all times and is the responsibility of the Operations Manager to ensure that the log is accurate.
If any of the personnel listed above are absent from the facility there will be a trained designated employee to oversee the 10 Day log and ensure timely entries are made to the log.

b. When the trailer is moved from the transfer lot to the loading dock Veolia personnel will compare shipping documents and material description against the material profiles, and the material actually received.
c. All containers are visually inspected to verify that the shipment contains only the waste material as described in the material profile and shipping document.
d. If the shipment conforms to the material profile, the shipping document is signed and the truck unloaded by trained personnel qualified to operate a forklift or pallet jack. Copies. A copy of the signed shipping document/hazardous waste manifest areis then forwardedsent to the generator (and customer if they are not the same) within 30 days. Should Veolia deny acceptance of the delivery, the shipment will be returned to the generator or shipped to an alternate facility selected by the generator.
Upon off-loading, each container is logged into the waste tracking system and placed into the storage area or transferred directly to a processing area. A Veolia receiving record is executed to record all pertinent information. Sample Receiving Reports are included in Appendix D-8-1I.

8.2.7.1 Waste Rejection

Wastes will be rejected for the following reasons:

Waste does not conform to the material profile and the waste contains materials that the facility is not permitted to accept.

Other wastes that cannot be accepted by Veolia are included in the shipment.

Unscheduled load that would cause Veolia to exceed a permitted storage limit

8.2.7.2 Manifest Discrepancies

Upon receipt of materials at the Veolia facility, shipments are checked for significant discrepancies, according to 40 CFR 264.72. Discrepancies are noted on the manifest by the receiving agent. Discrepancies in quantity or type of hazardous waste are reconciled with the generator through telephone calls by Veolia personnel within 15 days following receipt at the Veolia facility. If a significant discrepancy cannot be resolved within 15 days after receipt of the waste, Veolia shall immediately submit a letter report, including a copy of the manifest to the Department.

8.2.7.3 Un-manifested Waste Report

If Veolia were to receive an un-manifested shipment of hazardous waste not specifically authorized by the regulations, Veolia would prepare and submit an un-manifested waste report to the Department within 15 days of receipt of the un-manifested waste.

8.3. ~~RECOVERED MATERIAL TESTING PLAN~~Recovered Material Testing Plan

This section describes testing methods, laboratory qualifications, testing frequency, sampling procedures, sampling equipment decontamination and documentation procedures. The sampling programs contained in this document have been developed to demonstrate the ongoing effectiveness of the mercury recovery and mercury reclamation processes and equipment. The sampling plans have also been developed to demonstrate compliance with the residual contaminant levels specified in §62-737.840(3) F.A.C. for mercury recovery facilities and the reclamation rate requirements of §62-737.860(4) F.A.C. for mercury reclamation facilities.

8.3.1 ~~SAMPLING AND TESTING METHODS~~Sampling and Testing Methods

All sampling of materials covered by this plan will be performed in accordance with the procedures defined in Sections 6 through 8 and in accordance with the procedures contained in *Quality Assurance Standard Operating Procedures for Sampling at Facilities Permitted Under Chapter 62-737, Florida Administrative Code*, ~~May 21, 1996 Draft. A~~November 14, 1997 Revision (Reformatted April 15, 2010) copy of which is included in Appendix D-8-~~2~~II.

All analysis of samples covered by this plan will be conducted in accordance with the procedures contained in *Test Methods for evaluating solid Wastes, Physical/Chemical Methods*, EPA publication SW-846.

8.3.2 ~~LABORATORY~~Laboratory

All analysis will be performed by an independent laboratory that is certified by the State of Florida.

~~8.3.3 TESTING FREQUENCY - MERCURY RECOVERY OPERATION~~

8.3.3 Testing Frequency – Mercury Recovery Operations

Table 8~~-~~.1 indicates the schedule for testing recovered materials from the mercury recovery operation. A sample of each material type will be collected on a daily basis. Following the completion of each weeks processing, the daily samples will be combined to form a weekly composite sample.

On days when equipment is not operational, no daily sample will be taken. Daily samples will not be "doubled up", i.e., two daily samples collected on the same day, to make up for daily samples when the equipment is not operational. The weekly composite will consist of equal aliquots of daily samples collected on days when the equipment is operational. For example, if the equipment is operational for only three days during a particular week, that week's weekly composite sample shall consist of equal aliquots of the daily samples collected during the three days when the equipment was operational.

It is recommended that daily samples be collected during maximum daily throughput and when equipment has been operating for at least 30 minutes. However, daily samples will be collected if the equipment is operated for any period of time during that day. If the equipment is operational for 2 days or less in a particular week, no weekly composite sample is required for that week. However, the daily samples for those one or two days will still be collected and used as part of the next weekly composite sample.

Based on the analytical testing history for materials generated from the mercury recovery operations, the average total mercury concentration is less than 4 mg/kg. As such, the total concentration is less than twenty times the TCLP limit. Based on the 20:1 dilution of the extraction procedure defined in the TCLP, these materials would not exceed the toxicity characteristic level for mercury of 0.2 mg/l. As such, TCLP testing will not be performed in these samples unless the 12 week rolling average of total mercury analytical results exceeds 4.0 mg/kg.

Table 8.1
Testing Frequency for Mercury Recovery Operation

ITEM	TESTING PARAMETER	TEST FREQUENCY
Glass	Total Mercury	Weekly Composite Sample
Metals	Total Mercury	Weekly Composite Sample
Plastics[1]	Total Mercury	Weekly Composite Sample if Processed
Glass	TCLP Mercury	Annual, as necessary

Metals	TCLP Mercury	Annual, as necessary
Plastics	TCLP Mercury	Annual, as necessary

~~8.3.4 TESTING FREQUENCY - MERCURY RECLAMATION OPERATION~~

1. Refers to plastics that have been in direct contact with mercury or phosphor powder.

8.3.4 Testing Frequency – Mercury Recovery Operations

Table 8~~-~~.2 indicates the schedule for testing recovered materials from the mercury reclamation operation. The following paragraphs describe the testing frequency for recovered materials from the mercury reclamation operation.

It is recommended by DEP that a sample be collected during maximum daily throughput and when equipment has been operating for at least 30-minutes. However, a sample can be collected if the equipment is operated for any period of time during a day.

8.3.4.1 Powder

The term Powder is used in this section generically to describe the phosphor powder derived from the recycling of fluorescent lamps. This material is comprised of the calcium phosphate based phosphor powder, glass fines and mercury. The normal concentration range for mercury in the powder generated at this facility ranges from 150 to 1500 mg/kg.

A minimum of one sample per month will be collected from a batch of pre-retort powder. A sample will also be collected from this batch following retort processing. These samples will be analyzed for total mercury and evaluated to determine the effectiveness of the reclamation process.

In order to achieve the recovery rate specified by the regulations, the allowable post-retort concentration of mercury will typically be less than 15 mg/kg. Past analytical history indicates that powder at this concentration will not leach significant levels of mercury. However, at least one sample per year will be submitted to the laboratory for TCLP mercury testing.

8.3.4.2 Arc Tubes and MCMA

Arc Tubes and MCMA are derived from crushed HID arc tubes, crushed neon lamp glass and glass from drained mercury containing devices. The normal concentration range for mercury in this material is 250 to 2500 mg/kg.

Prior to retort processing, the glass derived from the processing of HID lamp arc tubes, neon lamps and drained mercury containing devices are consolidated to form a batch. A minimum of one sample per month will be collected from a batch of pre-retort glass. A sample will also

be collected from this batch following retort processing. These samples will be analyzed for total mercury and evaluated to determine the effectiveness of the reclamation process. In the event that this material is not processed in the retort during any month, a sample will not be collected and a notation will be made to the facility operating recording noting that no glass was retorted.

At least one sample of post-retort glass will be collected and analyzed for TCLP mercury on an annual basis.

Table 8.2
Testing Frequency for Mercury Reclamation Operations

CATEGORY	TEST FREQUENCY
Powder	Monthly pre-retort and post-retort total mercury tests if processed. Annual TCLP mercury.
Arc Tubes and MCMA	Monthly pre-retort and post-retort total mercury tests if processed. Annual TCLP mercury.

8.3.4.3 Other Mercury Materials

In addition to the above listed materials the facility will also receive a small amount of mercury containing batteries and dental amalgam. Due to the small volume of these types of materials received, these materials will be consolidated with the Arc Tubes and MCMA for retort processing and will be represented by the samples collected from those materials.

~~8.4 SAMPLING PROCEDURES - MERCURY RECOVERY OPERATION~~
8.4 Sampling Procedures – Mercury Recovery Operations

The following describes the procedures for sampling recovered materials from the Mercury Recovery operation. The minimum weekly composite sample size is 150-grams.

8.4.1 Glass

A. A daily sample must be taken if any lamps are processed during the day.
B. The sample container must be glass or polyethylene with a screw top lid.
C. Using the designated stainless steel or plastic scoop or spoon, a 50 gram sample of glass will be taken from the discharge point of the equipment. Excess material will be raked off with a spatula or knife.
D. The daily sample will be placed into the weekly composite sample container provided by the lab. The container will be closed immediately following sample collection.
E. The Daily Facility Inspection Form will be used to document dates on which samples are collected.

F. At the end of each week, a sample label provided by the lab will be placed on the sample container.

G. A Chain of Custody (COC) Record for the weekly composite sample must be filled out. A copy of the COC form must accompany the sample to the laboratory. Once the laboratory receives the samples and signs the COC, they will return a copy to Veolia. Copies of the COC records are maintained for a period of at least three years. A sample chain of custody is included as Appendix D-8-~~1~~I.

8.4.2 Metals

A. A daily sample must be taken if any lamps are processed during the day.
B. The sample container must be glass or polyethylene with a screw top lid.
C. Using the designated stainless steel or plastic scoop or spoon, a 50 gram sample of metal will be taken from the discharge point of the equipment or from the accumulation container from manual processing operations. Excess material will be raked off with a spatula or knife. When multiple processing operations are conducted, the daily sample will be comprised of a mixture of materials representative of the overall volume of metals generated on that date.
D. The daily sample will be placed into the weekly composite sample container provided by the lab. The container will be closed immediately following sample collection.
E. The Daily Facility Inspection Form will be used to document dates on which samples are collected.
F. At the end of each week, a sample label provided by the lab will be placed on the sample container.
G. A Chain of Custody (COC) Record for the weekly composite sample must be filled out. A copy of the COC form must accompany the sample to the laboratory. Once the laboratory receives the samples and signs the COC, they will return a copy to Veolia. Copies of the COC records are maintained for a period of at least three years. A sample chain of custody is included as Appendix D-8-~~1~~I.

~~8.5 SAMPLING PROCEDURES - MERCURY RECLAMATION OPERATION~~
8.5 Sampling Procedures – Mercury Reclamation Operations

Prior to retort processing, individual batches of material will be sampled in accordance with the sampling frequency specified above. The batch will be flagged as having been sampled and held pending the receipt of the analytical results. Pre-retort material samples should be collected in the same physical and chemical state in which they are fed into the process equipment. The goal of the sampling methodology contained below is generate a sample that is truly representative of the waste stream.

The following paragraphs describe the procedures for sampling recovered materials from the Mercury Reclamation operation. The minimum sample size is 50-grams.

8.5.1 Powder

A. Collect a sample of pre-retort powder and post-retort powder from a single batch.
B. The sample container must be glass or polyethylene with a screw top lid.
C. Using a clean stainless steel or plastic scoop or spoon, collect an aliquot of powder from various ~~depths~~points within each drum contained in the batch. A total mass of 150 grams should be collected for each sample.
D. The sample will be placed into a sample container provided by the lab. The sample container will be closed immediately following sampling.

E. The sample label provided by the lab will be placed on the sample container.
F. A Chain of Custody (COC) Record must be filled out for each sample. If multiple samples are collected on the same date a single chain of custody may be used for all samples. A copy of the COC form must accompany the sample to the laboratory. Once the laboratory receives the samples and signs the COC, they will return a copy to Veolia. Copies of the COC records are maintained for a period of at least 3-years. A sample chain of custody is included as Appendix D-8-~~1~~I.

8.5.2 Arc Tubes and MCMA

A. Collect a sample of pre-retort arc tubes and MCMA and post-retort arc tubes and MCMA from a single batch.
B. The sample container must be glass or polyethylene with a screw top lid.
C. Using a clean stainless steel or plastic scoop or spoon, collect an aliquot of glass from various depths within each drum contained in the batch. A total mass of 150 grams should be collected for each sample.
D. The sample will be placed into a sample container provided by the lab. The sample container will be closed immediately following sampling.
E. The sample label provided by the lab will be placed on the sample container.
F. A Chain of Custody (COC) Record must be filled out for each sample. If multiple samples are collected on the same date a single chain of custody may be used for all samples. A copy of the COC form must accompany the sample to the laboratory. Once the laboratory receives the samples and signs the COC, they will return a copy to Veolia. Copies of the COC records are maintained for a period of at least 3-years. A sample chain of custody is included as Appendix D-8-~~1~~I.

8.6 ~~SAMPLING EQUIPMENT DECONTAMINATION~~Sampling Equipment Decontamination (Cleaning)

The reusable sampling tools will be cleaned in accordance with the following procedures. Single use tools will be disposed following use and new tools will be used at the beginning of every week.

A. Disassemble equipment if possible and if necessary.
B. Wash thoroughly with a mild detergent and hot tap water using a brush to remove any particulate matter or surface film.
C. Rinse thoroughly with hot tap water.
D. Place the sampling equipment in a plastic storage container or wrap with plastic wrap to prevent contamination during storage or prior to use.

8.7 ~~DOCUMENTATION REQUIREMENTS~~Documentation Requirements

The following sections address Veolia's documentation procedures for recovered materials.

8.7.1 Chain of Custody Record

A Chain of Custody Record will be filled out for all samples submitted for laboratory analysis recording the following information:

(1) Unique sample identification number;
(2) Sampling site name and address;
(3) Name of person collecting sample;
(4) Time and date of the sample collection when final weekly sample is filed;
(5) Clear indication of number of sample containers;
(6) Chemical analysis which is to be performed on the sample (either Hg Total or TCLP);
(7) Appropriate places for signatures of sampler and all subsequent persons accepting custody.
(8) Time of day and calendar date of all custody transfers;
(9) Comments or remarks section, e.g., unusual ambient conditions; and

8.7.2 Weekly Values of Mercury Totals

Weekly Sampling Log will be used to record the weekly values and the 12-week rolling average sample analytical results for the weekly composite samples for metal end caps and glass. A copy of the Weekly Sampling Log is included in Appendix D-8-~~1~~I.

8.7.3 Mercury Reclamation Rate Log

A Mercury Reclamation Rate Log will be filled out for powder and Arc Tube and MCMA that is reclaimed. The log sheet summarizes the effectiveness of the reclamation process for powder and the different categories of items described in the log. A copy of the Mercury Reclamation Rate Log is included in Appendix D-8-~~1~~I.

8.8 ~~QUALITY CONTROL PROCEDURES~~Quality Control Procedures

Materials sampled to verify the effectiveness of the mercury reclamation process will not be processed until the pre-retort analytical results have been obtained from the laboratory. If any samples are found to lie outside the normal concentration range for the material type, the batch will be resampled and a second batch will be sampled. This requirement has been included to ensure that percent recovery rates are calculated based on valid laboratory results and are not skewed either high or low.

Recovered materials, with the exception of glass derived from the mercury recovery operation, will not be shipped off-site until the required testing and analytical results (i.e., mercury totals) indicate that the material is fit for such deliveries.

Any material that exceeds a regulatory limit will be, resampled, reprocessed, or sent to a mercury reclamation facility.

Appendix D-8-I

Sampling Forms and Logs

Appendix D-8-II

Quality Assurance Standard Operating Procedures for Sampling at Facilities Permitted Under Chapter 62-737, Florida Administrative Code,
November 14, 1997 Revision (Reformatted April 15, 2010)

9.0 CLOSURE PLAN

9.1 INTRODUCTION

Veolia ES Technical Solutions, L.L.C. (Veolia) operates a mercury recovery, and reclamation facility at 342 Marpan Lane, Tallahassee, Florida. The building contains the following areas:

- Administrative offices,
- Operations support area,
- Receiving and staging area,
- Storage and accumulation areas,
    - Container Storage Areas
    - Universal Waste Storage Areas
    - Non-hazardous Waste Storage Areas
    - North Yard
- Prep and retort room, and
- Lamp processing room.
- HID Processing Area
- In-transit ten-day transfer operation

In support of the mercury reclamation and recovery operations, Veolia also occupies space in the building directly immediately to the south of the mercury recovery and reclamation facility, at 336 Marpan Lane. The building is used for the storage of new and reusable shipping containers as well as an area for the handling and accumulation of electronic waste, non hazardous batteries, and universal wastes not recycled on-site. A trailer parking area is located at 4972 Woodville Highway South Lot which is used for the parking of empty trailers and the transfer of universal wastes. The warehouse space located at 336 Marpan Lane will herein be referred to as the "e-waste area" and the transfer yard located at 4972 Woodville Highway South Lot will herein be referred to as the "transfer yard." This closure plan was written to comply with 40 CFR Part 264.112.

9.2 MAXIMUM INVENTORY OF WASTE

9.2.1 Maximum Inventory of Waste

Table 9.1 summarizes the maximum inventory of hazardous waste, universal waste, and non hazardous waste which could be on-site during facility operations and associated with the mercury recovery and reclamation activities as well as the facility's universal waste handler activities. The maximum inventory contains an approximate volume of each type of waste anticipated to be present at any time during the facility's life. Actual volumes of individual waste streams will vary; however, the total volume of waste on-site will not exceed the maximum storage capacities listed in Attachment D-4.

Table 9.2.2Anticipated1 – Maximum Inventory of Waste Generated as a Result of Closure Activities

Material	Maximum Inventory
Fluorescent Lamps 4' and less	40,000 Lamps
Fluorescent Lamps >4'	40,000 Lamps
Fluorescent, shattershield	30,000 Lamps
Fluorescent, U-tube and circular	20,000 Lamps
Fluorescent, Compact	30,000 Lamps
HID Lamps	31,488 Lamps
Mercury Containing Devices	20 drums
Dental Amalgam and Traps	2 drums
Phosphor Powder	20 drums
HID Arc Tubes (whole and crushed)	20 drums
Prep Room Debris	4 cubic yard boxes (16 drum equiv.)
Condensate Water	8 drums
Spent Carbon	8 drums
Retorted Powder/Arc Tubes	10 drums
Non-hazardous PPE	4 cubic yard boxes (16 drum equiv.)
Batteries	36 Pallets (72 drum equiv.)
Electronic Waste	36 Pallets (72 drum equiv.)
Glass	100 tons
Aluminum End Caps/Scrap Metal	5 tons
Plastic	30 tons
Cardboard	30 tons
Elemental Mercury	500 pounds

9.2.2 Anticipated Inventory of Waste Generated as a Result of Closure Activities

Table 9.2 summarizes the expected maximum inventory of waste materials anticipated to be generated as a result of closure activities.

Table 9.2 – Anticipated Inventory of Waste Generated from Closure Activities

Clean-up Wastes	Estimated Quantity
Demolition Debris – Hazardous Waste	20 tons
Demolition Debris – Non-hazardous Waste	40 tons
Decon Wash and Rinse Water	15 drums
Hazardous Waste Solids (non-debris)	4 drums

9.3. CLOSURE SCHEDULE

Figure 9.1 illustrates a closure schedule for Veolia's mercury reclamation, recovery and storage facility. The schedule reflects each of the tasks described in the section titled Detailed Description

of Decontamination Activities. It is anticipated the inventory removal and pre-decontamination activities could be completed within thirty days. Decontamination activities are expected to require an additional ninety days to complete.

9.4. DETAILED DESCRIPTION OF DECONTAMINATION ACTIVITIES

Decontamination activities at Veolia's facility consist of pre-decontamination, decontamination and post-decontamination related tasks. All tasks will be conducted by a third party. In the event of a planned closure, the recycling (e.g., crusher, separator and distiller) equipment and pollution control equipment (i.e., carbon filters, HEPA filter and baghouse filter) will be removed by Veolia. They will be dismantled before third party pre-decontamination activities and transported to a new location. In the event that this equipment is no longer usable for its intended purpose it will be decontaminated and recycled or disposed as appropriate.

9.4.1 Inventory Removal

The first step in the closure process will be the removal of all wastes and supplies from the facility. In the event of a planned closure of the facility, Veolia will transport all wastes and materials to other Veolia facilities for reuse, recycling or disposal. In the event of an unplanned closure or if Veolia does not have a facility permitted or available to accept the material, it will be shipped to the corresponding facility noted in the closure cost estimate contained in Table 9.3. In the case of materials meeting the definition of hazardous waste, a uniform hazardous waste manifest will be used to document the shipment of the material. In all other cases, a straight bill of lading will be used to document the shipment.

9.4.2 Pre-Decontamination Activities

Personnel will thoroughly sweep surface dust and glass from floors, and other readily accessible surfaces within the building, with the exception of the spaces inside the prep and retort room and inside the lamp processing room. Level "D" (work uniform and a dust mask) personal protective equipment would be required for this cleaning. Personal protective clothing such as dust masks and cleaning rags will be placed into 55-gallon drums and will be combined with the collected debris (i.e., dirt, dust and glass).

9.4.2 Decontamination Activities

Decontamination of Veolia's facility consists of three principal phases. Phase I involves determining the extent, if any, of mercury contamination. Phase II includes the demolition of the prep and retort room and the lamp processing room, the cleaning of the exterior surface of all equipment and accessible surfaces (i.e., floors, walls and ceilings). Phase III involves verifying that the cleaning activities completed in step two were successful.

9.4.2.1 Phase I - Contamination Evaluation

The current level of mercury contamination in the buildings is not known; however, for the purpose of closure it will be assumed that all surfaces within the warehouse and processing areas exhibit some level of contamination. As such, these areas will proceed directly to Phase II. The office areas and the e-waste area will be screened with a direct reading mercury monitoring instrument. The results of the direct reading instrument will be used to determine the decontamination activities required for these areas. The transfer yard will be sampled to assess whether this area has been impacted by facility activities. Surface soil samples will be collected from the transfer yard and analyzed for total mercury. Eight samples will be collected from this area.

Sampling locations will be determined by a qualified independent third party. The sampling will also be conducted by an independent third party and will be analyzed by a state certified laboratory. Any area with mercury levels that exceed the closure standard will proceed to Phase II. If all samples from an area meet the closure standard, the area will be designated as meeting the closure standard and no further decontamination or testing will be required.

9.4.2.2 Phase II - Facility Decontamination

Decontamination of Veolia's building will be performed by the following procedures:

- Remove mercury contamination from all accessible surfaces and equipment in the prep room, retort room, and lamp processing room using a high efficiency mercury vacuum and a cold water pressure washer.
- Remove equipment and supplies from the prep room, retort room, and lamp processing room for reuse, recycling or disposal.
- Construct a containment area using polyethylene sheeting around the prep room, retort room, and lamp processing room.
- Demolish the prep room, retort room, and lamp processing room and containerize for off-site disposal.
- Remove mercury contamination from all accessible surfaces using a high efficiency mercury vacuum and a cold water pressure washer.
- Clean walls, ceiling beams, floor and equipment in accordance with the following procedures:
    1. Visually inspect the surfaces to be decontaminated. For surfaces with excessive dust buildup proceed to Step 2. If the surfaces have only a minimal amount of dust buildup, proceed to Step 3.
    2. Vacuum the surfaces using a mercury vacuum equipped with a HEPA filter and carbon filter.
    3. Using pump sprayers, mops and rags, wet the surface with a general purpose cleaner/degreaser. An example of this type of cleaner/degreaser would be Simple Green® All Purpose Cleaner.

Scrub the surfaces as necessary to remove dust and any other surface contamination that might exist.

4. Rinse the surface using a cold water pressure washer.
5. Recover any cleaning fluids and rinse waters for proper disposal.
6. Wet the surfaces with a mercury decontamination fluid. An example of this type of decontamination fluid would be HgX® from Acton Technologies.
7. Scrub the surfaces to ensure that the decontamination fluid contacts all surfaces.
8. Rinse the surface using a pressure washer and water.
9. Recover any cleaning fluids and rinse waters for proper disposal.
10. Repeat Steps 6 through 9.
11. Repeat Steps 3 through 5.

- Collect all cleaning fluids and rinsate.
- Containerize and segregate waste materials from clean-up activities (e.g., solids, liquid, cleaning materials and personal protective equipment); and
- Sample waste materials and manage appropriately.

9.4.2.3 Phase III - Decontamination Verification

The objective of this phase is to sample and analyze representative areas and surfaces in order to determine that decontamination activities have removed mercury to target clean-up concentrations. The analytical results from the testing of air samples will provide documentation of successful facility decontamination. A total of twelve air samples will be collected from interior spaces. Samples will be collected from each of the following areas, administrative office, operations office/locker room, hazardous waste storage area, lamp storage area, universal waste battery storage area, HID processing area, lamp processing area, lamp processing room, retort room and container storage area in the building south of the lamp facility. Two additional air samples will be collected from warehouse/processing areas as determined by an independent third party. In addition, it is anticipated that three waste stream samples will be collected and analyzed for disposal purposes. Air sampling will be completed in accordance with the following procedures:

Final Clearance Sampling Protocol

This protocol is designed to be implemented after the decontamination activities have been completed and the facility has been adequately cleaned and for the sole purpose of gathering valid data.

Quantitative Sampling:

1. Prior to the sampling period, the indoor temperature of facility environment should be determined and documented. Temperature should be at least 75° F for a minimum of 60 minutes prior to commencing sampling. If the facility temperature is below 75° F, the facility shall be heated to achieve this temperature.

2. Following the heating period, if necessary, the facility should be closed up (ventilation systems turned off and doors closed) for a minimum of 60 minutes to allow for equilibrium temperatures to be achieved.

3. Final clearance sampling shall be performed utilizing USEPA Response Team SOP #1827 with a modified NIOSH 6009 method, 5/13/99 or OSHA ID-140. The pump will be calibrated to 0.2 liters/min., or as defined by the method. The media utilized will be hopacalite or approved equivalent (e.g. SKC Hydrar).

4. One (1) field blank (opened in field and handled with samples) shall be taken for the sampling event. In addition, two (2) unopened trip blanks from the same lot shall be retained and submitted with the corresponding field blank.

5. The sample media shall be set at a height of between three to four (3-4) feet from ground level to represent a breathing zone sample.

6. The sample time should be approximately eight (8) hours or as necessary to obtain a detection limit less than 0.001 mg/m^3. Periodic pump flow checks and ambient temperature readings shall be performed and documented throughout the sampling period (minimum of 3).

7. Upon completion of the sampling, samples shall be handled and submitted to an AIHA accredited laboratory for analysis utilizing proper chain of custody procedures.

8. The analytical method to be utilized should be USEPA Response Team SOP #1827 with a modified NIOSH 6009 method, 5/13/99 or OSHA ID-140.

9. Upon completion of the final clearance test and receipt of results, the sampling firm will prepare a clearance sampling report and submit as a component of the closure certification report. The report shall consist of, at a minimum:

    a. Floor map documenting the locations of samples taken
    b. Sample data sheets documenting either the instrument readings or the media number, sample location, pump flow (with checks), final volume sampled, sample duration and any remarkable field notes.
    c. Sample results as submitted by the laboratory corresponding to provided sample data sheets, as applicable.
    d. Copy of this sampling protocol.

9.4.3 Post-Decontamination Activities

For purposes of this plan, these activities focus on the quantity and disposition of clean-up residue. Table 9.2 contains a listing of the types and volumes of wastes anticipated to be generated.

9.5. CLOSURE PERFORMANCE STANDARDS

Table 9.4

Chemical	Environmental Media	Maximum Concentration		Analytical Method	Source
		Residential	Industrial		
Mercury	Soil	2.1 mg/kg	2.1 mg/kg	EPA Method 7471	Note 2
Mercury	Indoor Air	1.0 ug/m3	3.0 ug/m3	NIOSH Method 6009	Note 1

1. May 18, 2006 letter report from Stephen M. Roberts, Ph.D., University of Florida to Tim Bahr, Florida Department of Environmental Protection regarding Mercury Criteria for Buildings.
2. Florida Department of Environmental Protection Cleanup Target Levels Chapter 62-777 Florida Administrative Code based on leach ability to ground water.

9.6 COST ESTIMATE FOR FACILITY CLOSURE

The closure cost estimate is based on costs for an independent third party to complete all activities required to close the facility. A detailed written facility closure estimate for the facility is presented in Table 9.3. Closure costs are expressed in ~~2011 dollars.~~2016 dollars. Appendix D-9-I includes documentation of financial assurance for closure costs as required by 40 CFR 264.143.

9.7 PROTECTION OF HUMAN HEALTH AND THE ENVIRONMENT

Veolia has always maintained stringent operating practices. We strongly believe that the detailed decontamination procedures described in this Closure Plan ensure that the facility will not pose a threat to human health and the environment. Closure or decontamination procedures at Veolia will minimize exposure to hazardous constituents resulting in the protection of human health and the environment.

9.8 EXPECTED YEAR OF CLOSURE

It is not possible to predict an expected year of closure as Veolia is a recycling facility. Closure of the facility would likely occur for one of the following reasons. One, Veolia ES Technical Services, L.L.C. decides to terminate the Florida operation. Two, business continues to grow and it must move to a larger building. Three, another company acquires the firm and decides to relocate the operation.

9.9 CLOSURE ACTIVITIES

Veolia will notify DEP staff of all closure related activities.

9.10 AMENDMENT OF PLAN

Veolia will comply with the provisions of 40 CFR Part 264.112 (c)

9.11 NOTIFICATION OF FINAL CLOSURE

Veolia will comply with the provisions of 40 CFR Part 264.112 (d).

Table 9.~~1~~3 – Closure Cost Estimate
~~Maximum~~ Inventory ~~of Waste~~Removal

Material	Maximum Inventory	Per Unit Cost	Trans Cost	Total Cost	Source
Fluorescent Lamps 4' and less	~~25~~40,000 Lamps	$.14/lamp	Included	$5600.00	1
Fluorescent Lamps >4'	~~25~~40,000 Lamps	$.30/lamp	Included	$12000.00	1
~~Fluorescent, shattershield~~Compact Lamps	~~20~~30,000 Lamps	$.20/lamp	Included	$6000.00	1
~~Fluorescent,~~ U-~~tube~~Tube and ~~circular~~Circular Lamps	~~10~~20,000 Lamps	$.16/lamp	Included	$3200.00	1
~~Fluorescent, Compact~~Shattershield Lamps	~~20~~30,000 Lamps	$.14/lamp	Included	$4800.00	
HID Lamps	~~26,208~~31488 Lamps	$.45/lamp	Included	$14169.60	1
Mercury Containing Devices	~~30~~20 drums	$1250.00 / dm	$114.51 / dm	$27290.20	3,13
Dental Amalgam and Traps	2 drums	$1,250.00 / dm	$114.51 / dm	$4580.40	3,13
Phosphor Powder	~~30~~20 drums	$156.81 / dm	$26.25 / dm	$5661.20	3,13
HID Arc Tubes (whole and crushed)	~~30~~20 drums	$156.81 / dm	$26.25 / dm	$5661.20	3,13
Prep Room Debris	~~6 drums~~4 cubic yards	$325.00 / yard	$105.00 / dm	$1720.00	5,13
Condensate Water	~~6~~8 drums	$1,250.00 / dm	$114.51 / dm	$10916.08.	3,13
Spent Carbon	~~4~~8 drums	$1,250.00 / dm	$114.51 / dm	$10916.08	3,13
Retorted Phosphor Powder	~~30~~10 drums	$50.00 / dm	$15.00 / dm	$650.00	4,11

Inserted Cells
Inserted Cells
Inserted Cells
Inserted Cells

Non-hazardous PPE	~~12 drums~~4 cubic yards	$75.00 / dm	$60.00 / dm	$540.00	4,11
~~Retort Residues~~Retorted Arc Tubes and MCMA	~~6~~20 drums	$50 / dm	$15.00 / dm	$1300.00	4,11
~~Batteries~~	~~36 Pallets~~				
~~Electronic Waste~~	~~36 Pallets~~				
Glass	~~80~~100 tons	$50.00 / ton	$12.50 / ton	$6250.00	14
Aluminum End Caps/Scrap Metal	5 tons	$0.00	$0.00	$0.00	9
Plastic	30 tons	$50.00 / ton	$12.50 / ton	$1875.00	4,11
Cardboard	30 tons	$0.00	$0.00	$0.00	10
Elemental Mercury	~~2800~~500 pounds	$10.00 / pound	$2.00 / pound	$6000.00	3,12
Alkaline Batteries	36 drums	$150 / dm	$64 / dm	$7704.00	6,12
Nickel Cadmium Batteries	14 drums	$30 / dm	$64 / dm	$1316.00	6,12
Lithium Metal Batteries	7 drums	$1500 / dm	$64 / dm	$10948.00	6,12
Lithium Ion Batteries	15 drums	$600 / dm	$64 / dm	$9960.00	6,12
Lead Acid Batteries	72 drums	0	0	$0	7,12
Electronic Waste	40000 pounds	$0.25/pound	$0.025 / pound	$11000.00	2
Project Management	8 hours	$120.00 / hour	N/A	$960.00	15
Labor for Labeling and Loading	16 hours	$87.00 / hour	N/A	$1392.00	15
Mobilization / demobilization	2 days	$750.00 / day	N/A	$1500.00	15
TOTAL				**$173,909.76**	

~~**Table 9.2**~~

~~**Anticipated Inventory of Waste Generated as a Result of Closure**~~Pre-Decontamination Activities

Task/Materials~~Clean-up Wastes~~	~~Estimated~~ Quantity	Per Unit Cost	Total Cost	Source

Inserted Cells
Inserted Cells
Inserted Cells
Inserted Cells
Inserted Cells
Inserted Cells
Inserted Cells

~~Demolition Debris – Hazardous Waste~~Labor (technician)	~~20 tons~~16 hours	$87.00	$1,392.00	15
~~Demolition Debris – Non-hazardous Waste~~Project Management	~~40 tons~~4 hours	$120.00	$480.00	15
~~Decon Wash and Rinse Water~~Supplies (PPE, brooms…)			$1,400.00	15~~ drums~~
~~Hazardous Waste Solids (non-debris)~~**TOTAL**	~~4 drums~~		**$3,272.00**	

Inserted Cells

Inserted Cells

Decontamination Activities – Phase I

Task/Materials	Quantity	Per Unit Cost	Total Cost	Source
Labor	12 hours	$100.00	$1200.00	15
Project Management	4 hours	$120.00	$480.00	15
Supplies			$750.00	15
TOTAL			**$2,430.00**	

Decontamination Activities – Phase II

Task/Materials	Quantity	Per Unit Cost	Total Cost	Source
Labor	250 hours	$68.00	$17,000.00	15
Project Management	32 hours	$120.00	$3,240.00	15
Supplies			$1,000.00	15
Equipment (lift, power wash)	2 weeks	$2,750.00	$5,500.00	17
Wipes Analysis	120	$30.00	$3,600.00	16
TOTAL			**$30,340.00**	

Decontamination Activities – Phase III

Task/Materials	Quantity	Per Unit Cost	Total Cost	Source
Labor	16 hours	$100.00	$1,600.00	15
Project Management	8 hours	$120.00	$960.00	15
Supplies		Included	$0	
Wipes Analysis	30	$30.00	$900.00	16
Air Sampling for Mercury	5 (inc. blanks)	$65.00	$325.00	18
TOTAL			**$3,785.00**	

Decontamination Derived Wastes

Material	Maximum Inventory	Per Unit Cost	Trans Cost	Total Cost	Source
Demolition Debris – Hazardous Waste	20 tons (27 yd, 2 loads)	$271/yd	$1470/ load	$8360.00	5,13
Demolition Debris – Non-hazardous Waste	40 tons	$50/ton	$250/ load	$2500.00	4,11
Decon Wash and Rinse Water	15 drums	$156.81 / dm	$98 / dm	$3822.15	5,13
Hazardous Waste Solids (non-debris)	4 drums	$1250 / dm	$175 / dm	$5700.00	3,13
TOTAL				**$20,382.15**	

Closure Report and Certification

Task/Materials	Quantity	Per Unit Cost	Total Cost	Source
Report Preparation	32 hours	$100	$3200	15
PE Certification	4 hours	$175	$700	15
TOTAL			**$3,900.00**	

Total Costs by Phase

Phase	Total Cost by Phase
Inventory Removal	**$173,909.76**
Pre- Decontamination Activities	**$3,272.00**
Decontamination Phase- I	**$2,430.00**
Decontamination Phase-II	**$30,340.00**
Decontamination Phase-III	**$3,785.00**
Decontamination Derived Waste	**$20,382.15**
Closure Report and Certification	**$3,900.00**
SubTotal of Closure Cost	**$238,018.91**
10 % Contingency on Plan Total	**$23,801.89**
Grand Total for Closure	**$261,820.80**

Sources for Cost Estimates

1.	Florida State Contract for Lamp and Mercury Recycling compact lamps and irregular shape lamps assumed to be evenly distributed and cost was averaged.
2.	Florida State Contract for Electronics Recycling assuming each pallet contains 3 televisions, 6 monitors, 9 CPUs and 200 lb. mixed peripherals
3.	WM Mercury Waste Solutions Union Grove, WI
4.	Advanced Disposal Evergreen Landfill Valdosta, GA
5.	Chemical Waste Management Emelle, AL
6.	Raw Materials Company Buffalo, NY
7.	Exide Muncie Indiana
8.	D.F. Goldsmith Co. Evanston, IL
9.	Viatek Tampa, FL
10.	Smurfit Stone Jacksonville, FL
11.	Advanced Disposal Valdosta, GA
12.	CH Robinson Sun Prairie, WI
13.	Smith Systems Includes 18% fuel surcharge
14.	Leon County Landfill Tallahassee, FL
15.	Environmental Sciences Group, Inc. Tampa, FL
16.	Pace Analytical Services, Inc. Tampa, FL
17.	ASAP Rentals Tampa, FL
18.	Bureau Veritas Detroit, MI

Appendix D-9-I

Financial Assurance for Closure

Attachment D-10
Certificate of Insurance

ACORD®

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)
12/29/2015

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER
Marsh USA, Inc.
540 W. Madison Street
Chicago, IL 60661
Attn: Veolia.CertRequest@marsh.com | Fax: 212-948-5053

TALLA

CONTACT NAME:
PHONE (A/C, No, Ext): **FAX (A/C, No):**
E-MAIL ADDRESS:

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A : ACE American Insurance Company	22667
INSURER B : ACE Fire Underwriters Insurance Company	20702
INSURER C : Illinois Union Insurance Company	27960
INSURER D : N/A	N/A
INSURER E : N/A	N/A
INSURER F :	

INSURED
Veolia ES Technical Solutions, LLC
342 Marpan Lane
Tallahassee, FL 32305

COVERAGES **CERTIFICATE NUMBER:** CHI-006451953-59 **REVISION NUMBER:** 2

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS		
A	X COMMERCIAL GENERAL LIABILITY			HDO G27402884	01/01/2016	01/01/2017	EACH OCCURRENCE	$	5,000,000
	CLAIMS-MADE X OCCUR						DAMAGE TO RENTED PREMISES (Ea occurrence)	$	1,000,000
							MED EXP (Any one person)	$	10,000
							PERSONAL & ADV INJURY	$	5,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE	$	10,000,000
	X POLICY PRO-JECT LOC						PRODUCTS - COMP/OP AGG	$	10,000,000
	OTHER:							$	
A	AUTOMOBILE LIABILITY			ISA H0886651A	01/01/2016	01/01/2017	COMBINED SINGLE LIMIT (Ea accident)	$	5,000,000
	X ANY AUTO						BODILY INJURY (Per person)	$	
	ALL OWNED AUTOS / SCHEDULED AUTOS						BODILY INJURY (Per accident)	$	
	HIRED AUTOS / NON-OWNED AUTOS						PROPERTY DAMAGE (Per accident)	$	
								$	
	UMBRELLA LIAB / OCCUR						EACH OCCURRENCE	$	
	EXCESS LIAB / CLAIMS-MADE						AGGREGATE	$	
	DED / RETENTION $							$	
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY			WLR C48598158 (AOS)	01/01/2016	01/01/2017	X PER STATUTE / OTH-ER		
B	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y/N: N	N / A		SCF C48598195 (WI) (Retro)	01/01/2016	01/01/2017	E.L. EACH ACCIDENT	$	1,000,000
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE	$	1,000,000
							E.L. DISEASE - POLICY LIMIT	$	1,000,000
C	Prof Liability/Claims-Made			GOO G27269096 002	01/01/2016	01/01/2017	Limit		5,000,000
	Contractors' Poll Occurrence			CPL SIR: $500,000			Prof Liab SIR: $1,000,000		

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

CERTIFICATE HOLDER

Veolia ES Technical Solutions, LLC
342 Marpan Lane
Tallahassee, FL 32305

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE of Marsh USA Inc.
Manashi Mukherjee Manashi Mukherjee

© 1988-2014 ACORD CORPORATION. All rights reserved.

ACORD 25 (2014/01) **The ACORD name and logo are registered marks of ACORD**

AGENCY CUSTOMER ID: 010016
LOC #: Chicago

ADDITIONAL REMARKS SCHEDULE

AGENCY Marsh USA, Inc.	NAMED INSURED Veolia ES Technical Solutions, LLC 342 Marpan Lane Tallahassee, FL 32305
POLICY NUMBER	
CARRIER / NAIC CODE	EFFECTIVE DATE:

ADDITIONAL REMARKS

THIS ADDITIONAL REMARKS FORM IS A SCHEDULE TO ACORD FORM,
FORM NUMBER: 25 FORM TITLE: Certificate of Liability Insurance

Pollution Legal Liability

Policy Number: PLS 1364667
Carrier: Lexington Insurance Company
Effective Date: 01/01/2015
Expiration Date: 01/01/2017
Limit: $10,000,000
SIR: $500,000

ACORD 101 (2008/01)

© 2008 ACORD CORPORATION. All rights reserved.
The ACORD name and logo are registered marks of ACORD

Attachment D-11 Destination Facilities

Veolia has evaluated, approved, and entered into written agreements with the sites listed below in Table 11.1 to dispose of all toxic, hazardous and non-hazardous waste. These treatment, storage, and disposal facilities are fully permitted and/or approved by the US EPA and, where appropriate, by respective state/or local agencies.

Table 11.1 – Destination Facilities

Facility Type	Materials Managed
Disposal by Incineration	
Veolia ES Technical Solutions, L.L.C. Highway 73, 3.5 Miles West of Taylor Bayou, Port Arthur, TX 77640	*PCB Debris, Capacitors,* *PCB Oil, Potting Compound,* *Non PCB Oil, Non PCB Debris.*
Mercury Recycling - Retort:	
Veolia ES Technical Solutions, L.L.C. 5736 West Jefferson Phoenix, AZ 85043	*Phosphor Powder* *HID Arc Tubes* *Condensate Water* *Shattershield Lamps*
Veolia ES Technical Solutions, L.L.C. 1275 Mineral Springs Drive Port Washington, WI 53074	*Aluminum End Caps* *Activated Carbon* *Compact Fluorescent Lamps*
Veolia ES Technical Solutions, L.L.C. 90 Pleasant Street West Bridgewater, MA 02379	*Back up facility*
Disposal by Secured Landfill:	
Advanced Disposal Evergreen Landfill 2995 Wetherington Lane, Valdosta, GA 31601	*Non- Hazardous Solid Wastes*
Disposal by Treatment	
CWM – Emelle 36964 AL Highway 17, Emelle, AL 35459	*Micro encapsulation*
Computer Recycling	
Viatek Solutions 5206 Eagle Trail Drive., Tampa, Florida 33634	*Metals, Plastics, Boards, Chips*
Viatek Solutions 770 Tipton Industrial, Suite F, Lawrenceville, Georgia 30046	*Metals, Plastics, Boards, Chips*
Phosphor Powder	
Advanced Disposal Evergreen Landfill 2995 Wetherington Lane, Valdosta, GA 31601	*Phosphor Powder*

Glass Recycling/Reuse/Disposal	
Advanced Disposal Evergreen Landfill 2995 Wetherington Lane, Valdosta, GA 31601	*Glass Cullet used as ADC*
Metal/Cardboard/Plastics/Pallets	
D.F. Goldsmith 909 Pitner Ave, Everston, IL 60202	*Elemental Mercury*
Batteries	
Inmetco 245 Potersville Road, Ellwood City, PA 16117	*Alkaline, NiCad, NiMH, Lithium Lithium Ion, Silver Oxide, Magnesium*
Interstate Battery 1541B E I65 Service Rd S, Mobile, AL 36606	*Lead Acid Batteries*
Retriev Technologies (Formerly Toxco) 8090 Lancaster Newark Road, Baltimore, OH 43105	*Lithium Metal and Lithium Ion Batteries*
PCB Electrical Equipment	
Veolia ES Technical Solutions, L.L.C. 5736 West Jefferson, Phoenix, AZ 85043	*PCB Electrical Equipment*

~~12.0. INSPECTION PROGRAM PLAN~~
Attachment D-12
Inspection Program Plan

In accordance with the regulatory requirements set forth in 40 CFR 270.14(b)(5), Veolia ES Technical Solutions, L.L.C. (Veolia) has developed this Inspection Program Plan as an integral part of the recycling and generator activities conducted. The procedures set forth in this plan dictate that this facility will be in compliance with all requirements of 40 CFR 264.15. A copy of this plan will be available at the facility at all times.

12.1. ~~INTRODUCTION~~Introduction

This Inspection Program Plan is intended to provide a mechanism to prevent and detect system malfunctions, equipment deterioration and operator errors which, if allowed to continue without remedial action, may ultimately lead to a release of hazardous waste constituents to the environment or create a threat to human health. The Inspection Program is designed to provide an early warning of the potential for such events in order that corrective and preventative actions may be taken in a timely manner.

The Inspection Program is divided into two segments: (1) general facility inspection, and (2) specific operations unit inspection. The former focuses on items which apply to facility-wide operations. Site security, safety and emergency equipment are included under this category. Inspection of the two basic operating systems, the container accumulation areas and loading/unloading area, are included in the second category.

The inspection program is implemented by qualified individuals assigned the responsibility to detect any unsafe conditions at the facility and prevent adverse consequences.

12.2. ~~INSPECTION PROGRAM ADMINISTRATION~~Inspection Program Administration

The facility Operations Manager is fully responsible for implementation of the Inspection Program. The Operations Manager is designated with the staff responsibility for performing the actual inspections. The Operations Manager is then responsible for directing the appropriate facility functional units to implement required remedial and corrective measures.

12.2.1 Personnel Qualifications

The Operations Manager and Supervisors are trained in hazardous waste management, fundamentals of material hazards assessment, inspection and follow-up procedures, documentation and record-keeping requirements, and various safety and contingency plan procedures. The qualifications and duties of the Operations Manager and Supervisor are included in the facility's Training Plan.

12.2.2 Hazard Assessment and Evaluation Procedures

The inspector must be familiar with the location of the equipment and systems to be inspected and their normal configuration. For any discrepancy observed, the inspector shall determine the potential for personnel injury or for release of hazardous waste constituents, and he/she shall assess the nature and timing of remedial action required. The determination shall consider:

1. The location and nature of the problem
2. The presence of secondary containment or control
3. The amount and type of waste material involved
4. The potential for human exposure, and
5. The likelihood of waste migration.

When an inspection indicates equipment malfunction or deterioration, or any other improper conditions, at least the following actions are to be taken as appropriate:

- Assess the situation
- Determine the corrective/remedial measures needed in response to the situation, including the appropriate interim measures.
- Establish the time frame within which the remedial action must occur. For emergency or near-emergency situations, prompt verbal reports shall be made to the Operations Manager, to be followed later with written reports. For minor discrepancies, routine written reporting procedures, as discussed later, will be followed.
- Provide adequate follow-up to verify that the specified response has occurred and that the situation has been resolved satisfactorily.

In general, all remedial actions and re-inspections are expected to be completed within the week following the inspection which detected a problem. In specific cases where urgent action is required, appropriate coordination with cognizant facility personnel and frequent monitoring of the situation by the inspector will be continued until remedial actions are completed. In cases where physical and/or operation constraints (i.e., replacement equipment availability) may require longer time frames to complete the problem, the inspection shall follow completion of the work.

12.2.3 Documentation and Record Keeping

Inspections (and re-inspections) are conducted and documented using forms specifically designed to contain all pertinent information. Sample forms are included in Appendix D-12-I to this attachment. Completed inspection forms are given to the Operations Manager who then takes action, as necessary, to initiate orders for required remedial actions. The inspector will have the authority to implement corrective actions for deficiencies which can be immediately corrected. In this case the corrective action will be noted on the inspection form. For all other deficiencies a ~~specific~~Maintenance Work Order or Corrective Action Form ~~and Reinspection Report form~~ is generated by the Operations Manager for the discrepancies noted by the inspector (if the discrepancy cannot be immediately corrected). The form contains pertinent corrective work orders and is forwarded to appropriate facility personnel for implementation. A copy is routed to the Facility Operations Manager for use as a re-inspection reminder and follow-up documentation.

All completed forms and attachments are accumulated in the facility operating records, which are kept on permanent file by Veolia.

An inspection form is provided for the weekly scheduled inspections. This format includes items such as the identification of the facility unit, the name of the inspector, and the date and time of the inspection. The inspection checklist section of the form is for indicating the status of designated equipment or structures. The designated equipment or operational status is made in the "observation" column. The inspector's assessment, including, notations of the urgency of the required response are marked on the form. The completed form is delivered to the Operations Manager's office for review and appropriate action.

The inspection report is prepared in advance to include pertinent items of equipment to be inspected according to the specific schedules shown later in this plan. These forms may be periodically modified to accommodate changing needs of the facility.

A separate Maintenance Work Order or Corrective Action Form ~~and Re-inspection Report Form~~ (see Form 12.5 in Appendix D-12-I) is used for corrective action initiation and to document whether each discrepancy noted during an earlier inspection has been adequately corrected. This form identifies the equipment unit inspection. It also describes the required response actions, the date by which these are to be implemented, and the name of the person responsible for such actions.

The lower portion of this re-inspection form ~~is~~can be used by the inspector during his/her next scheduled inspection following the date by which the

corrective work was to be completed -- to confirm that the corrective action has been made. When completed, the re-inspection form is submitted to the Operations Manager's office for filing with the facility's inspection log.

In summary, the inspector observes facility operations and equipment on a periodic basis with a specific schedule and inspection elements. When any discrepancy is noted, the inspector initiates the corrective action or the inspection results are reviewed by the Operations Manager who initiates required corrective actions. A notation is made on the inspection form documenting corrective measures that are immediately implemented. A remedial work order form is created for each significant discrepancy; and corrective action is initiated.

In cases where specialized outside contractors are used to perform testing or inspection services, the results are reported on the contractor's forms. These reports are made part of the inspection log when received.

12.3 ~~GENERAL FACILITY INSPECTION~~General Facility Inspection

The general facility inspection activity encompasses the facility perimeter and those items within the property that are common to all operations. The general facility inspection activities encompass the following:

- Security Devices
- Safety and Emergency Equipment

The general inspection schedules - including inspection parameters and frequency - are determined by the types of problems that can potentially occur.

12.3.1 Types of Potential Problems

The following considerations are pertinent to identification of the types of problems that may occur related to general facility operations:

- Breach of security, either intentional or unintentional, by persons or natural (i.e., climatology events). Such breaches may occur due to (1) damage to structures, (2) obstruction, damage or loss of warning signs.

- Unplanned release due to malfunction or failure of containment structures, if these are not kept in good repair.

- Health and safety equipment failure, absence or inaccessibility.

12.3.2 General Inspection Schedules

The general inspection schedules are based on the facility's operational mode, potential failure modes, and an assessment of the hazard magnitude posed by a particular malfunction, failure or discrepancy.

Security Devices have been included in the Facility Inspection and the inspection elements and frequency are shown in Table 12.2, Facility Inspection Elements, and the inspection elements and frequency for the Emergency Equipment are shown in Table 12.1, Emergency Equipment Inspection Elements. The location of the Safety and Emergency Equipment is listed in Section 6.8 of the Contingency Plan.

~~12.4 UNIT-SPECIFIC INSPECTION ACTIVITIES/SCHEDULES~~
12.4 Unit Specific Inspection Activities/Schedules

The warehouse, loading/unloading areas, container storage areas, and processing equipment are subject to specific inspection schedules and procedures. The equipment and structure of each area or process within the facility will be regularly inspected for malfunction, deterioration, failure, operator errors or other causes which could endanger human health or the environment. The types of potential problems and the hazards uniquely associated with each of these areas have been used to establish the elements (parameters) and frequency of inspection as described in Section 12.4.1 below.

12.4.1 Container Accumulation/Loading Inspection

The potential problems of concern related to the facility's drum (container) accumulation area include:

- Spills in loading/unloading area
- Improperly labeled, deteriorated, damaged, leaking or open containers
- Improper placement or stacking of drums
- Failure or deterioration of spill containment structures
- Ignition, fire, explosion or odor during the inspection, consolidation, and transfer of hazardous waste from containers and vehicles.

The elements and frequency of inspection for the container ~~storage areas: container loading/unloading area, universal waste storage area, container~~

~~storage area 1, container storage area 2, and non hazardous storage area~~unloading/loading area and container storage areas, Storage Areas #1 - 5, are shown in Table 12.2, Facility Inspection Elements.

The 10-day in transit area is an area of the facility that is subject to daily inspections and the inspection elements and frequency are shown in Table 12.4, Transfer Operation Inspection Elements.

12.4.2 Process Operations Inspections

The recycling operations at Veolia are subject to specific inspection schedules and procedures. The equipment and procedures used in each operation will be regularly inspected for malfunction, deterioration, failure, operator errors or other causes, which could endanger human health or the environment. The type of potential problems and the hazards uniquely associated with each of the operations is used to establish the inspection elements (parameters). The elements and frequency of inspection for the individual process operations are shown in Table 12.3 Process Equipment Inspection Elements.

TABLE 12.1

EMERGENCY EQUIPMENT INSPECTION ELEMENTS

EQUIPMENT	INSPECTION ELEMENT/ TYPE OF PROBLEM	INSPECTION FREQUENCY
Protective Gear (i.e., Boots, gloves, acid resistant clothing, disposal suits)	Check accessibility	Weekly
	Check for adequate supply	Weekly
Respirators (i.e., Dust masks, respirators)	Check for accessibility/Supply	Weekly
	Check for deterioration, damage, function	Weekly
First Aid Kits	Check accessibility	Weekly
	Check for adequate supply	Weekly
Internal/External Communication System (Telephone)	Check for accessibility	Weekly
	Check for operation	Weekly
Fire Extinguishers	Check to ensure access to units is not blocked	Weekly
	Check pressure gauge for full charge indication	Weekly
	Check inspection tag to ensure annual maintenance by fire services up-to-date	Weekly
Eyewash Station	Check to ensure access to units is not blocked	Weekly
	Check to ensure unit is free of excess dirt and has adequate flow	Weekly

TABLE 12.2

FACILITY INSPECTION ELEMENTS

EQUIPMENT	INSPECTION ELEMENT/ TYPE OF PROBLEM	INSPECTION FREQUENCY
Doors	Check for proper lock function	Weekly
Warning Signs	Check for presence and visibility of warning signs	Weekly
Container Loading/ Unloading Area	Check for damage to containers, drum/ Container leaks, swelling or severe dents	Weekly
	Check for evidence of spilled material on dock, ramp and landing	Weekly
	Check for removal of used absorbent and cleaning materials	Weekly
	Check to ensure that all containers are removed from the receiving/loading dock within 24 hours of placement on the dock	Weekly
	Check for cracks and gaps in base concrete slab, and sumps	Weekly
Storage Areas #1 - #5	Check for cracks and gaps in base or concrete slab	Weekly
	Check that all containers are properly closed and not leaking, swelling or severe dents	Weekly
	Check for proper placement/ stacking	Weekly
	Check adequacy of aisle space (24 inches min.)	Weekly
	Check for proper labeling of all containers in storage	Weekly
	Check that all containers labels are dated	Weekly
	Verify that all containers are within storage area	Weekly

TABLE 12.3

PROCESS EQUIPMENT INSPECTION ELEMENTS

EQUIPMENT	INSPECTION ELEMENT/ TYPE OF PROBLEM	INSPECTION FREQUENCY
Lamp Line 1 Lamp Line 2	Check to make sure that all equipment guards are in place and that all equipment is secure.	Weekly
	Check by-products separation, verify that equipment is properly separating materials.	Weekly
	Check air handling system including baghouse and filters.	Weekly
HID Machine	Check to make sure that all equipment guards are in place and that all equipment is secure.	Weekly
	Check by-products separation, verify that equipment is properly separating materials.	Weekly
	Check air handling system including baghouse and filters.	Weekly
Retort Equipment	Check to make sure that all equipment guards are in place and that all equipment is secure	Weekly
	Check dome gasket for signs of wear or defects.	Weekly
	Check coolant level and chiller operation	Weekly
Arc Tube Crusher	Check to make sure that all equipment guards are in place and that all equipment is secure.	Weekly
	Check air handling system including baghouse and filters.	Weekly

TABLE 12.4

TRANSFER OPERATION INSPECTION ELEMENTS

10-Day In Transit Area	Note number of containers (Maximum - 100 x 55 gal. drum equivalent)	Daily
	Verify 10-Day Log is completed and all containers in compliance with 10 Day requirement	Daily
	Check condition of truck/trailer (no missing floor boards, leaking roof, or truck/trailer damage)	Daily
	Verify that truck/trailer is on pavement or concrete	Daily
	Check pavement/concrete area (no cracks and gaps in base, and concrete slab)	Daily
	Check for drum/container leaks, swelling, pressure build up, or severe dents	Daily
	Check that drums/containers are not open(lids and bungs secure)	Daily
	Check for proper placement/ stacking (Aisle space not required for truck/ trailer storage)	Daily
	Check for proper labeling of all containers containers are properly segregated	Daily
	Verify security of truck/trailer, locked, (wheels chocked, trailer stand in place as appropriate)	Daily
	Fire protection equipment available	Daily

Appendix D-12-I

Sample Inspection Forms