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VEOLIA
ENVIRONMENTAL SERVICES

TECHNICAL SOLUTIONS
NORTH AMERICA

August 22, 2011

Mr. Bheem Kothur
Hazardous Waste Permits Section
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32399

RE: Veolia ES Technical Solutions, L.L.C.
342 Marpan Lane
Tallahassee, FL 32305
EPA ID# FL0000207449
Permit Number: 71455-HO-007

Response to FLDEP August 11, 2011 Request for Additional Information and Clarification of comments pertaining to the Notice of Deficiency letter dated June 14, 2011

Dear Mr. Kothur:

Veolia ES Technical Solutions, L.L.C. (Veolia) is submitting this response for your request for additional information and comments pertaining to the Notice of Deficiency (NOD) dated June 14, 2011. Below are the responses to each of the points identified in your e-mail dated August 11, 2011. This response and all enclosures will be sent to your attention in a hard copy version (5 copies) and electronically (pdf).

1) **Attachment D-4, Maximum Storage Capacity, Inbound Universal Waste Storage:**
   A) The comment (1) addresses the storage area size calculation but exceeds the stated storage limit of 7, 424 ft3 when calculated out (8ft x 1,376 ft2). The Department requests further explanation of the storage capacity calculations for this area.

   Response: The calculation (8ft x 1,376 ft2) includes aisle space. Since aisle space cannot be used to store containers, it was not included the storage limit of 7,424 ft3.

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tel: 850 877 2259 fax: 850 878 3349
www.VeoliaES.com

B) The list of items indicated being stored in the Inbound Universal Waste Storage Area needs to include universal waste batteries and non-RCRA hazardous materials as indicated in **Attachment 5 Section 5.6.2** third paragraph.

Response: Attachments D-3 and D-4 have been corrected to include universal waste batteries and non-RCRA hazardous materials indicated in Attachment 5 Section 5.6.2.

2) **Attachment 6, Contingency Plan, Section 6.7.5.3 and Section 6.7.5.4:**
A) The language used to determine when the spill of Solids Contaminated with Mercury is Routine or Non-Routine uses greater than one lb of mercury as the indicator. The Department has concerns on whether the determination can be made accurately with regard to the amount of mercury contained in a solid material. The Department suggests another method of differentiating between Routine and Non-Routine solids spills be used (example: volume exceedance)

Response: The threshold for determining routine versus non-routine was based on the reportable quantity for Mercury which is 1 pound. In accordance with our waste analysis plan, all materials received or managed at the facility have been characterized to determine their mercury content and that information is on file at the facility. This information is contained either in the waste profile information within our computerized, web accessible inventory system or in Material Safety Data Sheets. Because this information can be retrieved in a timely fashion and the amount of mercury quickly determined, we believe that the use of the reportable quantity is an appropriate standard.

3) **Attachment B-3, Site Maps:**
A) The Site Plan Figure (1) needs to indicate that Universal Waste Batteries are being stored in the middle room along with Electronic wastes.

Response: The Site Plan Figure 1 has been corrected to indicate that Universal Waste Batteries are being stored in the middle room along with Electronic Wastes.

4) **Attachment 5, Operations Plan, Section 5.6.5:**
Please explain what is meant by disassembly practices used to prepare electronic wastes for packaging and storage.

Response: Disassembly in the South Building is limited to the manual disassembly of computers, copiers and similar electronic devices, such as the

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removal of batteries, mother boards, memory chips, hard drives, and electrical cords. All disassembly is accomplished using hand and portable power tools. There is no grinding, shredding or other processes that will generate dusts containing hazardous components.

5) Attachment B-3, Site Maps: Please provide all site maps with an electronic format of jpeg, so that the maps can be easily inserted into the draft renewal permit.

Response: As you discussed with Phillip Ditter via e-mail dated August 11, 2011 site maps will be submitted in pdf format since this will allow us to maintain a higher resolution than a jpeg. We would have to scan the site maps to convert to jpeg format.

6) General Comment: All the revised submittal pages must be reflected with the new revision dates.

Response: The dates on the revised submittal pages have been corrected to reflect the July 13, 2011 date of revision and submittal.

A typo, "application" was misspelled on the cover page, was corrected and revision of August 19, 2011 was noted.

If you have any questions please call Wayne Bulsiewicz at (602) 233-2955 or Linda Dunwoody at (850) 877-8299.

Sincerely,

Linda Dunwoody
Operations Manager

Cc: Wayne Bulsiewicz. Veolia Phoenix, AZ
Phill Ditter, Veolia Port Washington, WI
John McShane, Veolia Port Washington, WI

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Attachment D-3

Daily Design Capacity and
Annual Quantities

Daily Design Capacities

Activity	Material Description	Quantity
Storage	Mercury Containing Lamps, including fluorescent lamps and HID lamps, and other universal wastes such as universal waste batteries, or non-RCRA hazardous materials	7424 ft3
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	96,000 lamps (4,000 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 lamps and HID lamps, and other universal wastes such as universal waste batteries, or non-RCRA hazardous materials	7424 ft3
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	34,560,000 lamps (4,000 lamps/hr X 24 hr/day X 360 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 Mercury Containing Manufactured Articles (MCMA) Dental Amalgam and Traps Mercury Containing Phosphor Powder HID Arc Tubes Prep Room Debris and PPE Condensate Water Spent Carbon	108 x 55 gallon drum equivalents (27 pallets)
Non-hazardous Storage Areas Retorted Phosphor Powder Non-hazardous PPE Other Retorted Articles and Debris	56 x 55 gallon drum equivalents (14 pallets)
Inbound Universal Waste Storage Area Fluorescent Lamps HID Lamps Other universal wastes (universal waste batteries, or non-RCRA hazardous materials)	7,424 ft3 (1)
South Building Universal Waste Batteries Non-hazardous Batteries Lead Acid Batteries Computers and associated peripherals CRTs and Televisions Lamp Ballasts	72 pallets
Glass in roll-offs in North Yard	80 tons
Aluminum in cube boxes	10 cubic yard boxes (5 Tons)
Plastics/Trash in roll-off adjacent to drive	30 tons
Cardboard in bales in North Yard	30 tons
Elemental Mercury in Prep Room	2800 pounds

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

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 1 which identifies the location of the building. Figure 2 is a Site map 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.

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.
   Mercury Reclamation/Recovery Facility
   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
Linda Dunwoody	H. Frank Allred	Randy Williams
Operations Manager	Maintenance Mechanic	Operations Supervisor
2144 Gamebird Ct.	1125 Wakulla Arrow Road	94 Christina Loop
Tallahassee, FL 32311	Crawfordsville, FL 32326	Havana, FL 32333
C (850) 251-4924	C (850) 251-4928	C (850) 251-4930
O (850) 877-8299	O (850) 877-8299	O (850) 877-8299
H (850) 878-8060	H (850) 926-7715	H (850) 539-9732

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 purchase equipment and or services to contain 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.

6.7 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 crushing unit. 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.

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.

3. Use Jerome 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 Jerome 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 6.10.

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

4. Use Jerome 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.

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

7. Accomplish cleanup as necessary by following steps outlined in routine Spills above.

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 in a concentration similar to that of broken lamps. Routine spills are further defined as ones that are confined to the onsite paved surfaces. The routine clean-up of broken lamps within the facility building are addressed under the housekeeping procedures defined in Section 5.20.

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

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

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

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

5. 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 occurs 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 6.10.

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

4. Use Jerome 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.

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

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 2 and 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.

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.

3) Mercury Spill Kit
The commercial kit is in a white box located in the distiller room. See Figure 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.

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 a cabinet in the maintenance office.

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. Six suits are located in a storage cabinet in the maintenance office.

6) Eye Wash Stations
One emergency eye wash is 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. It is located next to the first aid kit.

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 across from the cardboard bailer.

8) Mercury Vapor Detector
The Jerome 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 maintenance office. The detector is used to monitor internal mercury vapor concentrations. The unit is annually calibrated by Arizona Instruments, the manufacturer.

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

10) 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.

6.9 Evacuation Procedures

Veolia employees shall evacuate the building via the nearest exit (see Figures 2 and 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.

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.

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.

3. Evacuation

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 extension 0619, and during normal business hours calls 850-595-8360 extension 0643. 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 Requirments

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

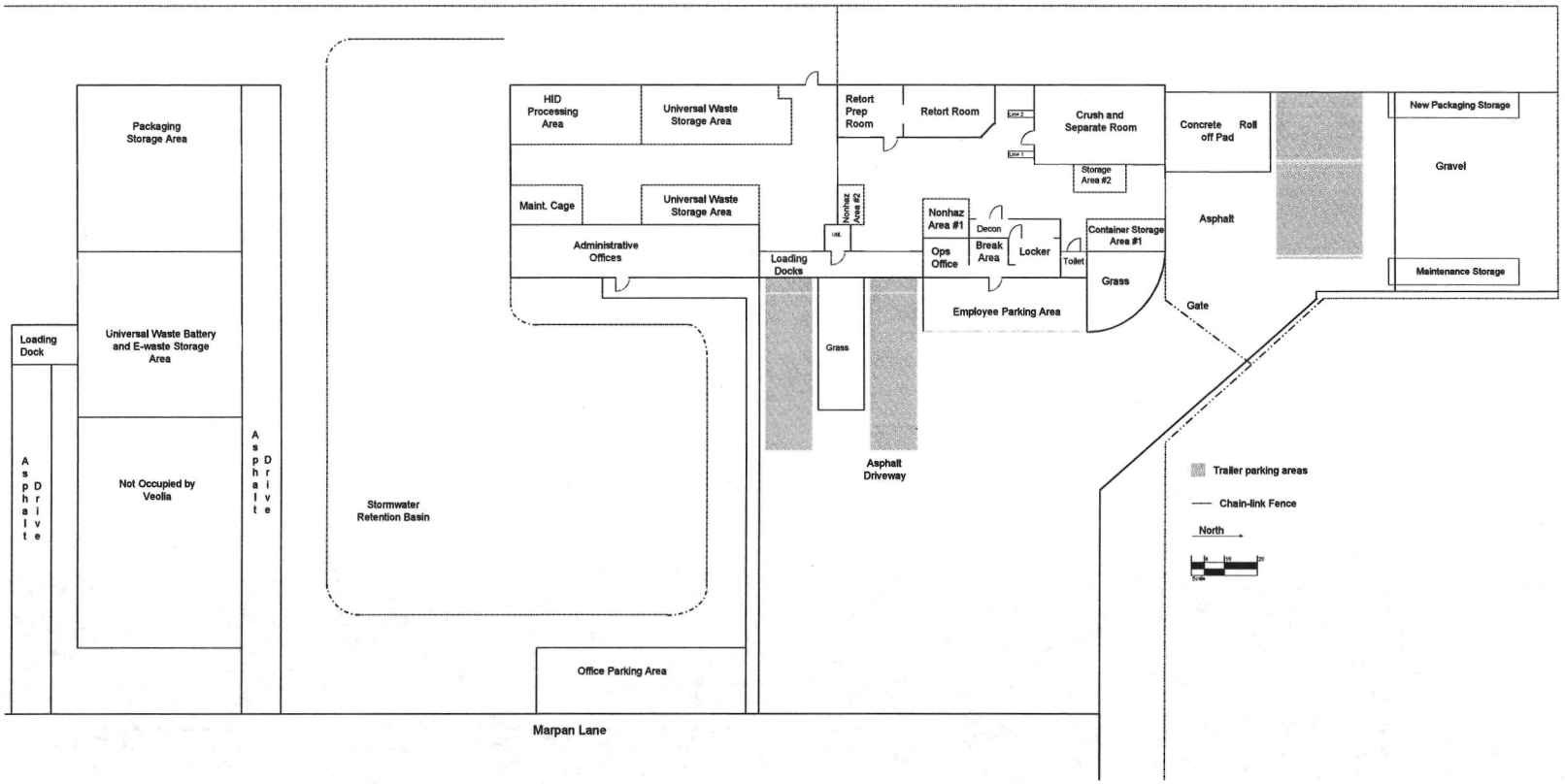
Veolia's facility is designed, operated, and maintained in a manner that ensures protection of human health and the environment. Our facility's design provides for environmental protections. Our processing equipment (the crusher-separator and distillation units) are enclosed in separate rooms for noise, 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 Veoliax 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. We have selected multiple locations where we monitor for mercury vapor exposure. Monitoring is conducted every day the facility is operating.



Site Plan
Figure 1

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

Revision Date: 8/19/2011

5.0 Operations Plan

5.1 Introduction

Veolia Environmental Services, LLC. (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. 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 Environmental Services, 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, Suite 201 Lombard, IL 60148
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, 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 accumulation and storage
- 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 carbon filter and not prior to second carbon filter	$2,500.00 **(6)**
8/28/08	FL DEP	RCRA	Non-compliance letter regarding glass in north lot. Response	None

			submitted and no violations cited.	
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	Settlement pending **(8)**

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.

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.

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.

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 5-1.

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. A list of the waste streams accepted by Veolia for mercury recovery and reclamation is included below along with a reference to the applicable product codes and approvals category. Product codes may include a suffix which further identifies the material.

5.3.4 Veolia 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 5-1.

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
- 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 compact fluorescent lamps, excess plastics and metals are manually removed prior to placement onto the in-feed container. This manual processes either at 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 collected in a hopper for recycling. 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.

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 a predetermined interval the bags are purged using compressed air which forces the powder 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.

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 and removal of the manufacturer's packaging material (the corrugated cardboard sleeves) of the HID lamps is considered material handling and not processing. 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 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. 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 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.

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 is stored in one of the drum storage areas. 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 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 and stored in the processed powder storage area. 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. The water is physically separated from the elemental mercury 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.

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 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.

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 in use on the fluorescent lamp processing equipment was manufactured by SLY, Inc. This tower is equipped with 24 cloth bag filters with a surface area of 10 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.

5.5.1.3 Secondary Panel Filter

The air handling system for the fluorescent lamp processing equipment is designed to use a commercially available standard size secondary panel 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.

5.5.1.4 Carbon Filtration

The carbon filtration system on the fluorescent 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 in

Appendix 5-1 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 for the activated carbon are included in Appendix 5-3.

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 cloth bag filters with a surface area of 10 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.

5.5.2.3 Secondary Panel Filter

The air handling system for the HID lamp processing equipment is designed to use a commercially available standard size secondary panel 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.

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 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.

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.

The carbon filtration system on the retort is comprised of two carbon canisters configured in series. Figure 5.5 in Appendix 5-1 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.

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

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.

5.5.4.3 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 ft/sec. At this velocity the air stream has a contact time of 1.40 seconds with the activated carbon.

5.5.4.4 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.

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.

5.6.1 Container Storage Areas

Container Storage Area #1 is located in the northeast corner of the facility. The area is approximately 16' by 8' 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 configuration, this area has a total capacity of 60 x 55 gallon drum equivalents.

Container 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 16' by 8' and has a capacity for the accumulation of 6 double stacked pallets for a total of twelve pallets in this area. This provides an area sufficient to accumulate 48 x 55 gallon drum equivalents.

Container Storage Areas #1 and #2 will be used for the storage 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') are met.

5.6.2 Universal Waste Storage Area

The Universal Waste Storage Area, commonly referred to as the lamp storage area, is located in the southern portion of the facility. This area is divided into two separate storage areas divided by a center aisle large enough to allow for the movement of a forklift within this area. The storage area along the west wall 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 row which is only able to store 4 pallets because a carbon filtration system 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 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.

- 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 pallets X 2,176 lamps/pallet = 126,208 lamps

This area will be used for the storage of universal waste lamps that cannot be immediately transferred to the staging area for processing. The majority of these lamps will be HID lamps, U-tube lamps and other specialty lamps that require manual processing before they can be placed into the recycling equipment.

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.

5.6.3 Non-hazardous Waste Storage Areas

The facility has two designated non-hazardous waste storage areas. These areas are located in the northern half of the facility. 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, 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 is approximately 10' by 20' 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.

5.6.4 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. 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.

5.6.5 South Building

In addition to the operations within the mercury recovery and reclamation facility, Veolia also occupies two areas in the building located immediately to the south. A third area within this building in not occupied by Veolia. The operations in this building are comprised of packaging storage and shipping and e-waste and universal waste handler activities. The packaging storage and shipping is located in the western end of the building. The e-waste and universal waste handler activities are conducted within the area located in the center of the building.

Handler activities include the accumulation and storage of e-waste, universal waste batteries, and other non-hazardous material. The other non-hazardous materials will be comprised of material that are similar to 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.

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.

5.6.6 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 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.

5.6.7 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.

The north yard is 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:

- Hazardous Waste Label- Hazardous Waste labels are affixed to RCRA hazardous waste containers that are site generated. These labels will go on phosphor powder drums, mercury debris containers, and containers of spill clean-up materials that are characteristically hazardous.
- Universal Waste Label- Universal Waste labels are affixed to lamps, batteries, MCMA, Crushed Fluorescent lamps, and batteries
- Non-Hazardous Waste Labels or Waste for Disposal Labels- One of these labels will be affixed to each container of TSCA exempt small capacitors and lamp ballasts, non-PCB 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 markings that indicate the material is an unused product.

A sample of each label is provided in Appendix 5-2.

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. 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 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 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 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 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, contained in Appendix

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.

Veolia ES Technical Solutions, L.L.C.
342 Marpan Lane
Tallahassee, FL 32305
EPA ID#: FL0000207449

MERCURY RECOVERY AND RECLAMATION FACILITY
PERMIT RENEWAL APPLICATION
April 2011

Revised: August 22, 2011

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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.

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.

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

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.

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
Maximum Inventory of Waste

Material	Maximum Inventory
Fluorescent Lamps 4' and less	25,000 Lamps
Fluorescent Lamps >4'	25,000 Lamps
Fluorescent, shattershield	20,000 Lamps
Fluorescent, U-tube and circular	10,000 Lamps
Fluorescent, Compact	20,000 Lamps
HID Lamps	26,208 Lamps
Mercury Containing Devices	30 drums
Dental Amalgam and Traps	2 drums
Phosphor Powder	30 drums
HID Arc Tubes (whole and crushed)	30 drums
Prep Room Debris	6 drums
Condensate Water	6 drums
Spent Carbon	4 drums
Retorted Phosphor Powder	30 drums
Non-hazardous PPE	12 drums
Retort Residues	6 drums
Batteries	36 Pallets
Electronic Waste	36 Pallets
Glass	80 tons
Aluminum End Caps/Scrap Metal	5 tons
Plastic	30 tons
Cardboard	30 tons
Elemental Mercury	2800 pounds

Table 9.2
Anticipated Inventory of Waste Generated as a Result of 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

Table 9.3
Closure Cost Estimate

Inventory Removal

Material	Maximum Inventory	Per Unit Cost	Trans Cost	Total Cost	Source
Fluorescent Lamps 4' and less	25,000 Lamps	$.14/lamp	Included	$3500.00	1
Fluorescent Lamps >4'	25,000 Lamps	$.30/lamp	Included	$7500.00	1
Compact Lamps	20,000 Lamps	$.20/lamp	Included	$4000.00	1
U-Tube and Circular Lamps	10,000 Lamps	$.16/lamp	Included	$1600.00	1
Shattershield Lamps	20,000 Lamps	$.14/lamp	Included	$2800.00	
HID Lamps	26,208 Lamps	$.45/lamp	Included	$11793.60	1
Mercury Containing Devices	30 drums	$1.40/lb @ 500 lb/dm	Included	$21000.00	1
Dental Amalgam and Traps	2 drums	$1,000/dm	$105/dm	$2210.00	3,13
Phosphor Powder	30 drums	$250/dm	$105/dm	$10650.00	3,13
HID Arc Tubes (whole and crushed)	30 drums	$1,000/dm	$105/dm	$33150.00	3,13
Prep Room Debris	6 drums	$150/dm	$125/dm	$1650.00	5,13
Condensate Water	6 drums	$1,000/dm	$105/dm	$6630.00	3,13
Spent Carbon	4 drums	$1,000/dm	$105/dm	$4420.00	3,13
Retorted Phosphor Powder	30 drums	$25/dm	$8/dm	$990.00	4,11
Non-hazardous PPE	12 drums	$25/dm	$8/dm	$396.00	4,11
Retort Residues	6 drums	$25/dm	$8/dm	$198.00	4,11
Batteries (1000 lb. mixed universal, 1000 lb. lead acid)	36 Pallets	$1500/pallet	Included	$14285.00	6,7,12
Electronic Waste	36 Pallets	$30/pallet	Included	$3450.00	2
Glass	80 tons	$175/load	Included	$525.00	14
Aluminum End Caps/Scrap Metal	5 tons	0	0	0	9
Plastic	30 tons	$32.50/ton	$375/load	$1725.00	4,11
Cardboard	30 tons	0	0	0	10
Elemental Mercury	2800 pounds	0	$985	$985.00	8,12
Project Management	8 hours	$105	N/A	$840.00	
Labor for Labeling and Loading	16 hours	$63		$1008.00	15
Mobilization/Demobilization	2 days	$600/day	$1200	$1200.00	15
TOTAL				**$205,505.60**	

Table 9.3
Closure Cost Estimate

Pre-Decontamination Activities

Task/Materials	Quantity	Per Unit Cost	Total Cost	Source
Labor (technician)	16 hours	$75	$1200.00	15
Project Management	4 hours	$105	$420.00	15
Supplies (PPE, brooms…)			$1350.00	15
TOTAL			**$2,970.00**	

Decontamination Activities – Phase I

Task/Materials	Quantity	Per Unit Cost	Total Cost	Source
Labor	12 hours	$95	$1140.00	15
Project Management	4 hours	$105	$420.00	15
Supplies			$750.00	15
TOTAL			**$2,310.00**	

Decontamination Activities – Phase II

Task/Materials	Quantity	Per Unit Cost	Total Cost	Source
Labor	250 hours	$63	$15750.00	15
Project Management	32 hours	$105	$3360.00	15
Supplies			$1350.00	15
Equipment (lift, power wash)	2 weeks		$4200.00	17
TOTAL			**$24,660.00**	

Decontamination Activities – Phase III

Task/Materials	Quantity	Per Unit Cost	Total Cost	Source
Labor	16 hours	$63	$1008.00	15
Project Management	8 hours	$105	$840.00	15
Supplies		Included	$0	
Air Sampling for Mercury	3	$3004	$9012.00	15
TOTAL			**$10,860.00**	

Table 9.3
Closure Cost Estimate

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	$1740/ load	$10797.00	5,13
Demolition Debris – Non-hazardous Waste	40 tons	$32.50/ton	$375/ load	$2050.00	4,11
Decon Wash and Rinse Water	15 drums	$125/dm	$125/dm	$3750.00	5,13
Hazardous Waste Solids (non-debris)	4 drums	$1000/dm	$250/dm	$5000.00	3,13
TOTAL				**$21,597.00**	

Closure Report and Certification

Task/Materials	Quantity	Per Unit Cost	Total Cost	Source
Report Preparation	32 hours	$95	$3040.00	15
PE Certification	4 hours	$150	$600.00	15
TOTAL			**$3,640.00**	

Total Costs by Phase

Phase	Total Cost by Phase
Inventory Removal	**$205,505.60**
Pre- Decontamination Activities	**$2,970.00**
Decontamination Phase- I	**$2,310.00**
Decontamination Phase-II	**$24,660.00**
Decontamination Phase-III	**$10,860.00**
Decontamination Derived Waste	**$21,597.00**
Closure Report and Certification	**$3,640.00**
SubTotal of Closure Cost	**$271,542.60**
10 % Contingency on Plan Total	**$27,154.26**
Grand Total for Closure	**$298,696.86**

Table 9.3
Closure Cost Estimate

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.	Mercury Waste Solutions Union Grove, WI
4.	Onyx Pecan Row Landfill Valdosta, GA
5.	Chemical Waste Management Emelle, AL
6.	Inmetco Ellwood City, PA Assuming each pallet weighs 2,000 lb.
7.	Gulf Coast Recycling Tampa, FL
8.	D.F. Goldsmith Co. Evanston, IL
9.	Fortune Metals Tampa, FL
10.	Smurfit Stone Jacksonville, FL
11.	Onyx Waste Services Valdosta, GA
12.	ABF Freight Systems
13.	TSMT Includes 18% fuel surcharge
14.	Leon County Landfill Tallahassee, FL
15.	Environmental Sciences Group Tampa, FL
16.	SunLabs, Inc. Tampa, FL
17.	ASAP Rentals Tampa, FL

12.0. 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

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

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. 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 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. The inspection format (see Figure 12.2.1) includes significant administrative information, 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 Corrective Action Form and Re-inspection Report Form (see Attachment 12.2.2) 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 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 reinspection 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

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.

Schedules designed for inspection of Security Devices are shown in Table 12.3.2.1, and for Safety and Emergency Equipment in Table 12.3.2.2. The location of the Safety and Emergency Equipment is listed in Table 12.3.2.3.

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 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, non hazardous storage area, and 10-day in transit area are shown in Table 12.4.1.

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 12.4.2.

Form 12.2.1

INSPECTION REPORT FORMAT

INSPECTION REPORT

Date of Inspection _____/_____/_____ Page _____ of _____
Mo. D Yr

Time of Inspection _____

INSPECTION CHECKLIST

Equipment/ Structure	Inspection Element	Status		If Unacceptable, Specify Reasons
		Acceptable	Unacceptable	

Signature: _____
Response Timing: Urgent ❑ Routine ❑
Name: _____

Revised July 13, 2011

Form 12.2.2

TYPICAL WORK ORDER/REINSPECTION FORM

CORRECTIVE ACTION FORM AND REINSPECTION REPORT

WORK ORDER # **DATE:** ____/___/____

Corrective Action assigned To: _____
Name/Title

Unit Name:

Equipment Item:

Location:

Inspection Element/Type of Problem:

Date of Inspection:

Required Remedial Response:_____

_____

Work to be Completed by: ____/____/____

_____
Signature of Operations Manager

WORK COMPLETION REPORT

Completed on: ____/____/____ By: _____

Comments: _____

_____

REINSPECTION REPORT

Observations:

Comments:

_____ ____/____/____
Signature of Inspector Date

Revised July 13, 2011

Form 12.2.1

INSPECTION FORM

WEEKLY INSPECTION REPORT
FACILITY AREA

Date of Inspection _____/_____/_____ Page 1 of 5
Mo. D Yr

Time of Inspection _____

INSPECTION CHECKLIST

Equipment/ Structure	Inspection Element	Status		If Unacceptable, Specify Reasons
		Acceptable	Unacceptable	
Doors	Check for Proper Lock Function			
Warning Signs	Check for presence and visibility of signs			
First Aid Kits (2 in facility refer to site map and check each one	Check for accessibility Check for adequate supply			
Internal/External Communication System	Check for accessibility Check to ensure paging option works			
Fire Extinguishers There are 8 fire extinguishers in the facility (refer to site map for location of each extinguisher)	Check to ensure access to units is not blocked Check pressure gauge for full charge indication Check inspection tag to ensure annual inspection completed Check seal to ensure no one has used the extinguisher			
Eyewash station	Check for cleanliness and adequate flow			
Emergency Spill Kits/Mercury Spill Kits	Verify spill kit is stocked and no material has been used or taken from kits			

Signature: _____
Response Timing: Urgent ☐ Routine ☐
Name: _____

Revised July 13, 2011

Form 12.2.1 (continued)

INSPECTION FORM

WEEKLY INSPECTION REPORT
CONTAINER LOADING AND UNLOADING AREA

Date of Inspection _____/_____/_____ Page 2 of 5
Mo. D Yr

Time of Inspection_____

INSPECTION CHECKLIST

Equipment/ Structure	Inspection Element	Status		If Unacceptable, Specify Reasons
		Acceptable	Unacceptable	
Container Loading/ Unloading Area	Check for damage to containers Check for evidence of spilled material on dock, ramp and landing Check for removal of used absorbent and cleaning materials Check to ensure that all containers are removed from the loading dock within 24 hrs. of placement on the dock Check for cracks and gaps in base, and concrete slab			

Signature: _____
Response Timing: Urgent ❑ Routine ❑
Name: _____

Revised July 13, 2011

Form 12.2.1 (continued)

INSPECTION FORM

WEEKLY INSPECTION REPORT
UNIVERSAL WASTE STORAGE AREA

Date of Inspection _____/_____/_____ Page 3 of 5
Mo. D Yr

Time of Inspection _____

INSPECTION CHECKLIST

Equipment/ Structure	Inspection Element	Status		If Unacceptable, Specify Reasons
		Acceptable	Unacceptable	
Universal Waste Storage Area	Check for cracks and gaps in base, and concrete slab Check that all containers are properly closed and not leaking Check for proper placement/stacking (8' high maximum) Check adequacy of aisle space (24 inches minimum) Check for proper labeling of all containers in storage Check that all containers have date placed in storage on label Verify that all containers are within designated storage area (within red lines)			

Signature: _____
Response Timing: Urgent ☐ Routine ☐
Name: _____

Revised July 13, 2011

Form 12.2.1 (continued)

INSPECTION FORM

WEEKLY INSPECTION REPORT

CONTAINER STORAGE AREAS

Date of Inspection _____/_____/_____ Page 4 of 5
Mo. D Yr

Time of Inspection _____

Equipment/ Structure	Inspection Element	Status		If Unacceptable, Specify Reasons
		Acceptable	Unacceptable	
Container Storage Area 1 Container Storage Area 2 Non Hazardous Storage Area	Check for cracks and gaps in base, and concrete slab Check for drum/container leaks, swelling or severe dents Check that drums/containers are not open(lids secured) Check for proper placement/stacking (8' high maximum) Check adequacy of aisle space (24 inches minimum) Check for proper labeling of all containers. Check that all containers have date placed in storage on label. Verify that all containers within marked storage area (less than maximum capacity)			

Signature: _____
Response Timing: Urgent ☐ Routine ☐
Name: _____

Form 12.2.1 (continued)

INSPECTION FORM

WEEKLY INSPECTION REPORT
EQUIPMENT INSPECTION

Date of Inspection _____/_____/_____ Page 5 of 5
Mo. D Yr

Time of Inspection _____

INSPECTION CHECKLIST

Equipment/ Structure	Inspection Element	Status		If Unacceptable, Specify Reasons
		Acceptable	Unacceptable	
Lamp Processing Equipment	Check equipment guards Check by-product separation Check air handling system including baghouse and filters			
Retort Oven and prep area	Check equipment guards Check gas fittings and lines Check door gasket Check coolant level and chiller operation			
HID Arc Tube Crusher	Check equipment guards Check air handling system			
HID Machine	Check equipment guards Check by-product separation Check air handling system including baghouse and filters			
Jerome Meter	Verify annual calibration has been completed.			

Make note of which unit for all unacceptable items noted on the inspection report.

Signature: _____
Response Timing: Urgent ❑ Routine ❑
Name: _____

Revised July 13, 2011

Form 12.2.1 (continued)

INSPECTION FORM

DAILY INSPECTION REPORT

10-DAY IN TRANSIT AREA

Date of Inspection _____/_____/_____ Page __1__ of __1__
Mo. D Yr

Time of Inspection _____

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

Signature: _____
Response Timing: Urgent ❑ Routine ❑
Name: _____

Revised July 13, 2011

TABLE 12.3.2.3

LOCATION OF SAFETY AND EMERGENCY EQUIPMENT

EQUIPMENT	LOCATION
Monitoring Equipment - Jerome Meter	Operations Supervisors Office
Fire Extinguishers	Various, throughout facility
First Aid Kits	In Facility adjacent to washroom
Eyewash Station	In Facility adjacent to washroom
Phone Paging System	Any phone in facility

TABLE 12.4.1

CONTAINER STORAGE AREAS INSPECTION SCHEDULE

EQUIPMENT	INSPECTION ELEMENT/ TYPE OF PROBLEM	INSPECTION FREQUENCY
Container Loading/ Unloading Area	Check for damage to containers	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
Universal Waste Storage Area	Check for cracks and gaps in base or concrete slab	Weekly
	Check that all containers are properly closed and not leaking	Weekly
	Check for proper placement/ stacking (8' high maximum)	Weekly
	Check adequacy of aisle space (24 inches minimum)	Weekly
	Check for proper labeling of all containers in storage	Weekly
	Check that all containers have the date placed in storage on label.	Weekly
	Verify that all containers are within designated storage area (within red lines)	Weekly

TABLE 12.4.1 (Continued)

CONTAINER STORAGE AREAS INSPECTION SCHEDULE

EQUIPMENT	INSPECTION ELEMENT/ TYPE OF PROBLEM	INSPECTION FREQUENCY
Container Storage Area 1 Container Storage Area 2 Non Hazardous Storage Area	Check for cracks and gaps in base, and concrete slab	Weekly
	Check for drum/container leaks, swelling or severe dents	Weekly
	Check that drums/containers are not open(lids secured)	Weekly
	Check for proper placement/ stacking (8' high maximum)	Weekly
	Check adequacy of aisle space (24 inches minimum)	Weekly
	Check for proper labeling of all containers	Weekly
	Check that all containers have date placed in storage on label	Weekly
	Verify that all containers within marked storage area (less than maximum capacity)	Weekly
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

TABLE 12.4.1 (Continued)

CONTAINER STORAGE AREAS INSPECTION SCHEDULE

EQUIPMENT	INSPECTION ELEMENT/ TYPE OF PROBLEM	INSPECTION FREQUENCY
	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 and that containers are properly segregated	Daily
	Verify security of truck/trailer (locked), wheels chocked, trailer stand in place)	Daily
	Fire protection equipment available	Daily

TABLE 12.4.2

PROCESS OPERATIONS INSPECTION SCHEDULE

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 12.3.1.1

GENERAL INSPECTION SCHEDULE, SECURITY DEVICES

EQUIPMENT	INSPECTION ELEMENT/ TYPE OF PROBLEM	INSPECTION FREQUENCY
SECURITY DEVICES		
Doors	Check for proper lock function	Weekly
Warning Signs	Check for presence and visibility of warning signs	Weekly

TABLE 12.3.2.2

GENERAL INSPECTION SCHEDULE, SAFETY AND EMERGENCY EQUIPMENT

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