Mercury Recovery Facility Permit Renewal Application

AERC.COM, Inc.
4317-J Fortune Place
West Melbourne, FL 32904
Mercury Recovery Permit #: 0072959-HO-004
EPA ID# FLD 984 262 782

TABLE OF CONTENTS

TABLE OF CONTENTS

TRANSMITTAL LETTER

AERC
RECYCLING SOLUTIONS

June 30, 2016

Mr. Bheem Kothur
Florida Department of Environmental Protection
Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

RE: **Transmittal of Mercury Recovery Permit Renewal Application | 0072959-HO-004 | FLD 984 262 782**
AERC.COM, Inc. 4317-J Fortune Place Suite J, West Melbourne, FL 32904-1509

Dear Mr. Kothur:

AERC.COM, Inc. is providing transmittal of the renewal application for our permitted mercury recovery facility located at 4317-J Fortune Place Suite J, West Melbourne, Florida.

The enclosed permit renewal application has been prepared in agreement with the permit application form and instructions as set forth in FDEP Form #62.737.900(2).

We appreciate your review and approval with regard to the administrative completeness of the application. Please direct any questions or comments regarding this transmittal to Mark Larsen, Facility Manager at (321) 952-1516.

Sincerely,

Stephen Lefon
Director of Sustainability

Enclosure

cc: J. White - FDEP
AERC.COM, Inc.

111 HOWARD BOULEVARD, SUITE 108, MOUNT ARLINGTON, NJ 07856
TEL: 973.691.3200 FAX: 973.691.3233
WWW.AERC.COM | WWW.RECYCLEKIT.COM

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

This Application is for the renewal of a Mercury Recovery Permit. The processes described are for the fluorescent and mercury lamp recovery systems, which require a Mercury Recovery Permit. The recovery system is integral to the company's overall service of recycling mercury from lamps, devices, and other materials containing mercury. Non-specific materials such as manufactured items, debris, and aqueous material should be covered in this document. All regulated activities, therefore, would be covered under this permit.

The purpose of the Recovery Permit Application is to renew the Mercury Recovery Permit and to demonstrate that the company meets or exceeds the permitting requirements of the Florida Department of Environmental Protection (FDEP), pursuant to Florida Statutes 403.7186 and Rule 62-737 F.A.C., for the Management of Spent Mercury-Containing Lamps and Devices Destined for Recycling.

AERC.com, Inc. (formerly AERC/MTI) began operating a mercury lighting recycling facility at its present location in West Melbourne, FL in November 1993. As a result of the state regulations for mercury recycling facilities, AERC.com, Inc. operated under "Interim Status" until the appropriate Recovery and Reclamation Permits are issued. On December 30, 1996, a Mercury Recovery and Reclamation Permit, Operation Permit Number HOO5-275169, was issued to AERC.com, Inc. (formerly AERC/MTI). The most recent permit renewal was issued July 6, 2012, under Number 0072959-HO-004. At this time activities include:

Activities- Fluorescent and High Intensity Discharge lamp processing, recovery of lamp components for resale, removal of mercury-containing phosphor powders and ampoules. In addition to the above activities, AERC.com, Inc. also accepts mercury containing devices (MCDs) which are accumulated and then shipped off-site to a TSD / reclamation facility for further processing. Mercury from other sources (e.g. soils, carbons. contaminated solid materials, etc.) is accepted by the facility for accumulation and shipment off-site to a TSD / reclamation facility.

Additional Activities- In addition to Fluorescent and High Intensity Discharge lamp Processing and MCDs, AERC.com, Inc. accepts batteries and PCB and non-PCB lighting ballasts for sorting and shipment to other recycling facilities, as well as, the acceptance of electronic scrap for demanufacturing or remanufacturing for shipment back to market for reuse or recycling. The facility also serves as a 10-day transfer facility for hazardous wastes that are destined to the AERC, PA permitted TSD facility. AERC is large quantity Universal Waste Handler, a Universal Waste Transporter as well as a Florida licensed Hazardous Waste Transporter.

AERC was established in Pennsylvania in 1990 and in Florida in 1993 to address a nationwide need for more environmentally sound recycling technologies for certain "characteristic" and metals-bearing wastes. AERC recycles many waste materials containing mercury and other metals, as well as, recycling mercury-containing lamps.

AERC has a customer base of environmentally conscious Fortune 500 companies, educational institutions, government facilities, hospitals, laboratories, small businesses, and private citizens. We also offer a service to environmental and hazardous wastes management and transportation firms which provide other sources of recyclable raw materials and hazardous wastes for the development and operation of AERC's recycling technologies.

With strong emphasis on safety, industrial hygiene, and regulatory compliance, AERC has developed state-of-the-art environmentally sound processes for the recycling of metallic mercury, mercury compounds and mixtures, mercury containing materials and devices, fluorescent lamps and HID lamps. Much of the research to develop these processes is highly specialized and proprietary.

Throughout this permit application AERC.com, Inc. has provided technical information on its processes, methods, and equipment. The company has developed several of these proprietary processes itself. Some of the process components and systems have been or will be purchased from commercial manufacturers. AERC is working with its customers and specialty equipment engineering and design firms to provide the best integration of systems and components possible. We continue to conduct R&D in order to provide the best-suited technologies for recycling. Because of this, some components and procedures used will be fundamentally similar, but may not be identical to those described in this document. Likewise, if AERC develops a more efficient method to prepare material for recycling, or to increase recovery, we intend to incorporate it into our process.

AERC.com, Inc. will provide the FDEP with the level of detail needed for specific components or methods. With this in mind, AERC wishes to work with the agency to develop procedures to insure that these changes can be incorporated into the permit and operations with minimal effort and in a timely manner.

Renewal of this permit will allow AERC to continue to process and recycle fluorescent and HID lamps, powders, MCD's, and other materials at the facility using recovery technologies. This will enable us to offer additional employment and training opportunities, make new capital investments at the facility, and help fill the void of fully permitted and environmentally sound recycling technologies and services throughout the nation.

PART I

APPLICATION FORM

APPLICATION FOR A MERCURY-CONTAINING LAMP OR DEVICE MERCURY RECOVERY OR MERCURY RECLAMATION FACILITY PERMIT

Part I

TO BE COMPLETED BY ALL APPLICANTS

Please Type or Print

A. General Information

1. Type of facility:

Mercury Recovery [✔]		**Mercury Reclamation** [ ]	
Lamps	[✔]	Lamps	[ ]
Devices	[✔]	Devices	[ ]
		Other mercury wastes	[ ]
		Commodity grade mercury	[ ]

2. Type of application: [ ] new construction [✔] operation [ ] modification [ ] transfer

3. Revision Number: 0

4. Date current operation began (or is expected to begin): November 1993

5. Facility name: AERC.COM, Inc.

6. EPA/DEP ID. No.: FLD984262782

7. Facility location or street address: 4317-J Fortune Place

8. Facility mailing address:

4317-J Fortune Place	West Melbourne	FL	32904
Street or PO. Box	City	State	Zip

9. Contact person: Mark Larsen Telephone: (321) 952-1516

Title: Facility Manager

Mailing Address:

Same as Above			
Street or PO. Box	City	State	Zip

10. Operator's name: AERC.COM, Inc. Telephone: (321) 952-1516

11. Operator's address:

Name: Same as Above

Address:

Same as Above

Street or PO. Box City State Zip

12. Facility owner's name: Same as Above Telephone: (321) 952-1516

13. Facility owner's address:

Same as Above

Street or PO. Box City State Zip

14. Legal structure: [✔] Corporation [ ] Non-profit Corporation [ ] Partnership [ ] Individual
[ ] Local Government [ ] State Government [ ] Federal Government [ ] Other (specify)

15. If an individual, partnership, or business is operating under an assumed name, specify the county and state where the name is registered.

County: Brevard State: Florida

16. If the legal structure is a corporation, indicate the state of incorporation.

State of incorporation: Pennsylvania

17. If the legal structure is an individual or partnership, list the owners' names and mailing addresses.

Name: N/A - Legal Structure is a Corporation

Address:

Street or PO. Box City State Zip

Name:

Address:

Street or PO. Box City State Zip

Name:

Address:

Street or PO. Box City State Zip

Name:

Address:

Street or PO. Box	City	State	Zip

18. Site ownership status: [ ] owned [ ] to be purchased [ ] to be leased _____ years

[✔] presently leased; the expiration date of the lease is: Sept 2021

If leased, indicate:

Land owner's name: Fortune Cookie Park, Inc.

Land owner's address:

Name: Fortune Cookie Park, Inc.

Address:

4310 Woodland Park Drive	West Melbourne	FL	32904
Street or PO. Box	City	State	Zip

19. Name of professional engineer: John P. Smith

Registration no.: 63423

Address:

Name: John P. Smith

Address:

11 Lake Gatlin Road	Orlando	FL	32806
Street or PO. Box	City	State	Zip

Associated with: HSA Golden, Inc.

20. Facility located on Indian land: [ ] yes [✔] no

21. Existing or pending environmental permits: (attach a separate sheet if necessary)

TYPE OF PERMIT	AGENCY	PERMIT NUMBER	DATE ISSUED	EXPIRATION DATE
See Attachment #1				

B. Site Information

1. Facility location : County: Brevard Nearest Community: West Melbourne

   Latitude: N 28 deg 05' 40.17" Longitude: W 80 deg 41' 52.39"

   Section: 6 Township: 28 South Range: 37 East

   UTM # 32,777 / East / 106,318

2. Area of facility site (acres): Approximately 0.81 acres

3. Attach a topographic map of the facility area and a scale drawing and photographs of the facility showing the location of all past, present, and future material receiving, storage and processing areas. Also show the incoming and outgoing material traffic pattern including estimated volume and controls. See Attachments #2 & #3

4. Is the site located in a 100-year flood plain? [ ] yes [✔] no
   If yes, describe how facility will be constructed to prevent flooding (labeled as **Attachment** ___).

C. Land Use Information

1. Present zoning of the site. Light Industrial

2. If a zoning change is needed, what should the new zoning be?

   N/A

3. Present land use of site

   Mercury Recovery Facility (Lamp Recycling)

D. Operating Information

1. Is hazardous waste generated on site? [✔] yes [ ] no

List the types and anticipated annual amounts of generation (attach a separate sheet if necessary).

D009 - Hg -containing Phosphor Powder from Fluorescent Lamp Recovery Operation - ~ 37 tons/year
D009 - Plant Scraps and Debris with mercury ~ 2 tons/year; D009 - HID Ampules (mercury-containing devices) from UW lamp recycling
D009 - Mercury-containing carbon filter media (periodically removed from air filtration system ~ 1 ton/year
D002 - Acid/Caustic battery solutions (from management of broken or damaged UW batteries ~ 0.25 tons/year
D009 - Granulated Activated Carbon w/Hg ~ 0.1 tons/year

2. Attach a brief description of the facility operation, nature of the business, and activities.

AERC recovers Hg from lamps, devices, electronics and other manufactured items. The company separates the lamp components and sends the Hg powder and ampoules for retort at the AERC, PA TSD. Where possible, all components are recycled. See Attachment #4

3. Specify below each process used for storing or recycling of lamps or devices (including daily design capacities for recycling operations) at the facility, and annual quantities, to be stored or processed at the facility. (Attach a separate sheet if necessary)

PROCESS	DAILY DESIGN CAPACITY	UNIT OF MEASURE	ANNUAL QUANTITY
LSS1	3500 T12 Lamps	Lamps/Hr	Appr. 8.4 m
HID Disassembly	400 Lamps	Lamps/Hr	Appr. 770,000

See Attachment #5

4. Indicate the type of material and total amount of maximum desired storage to be permitted by the facility. This is the maximum amount of raw or unprocessed material, such as lamps or devices, and the total types and amounts of processed material, such as glass or phosphor material, which shall exist at the facility at any time. This shall be the maximum allowed storage by the facility. (attach a separate sheet if necessary)

These sections explain that storagte volumes are calculated using drum equivalents since material is received in different shapes, sizes and containers. Maximum lamp storage volume if all lamps is 223,200. Max storage if all drums is 968 drums.

See Attachment #6

5. Attach a description of how the facility shall be constructed and operated and the specifics of the technology which shall be utilized to process or recycle lamps and devices. Include any engineering plans, calculations and other related information describing the process to include the design, installation and operation of any air pollution control equipment. All engineering plans and reports shall be signed and sealed by a professional engineer registered in the State of Florida. Describe the specific types of materials the facility shall accept for introduction into its process. (e.g. fluorescent lamps, electrical thermostats etc.)

Construction and Operation Plans are labeled as Attachment #7

6. Attach a description of the facility's Contingency Plan for responding to and dealing with spills or releases of hazardous material to the environment during facility operation or any other emergency conditions. Include the name and 24-hour response telephone number of the facility emergency response coordinator, who is to be contacted in the event of an emergency. Plans should at a minimum conform to the requirements of 40 CFR 264, Subpart D. Attach a description of procedures, structures, or equipment used at the facility to:

   (1) Mitigate effects of equipment failure
   (2) Prevent hazards in unloading operations (e.g., ramps, special forklifts);
   (3) Prevent undue exposure of personnel to hazardous material (e.g., protective clothing);
   (4) Prevent releases to soil, water or the atmosphere; and

   Attach a description of the preparedness and prevention procedures including required equipment, testing and maintenance of equipment, access to communications or alarm system, required aisle space, and arrangements with local authorities. Procedures should at a minimum conform to the requirements of 40 CFR 264, Subpart C.

Contingency Plan is labeled as Attachment #8

7. Attach a copy of the facility's Worker Health and Safety Plan including training. This plan shall be of sufficient detail to describe how workers will be informed of the hazards present in the workplace and how to protect them from exposure or injury from these conditions. The plan should contain elements to instruct employees in identification of hazards, releases, emergency response conditions and methods to prevent releases of hazardous material.

Worker Health and Safety Plan including training is labeled as Attachment #9

8. Attach a copy of the facility's Quality Control Plan to be approved in accordance with Chapter 62-160, F.A.C. This plan should include detailed description of how the facility shall monitor the conformance to the facility's operational plan, training plan, its methods of determining compliance with permit conditions or Chapter 62-737, F.A.C., (e.g., material sampling and analysis) and the performance of its processing equipment or pollution control equipment (if applicable). The plan shall also contain the measures to monitor conformance with the facility's closure plan.

Quality Control plan to be labeled as Attachment #10

9. Attach a copy of the facility's Closure Plan. This plan shall be of adequate detail as to describe how the facility shall properly remove all quantities of raw or unprocessed material and processed materials or wastes in the event of either voluntary or involuntary closure or cessation of operations. The plan must also include programs for clean up or decontamination of process equipment and process areas if applicable and any analytical testing which must be performed to determine the adequate removal of hazardous materials. The plan must also include the estimated costs involved in carrying out each aspect of the closure of the facility.

Attach the following information to meet the closure performance standard which requires removing all hazardous wastes and hazardous constituents and controlling, minimizing, or eliminating, to the extent necessary to protect human health and the environment, closure related releases of hazardous waste, hazardous constituents, leachate, contaminated run-off, or hazardous waste decomposition products to the soil, ground water, surface waters or to the atmosphere. The closure plan must include the following information:

a. A description of how the applicant will close the facility.

b. An estimate of the maximum inventory of unprocessed and processed materials and wastes on site at any one time over the active life of the facility and a detailed description of the methods to be used during closure. The methods may include methods for removing, transporting, treating, storing, recycling or disposing of all processed and unprocessed materials and all hazardous wastes. Identify the type(s) of the off site recycling or hazardous waste management units the applicant will use, if applicable;

c. A detailed description of the steps needed to remove or decontaminate all hazardous waste residues and contaminated containment system components, equipment, structures, and soils during closure. The steps include procedures for cleaning equipment and removing contaminated materials, methods for sampling and testing contaminated operational areas of the facility, and criteria for determining the extent of decontamination required to satisfy the closure plan standard;

d. A schedule for closure of each facility. The schedule must include, at a minimum, the total time required to close each facility and the time required for intervening closure activities which will allow tracking of the progress of final closure ; and

e. A detailed description of the costs of closure. Attach the most recent closure cost estimates for the facility and a copy of the financial mechanism used to establish financial assurance for closure of the facility. The financial information must be submitted using forms specified in 62-737.80-0(4), F.A.C.

Closure Plan is labeled as Attachment #11

Financial Assurance Form is labeled as Attachment #11

10. Attach a copy of the documents used to demonstrate both general and pollution liability insurance coverage of at least $1,000.000 as required in 62-737.800 F.A.C.. Proof of this coverage must be provided to the Department on an annual basis

Certificate of Insurance is labeled Attachment #12

11. Attach a list of the destinations and uses of processed material shipped off site for disposal or recycling. This is to include the markets for recycled glass or metal end caps or the recovered mercury from reclamation operations. For mercury recovery facility applications, identify the mercury reclamation facility which accepts your material for recovery of the mercury. Iif this is an out of state facility, include the facility's certification of compliance to the provisions identified in 62-737.840 (4), F.A.C.

List of Destinations Facilities and Uses labeled as Attachment #13

12. Attach a copy of the facility's Inspection Plan. This plan shall include the measures the facility shall take to monitor and inspect the performance of process operations and pollution control equipment. Indicate the methods and frequency of these inspections and the types of logs or records which shall be maintained.

Inspection Plan is labeled as Attachment #14

ATTACHMENT 1
ITEM A.21

Existing or Pending Environmental Permits

FACILITY PERMITS & REGULATORY AGENCY CONTACTS

PERMIT #	AGENCY	CONTACT	TELEPHONE

Notification of Regulated Waste Activity: (Issued 1/30/15; Expires 12/30/16)

FLD984262782

FDEP | USEPA

HW – LQG | Transporter
UW - LQH | &
Destination Facility

Florida Department of Environmental Protection
2600 Blair Stone Road, Tallahassee, FL 32399-2400
Phone: 850-245-8707 | Fax: 850-245-8810

USEPA
EPA Region 4
61 Forsyth Street SW, Atlanta, GA 30303-8960
Phone: 404-562-9900 | 800-241-1754 | www.epa.gov/region04

Mercury Recovery Facility Permit: (Issued 7/6/12; Expires 12/30/16)

0072959-HO-004

FDEP — Bryan Baker (850) 245-8790
Administrator, Hazardous Waste Program and Permitting

Florida Department of Environmental Protection
2600 Blair Stone Road, Tallahassee, FL 32399-2400
Phone: 850-245-8707 | Fax: 850-245-8810

FDEP
Central District
John White (407) 897-4305
Permitting & Compliance | john.white@dep.state.fl.us

NPDES Storm Water Permit: (Issued 01/22/16; Expires 01/21/21)

FLR05C039-004

FDEP — Borja Crane-Amores (850) 245-7520
Data Control Specialist |Borja.craneAmores@dep.state.fl.us

Air Quality General Permit: (Issued 09/30/00; Renewed 08/24/15; Expires 09/30/2020)

0090124-007-AO
Minor Source Operating Permit

FDEP
Central District

Caroline D. Shine (407) 897-2927
Program Administrator

T. Anger
Staff Assistant Air Resource Mgmt

Notification of PCB Activity: (Notification made | No applicable expiration date)

FLD984262782 — USEPA Fibers & Organics Branch (202) 554-1404

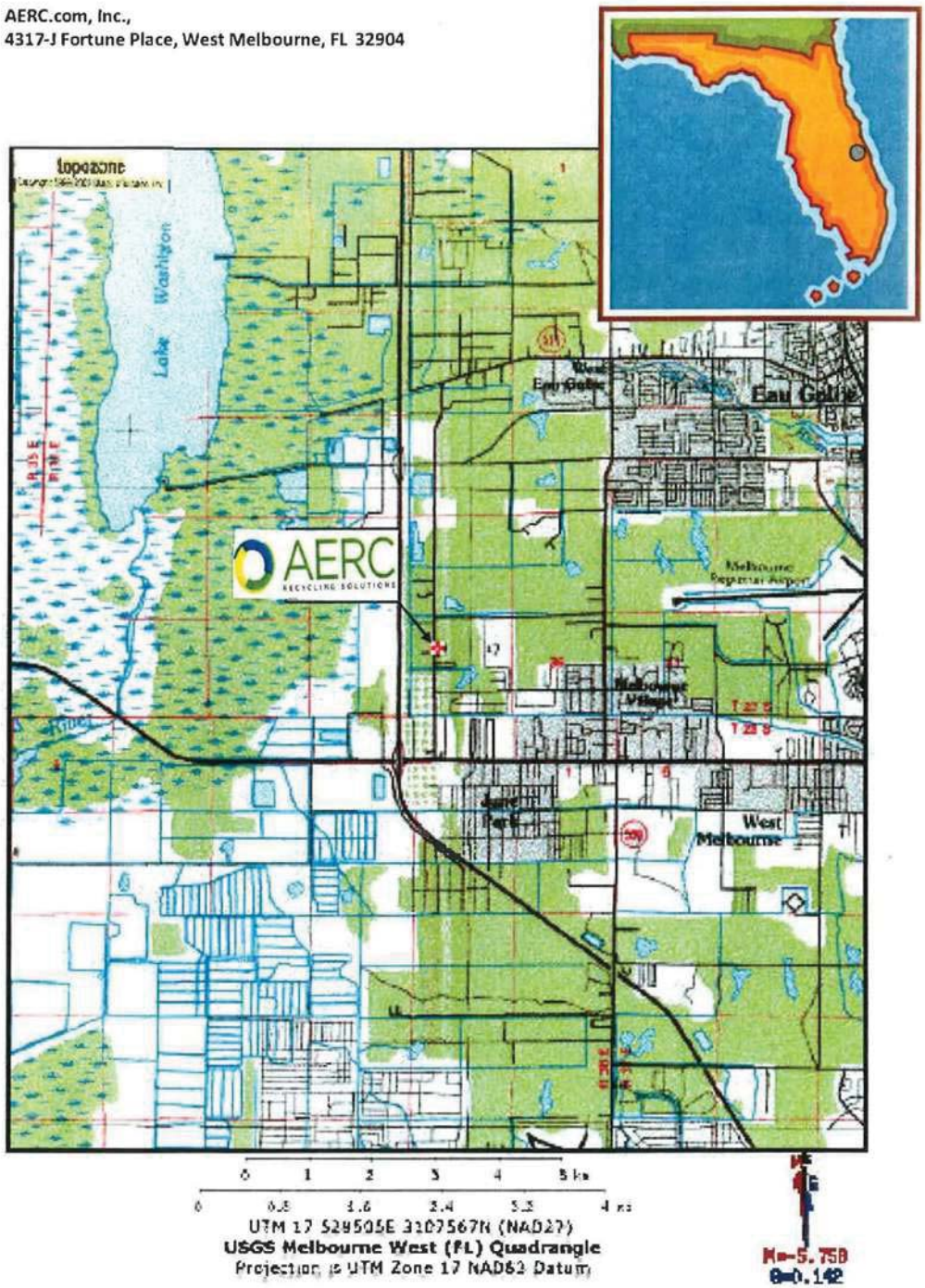
AERC has notified the USEPA as a transporter and commercial storer of PCB waste (as defined in 40 CFR § 761.3) due to the fact that AERC may potentially transport and store greater than 500 gallons of non-liquid material containing PCBs at regulated levels.

Business License:	(Renewed Annually)
14-00009542	City of West Melbourne
	Brevard County

ATTACHMENT 2
ITEM B.1

Topographic Map & Supporting Information

TABLE OF CONTENTS


AERC.com, Inc.,
4317-J Fortune Place, West Melbourne, FL 32904
topozone
Lake Washington
AERC
RECYCLING SOLUTIONS
West Melbourne
0 1 2 3 4 5 km
UTM 17 529505E 3107567N (NAD27)
USGS Melbourne West (FL) Quadrangle
Projection is UTM Zone 17 NAD83 Datum
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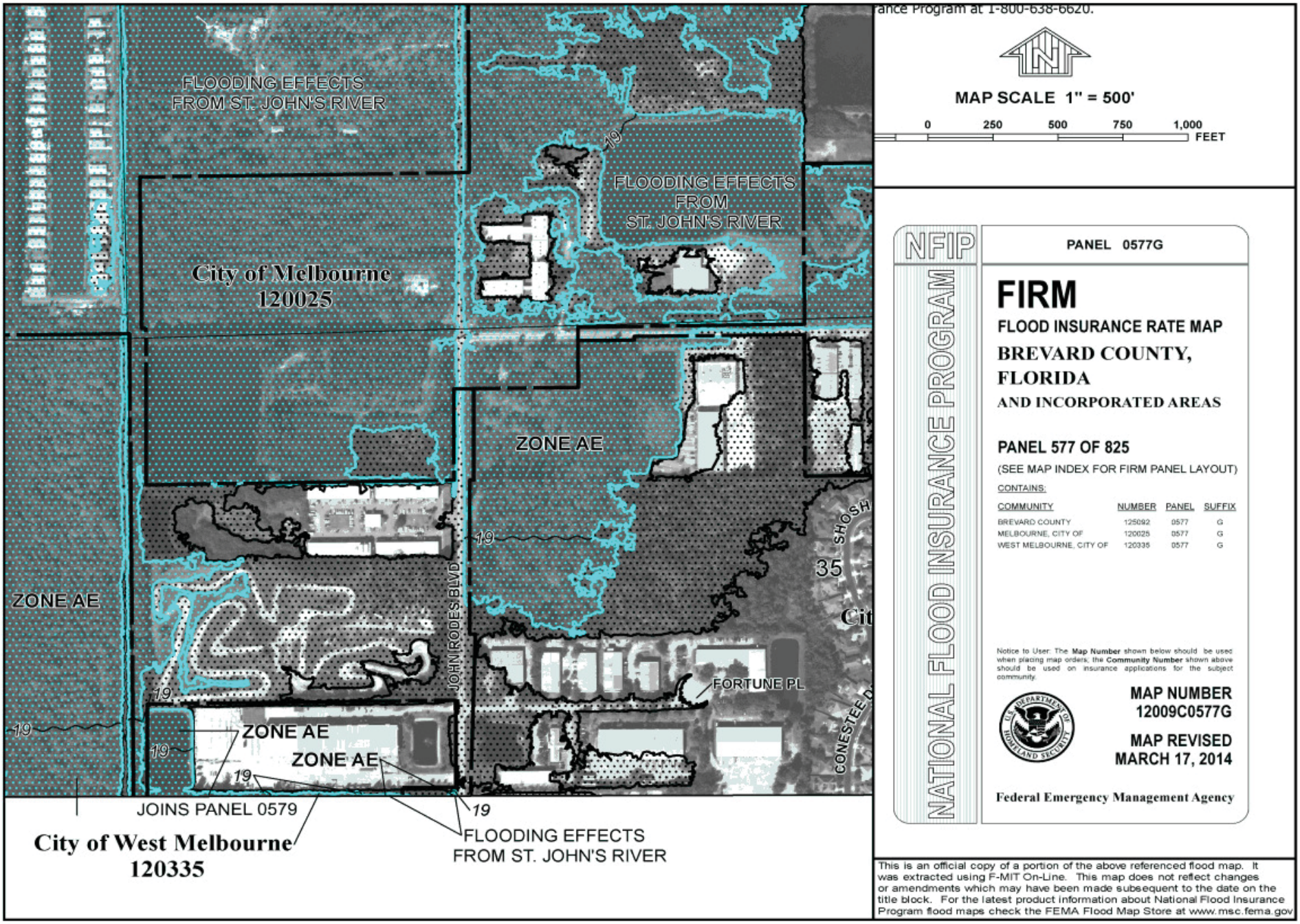
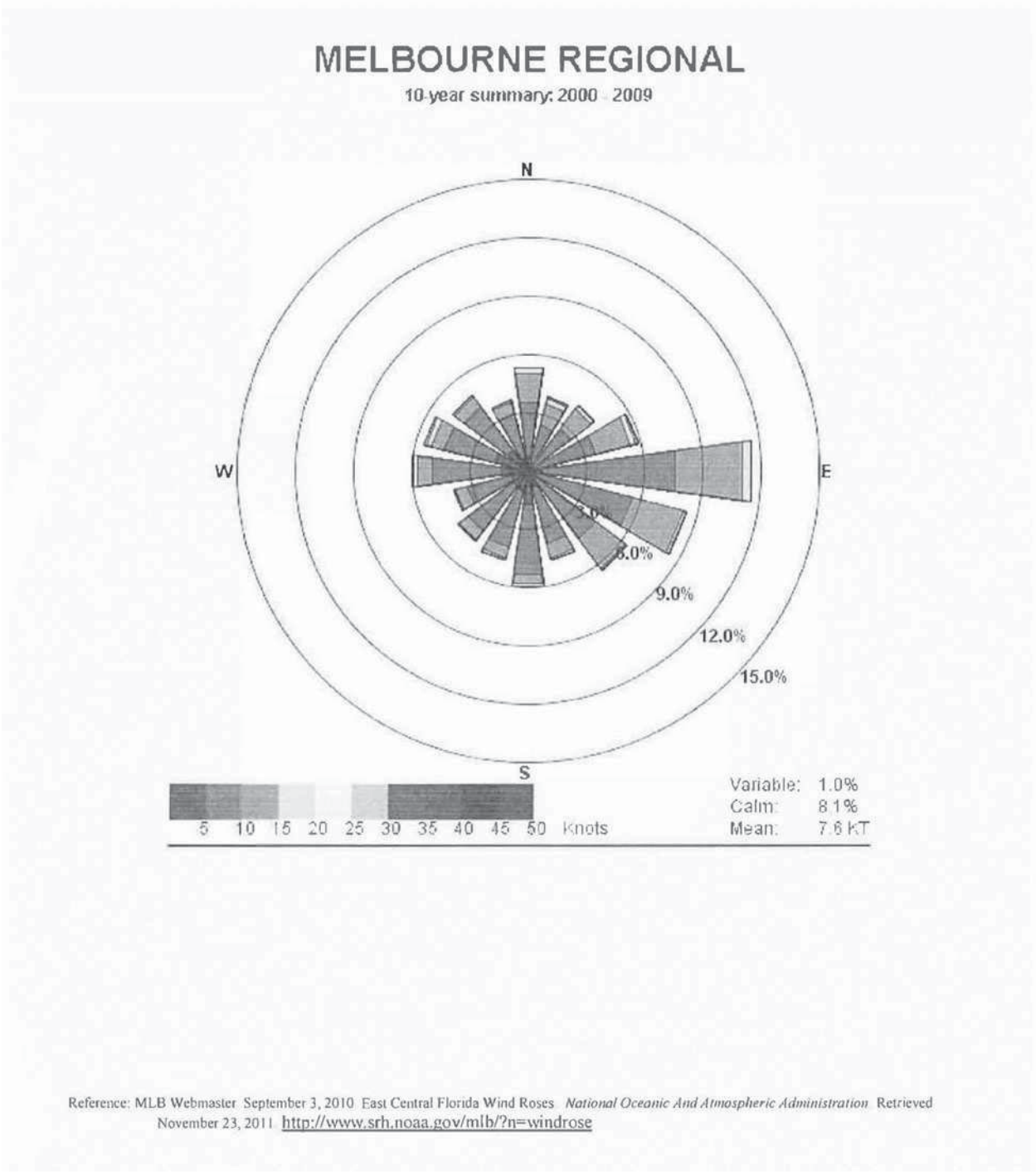

ance Program at 1-800-638-6620.
MAP SCALE 1" = 500'
0 250 500 750 1,000
FEET
FLOODING EFFECTS FROM ST. JOHN'S RIVER
FLOODING EFFECTS FROM ST. JOHN'S RIVER
City of Melbourne 120025
ZONE AE
ZONE AE
JOHN RODES BLVD
FORTUNE PL
ZONE AE
ZONE AE
19
JOINS PANEL 0579
City of West Melbourne 120335
FLOODING EFFECTS FROM ST. JOHN'S RIVER
NFIP
NATIONAL FLOOD INSURANCE PROGRAM
PANEL 0577G
FIRM
FLOOD INSURANCE RATE MAP
BREVARD COUNTY, FLORIDA
AND INCORPORATED AREAS
PANEL 577 OF 825
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)
CONTAINS:
COMMUNITY NUMBER PANEL SUFFIX
BREVARD COUNTY 125092 0577 G
MELBOURNE, CITY OF 120025 0577 G
WEST MELBOURNE, CITY OF 120335 0577 G
Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.
MAP NUMBER 12009C0577G
MAP REVISED MARCH 17, 2014
Federal Emergency Management Agency
This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov


FEMA NFHL
Flood Hazard Zones
1% Annual Chance Flood Hazard
Regulatory Floodway
Special Floodway
Area of Undetermined Flood Hazard
0.2% Annual Chance Flood Hazard
Future Conditions 1% Annual Chance Flood Hazard
Area with Reduced Risk Due to Levee
Zone AE
Zone AE
Zone X-Shaded
Zone X
Fortune Pl
S John Rodes Blvd
511
4317 Fortune Pl
Shenandoah
Potomac Dr
The Falls At Sheridan
Conestee Dr

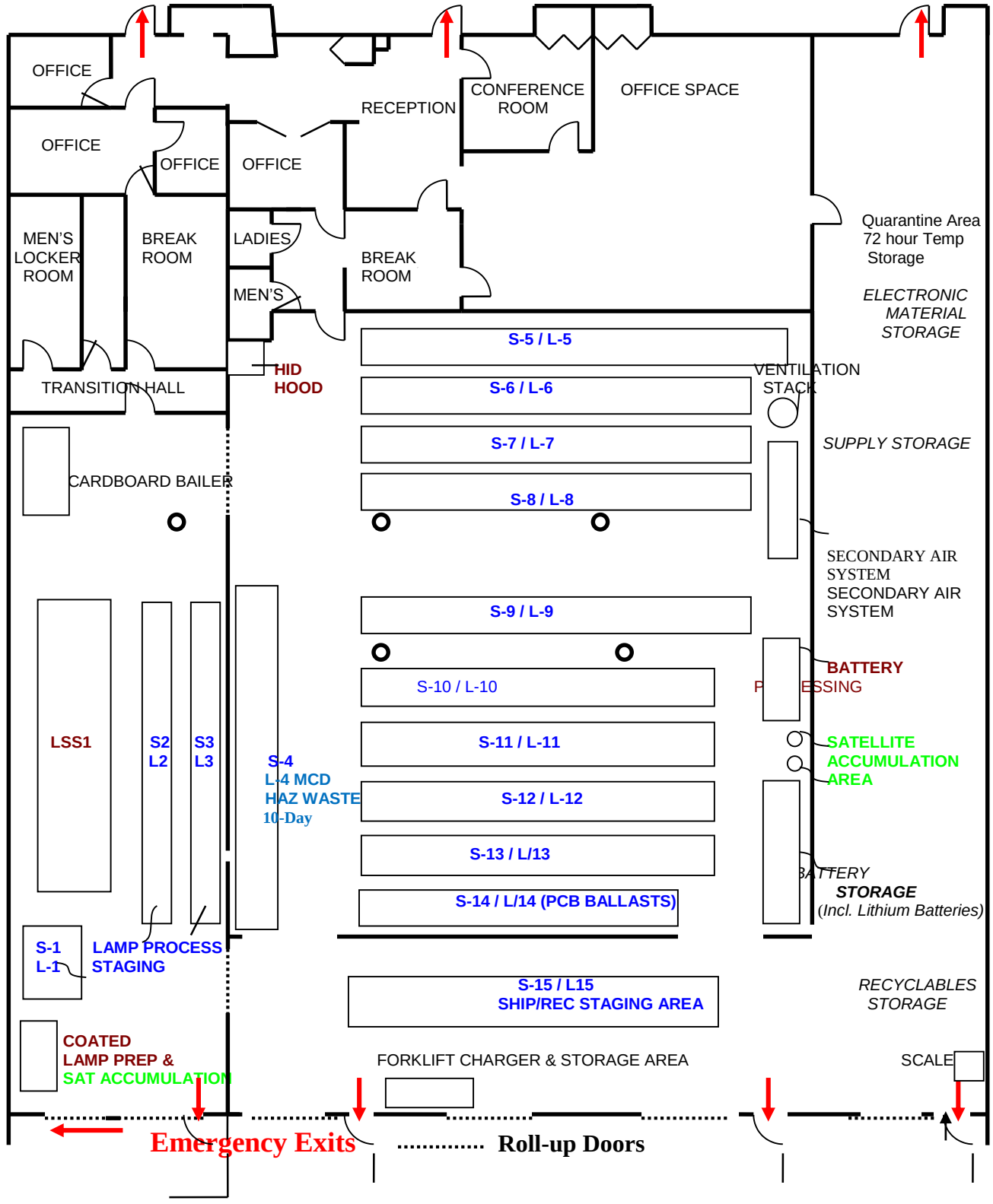


Reference: MLB Webmaster September 3, 2010 East Central Florida Wind Roses *National Oceanic And Atmospheric Administration* Retrieved November 23, 2011 http://www.srh.noaa.gov/mlb/?n=windrose

ATTACHMENT 3
ITEM B.2
Facility Features Drawing

UW-EP-004-02
AERC.com, Inc. Facility Plot Plan

Permitted Waste Storage Areas=BLUE **Process Areas = BROWN** **Satellite Accumulation Areas =GREEN**



Revision B July 2016

ATTACHMENT 4
ITEM D.2
Brief Description of Facility/Nature of Business

D.2.1 Advanced Environmental Recycling Corporation (AERC)

Advanced Environmental Recycling Corporation (AERC) was develop in 1990 to answer a nationwide need for environmentally sound recycling processes for metallic mercury, mercury compounds and solutions, and mercury containing devices.

While AERC was perfecting its triple distillation process for metallic mercury, many companies were discussing how to manage spent fluorescent lamps. Because fluorescent lamps contain mercury and often fail TCLP (a test for determining whether a waste is classified "hazardous") these companies were looking for an environmentally sound, low-liability recovery option.

In order to address the fluorescent lamp on a national basis, AERC formed a joint venture with and purchased state-of-the-art equipment from Mercury Technologies Corporation (MTC) of Hayward California. This AERC managed joint venture, named MTI, and was formed in November 1992.

In January of 2001, AERC and MTI were combined into one company and renamed AERC.com, Inc. The name may have changed, but our mentality, experience and environmental sound reputation has not. AERC.com, Inc. still can offer services and expertise that are second to none in the industry. A flowchart detailing the history of AERC is presented in Exhibit D.2.1.

In addition, AERC.com, Inc. ("AERC") has the resources, which allows us to focus on the most important aspects of mercury and fluorescent lamp recycling-safety, industrial hygiene, and environmental compliance, AERC utilizes an environmentally sound recycling process for mercury containing lamps. Our American-made equipment utilizes patented technology to treat all parts of the lamp, including the phosphor powder and mercury, at our captive facilities. This limits a generator's potential downstream liability by eliminating the need for third party recycling facility involvement. The lamp recycling process involves the separation of the glass, metal and phosphor powder. The metallic mercury contained in the phosphor powder is thermally separated and then resold back to market as a commodity grade mercury product for reused.

AERC also offers lighting ballast recycling. PCB and non-PCB ballasts are received and sorted. The PCB ballasts are accumulated and shipped off-site for recycling by a permitted PCB ballast recycler. The non-PCB ballasts are also shipped off-site to be recycled for their metal value.

The company also offers a recycling service for batteries. All types of batteries are received as Universal Waste. AERC sorts the batteries into their individual types and ships them off-site to various approved battery recyclers and TSD facilities.

Finally, the company has expanded into electronic scrap recycling. Various types of electronic equipment are received and evaluated and are either resold to market directly or are demanufactured or remanufactured for their component value and recycling.

AERC has three recycling facilities that can handle your company's lamp recycling needs nationwide. We have installed equipment in Allentown, Pennsylvania, Hayward, California, and West Melbourne, Florida that recycles more than 30 million lamps annually. AERC also operates electronic scrap recycling facilities in each of these cities. AERC offers our clients the most environmentally sound lamp, mercury and universal waste recycling services in the industry.

D.2.2 AERC Recycling Solutions Florida Facility — Nature of Business

The AERC West Melbourne Facility receives waste and recyclable materials containing mercury from numerous private and public sources. Customers include public and private institutions, hospitals, schools, laboratories, manufacturing operations, electrical maintenance companies; both large and small businesses. Materials received include mercury containing solids, such as fluorescent lamps and lighting devices, regulators, switches, thermometers, mercury-containing devices. The facility also receives various types of batteries, PCB and non-PCB lighting ballasts, as well as electronic scrap.

The company also provides the service of packaging and collecting the materials at the customer's location, or arranging this for the customer, using a network of commercial transportation firms.

The business has been operating in its present location since November 1993. It currently employs 22 people, including process operations, administrative and management personnel .Operations employees work 8-hour shifts 5 days a week.

The company processes lamps and lamp components, along with mercury devices and recovers the mercury from most other sources. More information on the company and the organizational structure is included in this section — see Exhibit D.2.2.

Activities at the facility:

- Activities- Fluorescent and High Intensity Discharge lamp processing, recovery of lamp components for resale, removal of mercury-containing phosphor powders and ampoules. In addition to the above activities, AERC also accepts MCDs, which are accumulated and then shipped off-site to a TSD / reclamation facility for further processing. Mercury from other sources (e.g. soils, carbons. contaminated solid materials, etc.) are consolidated by the facility for shipment off-site to a TSD / reclamation facility via 10-day transporter process.

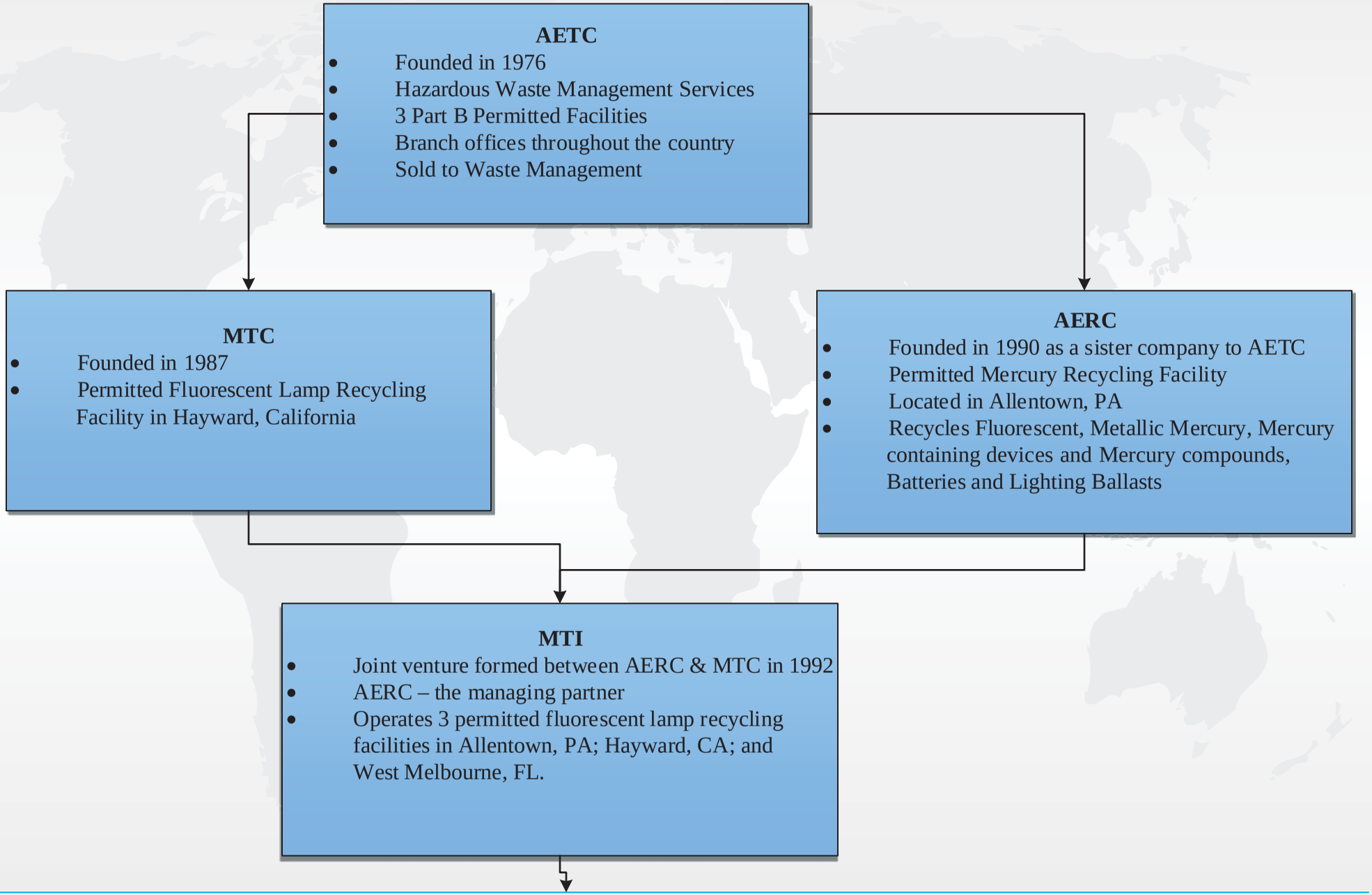
- Additional Activities- In addition to Fluorescent and High Intensity Discharge lamp Processing and MCDs, AERC accepts batteries and PCB and non-PCB lighting ballasts for sorting and shipment to other recycling facilities, as well as, the acceptance of electronic scrap for demanufacturing or remanufacturing for shipment back to market for reuse or recycling. The facility also serves as a 10-day transfer facility for hazardous wastes that are destined to the AERC, PA permitted TSD facility. AERC is large quantity Universal Waste Handler, a Universal Waste Transporter as well as a Florida licensed Hazardous Waste Transporter.

ATTACHMENT 4

EXHIBIT D.2.1

History of AERC

History of AERC



History of AERC

AERC.com, INC.

- Name changed from AERC/MTI to AERC.com, INC. in 2001
- Began Electronic Scrap Recycling program in 2002

AERC.com, INC.

- In 2013 AERC ownership changed to Recycling Holdings LLC.

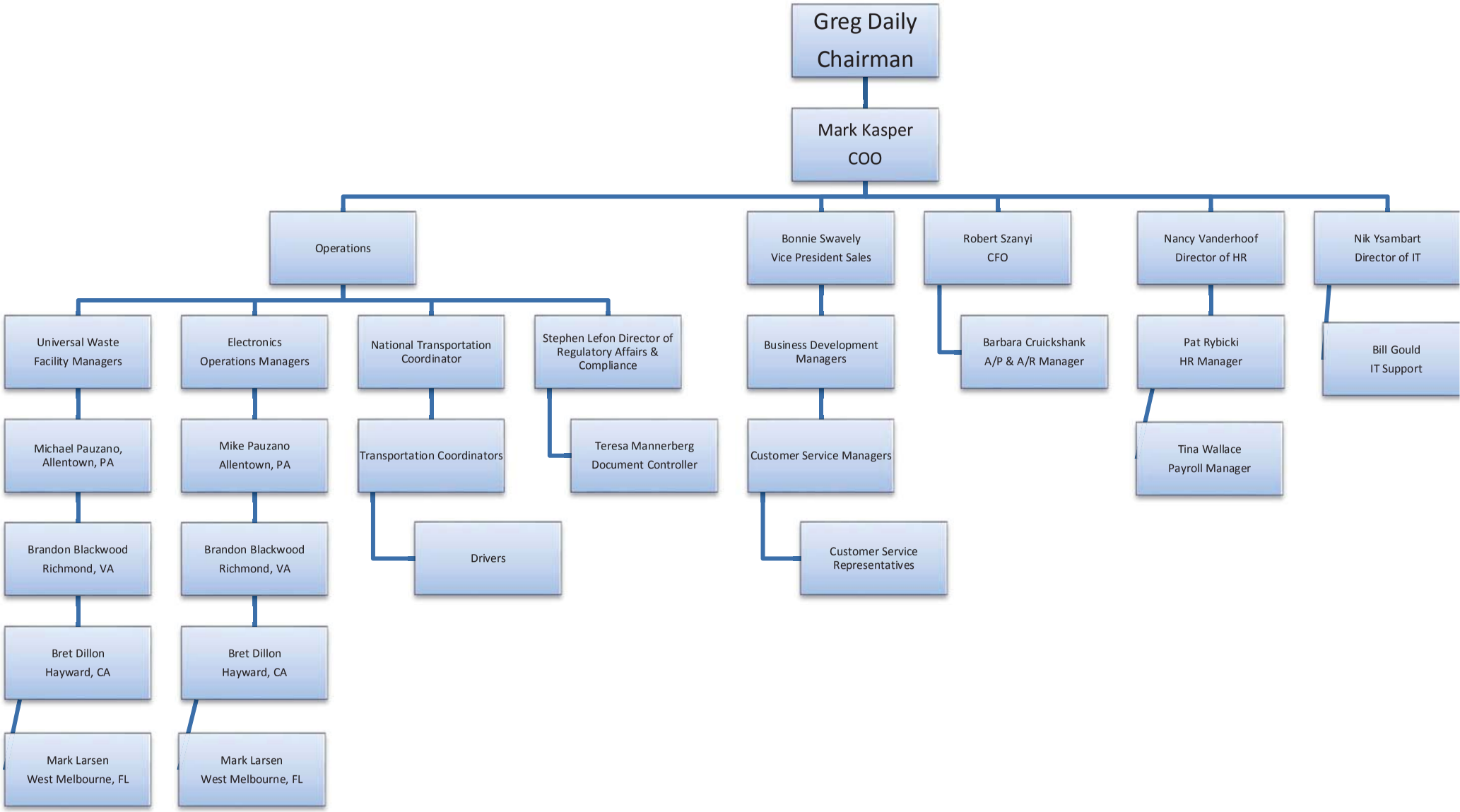
ATTACHMENT 4

EXHIBIT D.2.2

AERC.COM, Inc. Organizational Chart

AERC.Com, Inc

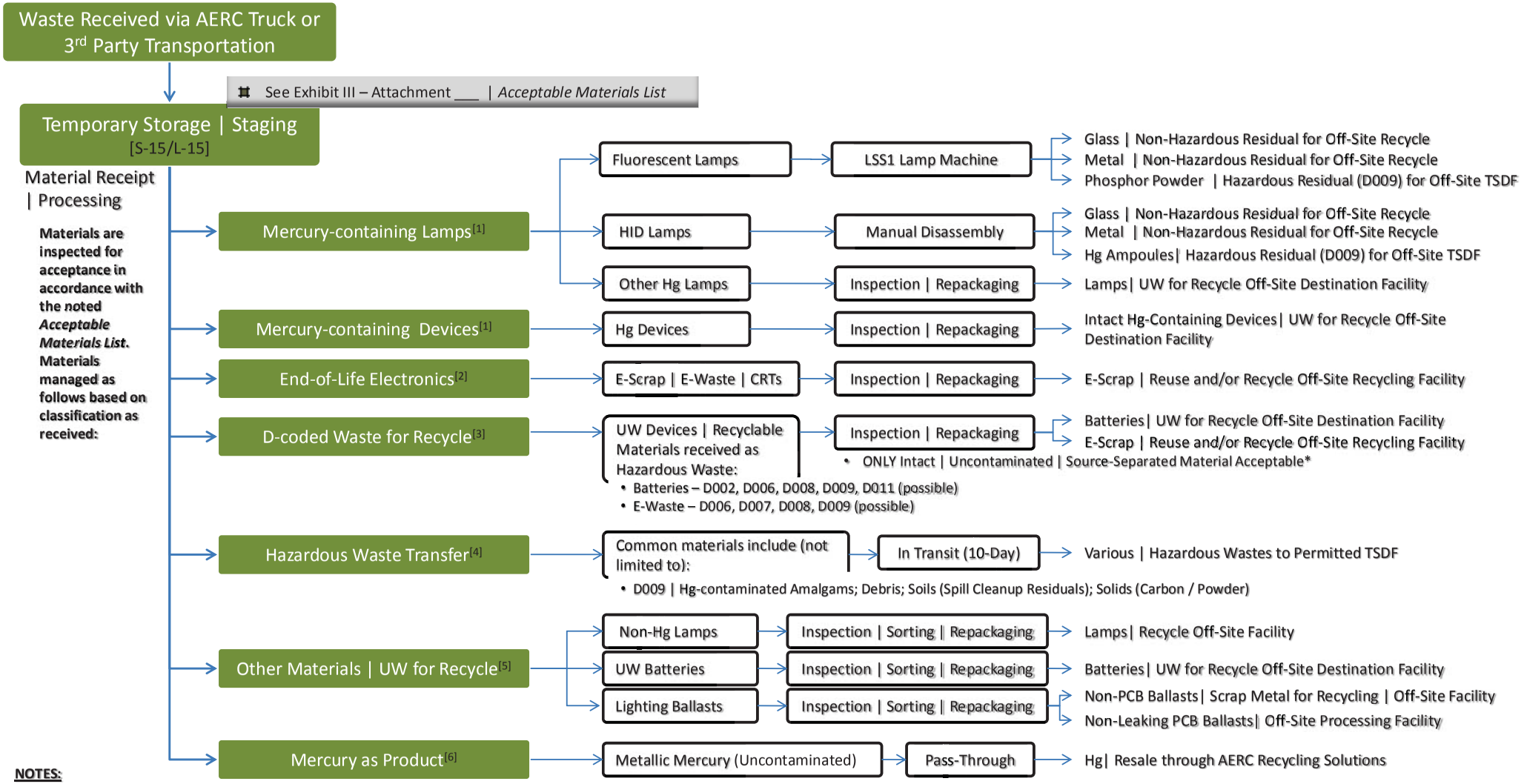
Organizational Chart as of 4/2016



ATTACHMENT 5
ITEM D.3
Integrated Process Flow Diagram

Figure D-3: Integrated Process Flow Diagram

AERC.com, Inc. | EPA ID No. FLD 984 262 782 | Operating Permit Number: 72959-HO-004



NOTES:

1. Material received and managed as Universal Waste in accordance with LQUWH requirements.
2. Material received as non-regulated solid waste for recycle.
3. Generator manifested material (D-coded hazardous waste) received as intact devices – managed by AERC for recycle. Includes those materials that meet the definition as either universal waste, e.g., batteries, and/or non-regulated solid waste when recycled, e.g., electronic scrap/CRTs. Materials that are meet definition of characteristic hazardous waste are not received by AERC – managed only as 10-Day material. * Manifest terminated | Documentation of intended recycle noted.
4. Hazardous waste managed in accordance with Transporter permit as 10-day Transfer material.
5. Includes: UW Batteries | Non-Hg Lamps | PCB and non-PCB Ballasts.
6. Pure Mercury (Hg) – salable product received as commercial grade material.

ATTACHMENT 6
ITEM D.4
Storage Area Capacity

Capacity is calculated for the existing physical space at the facility. Capacity of an area is calculated using **either** the maximum number of drums on pallets, **or** the number of whole lamps on pallets. Since all wastes are compatible it is assumed that each area will be used for any combination of lamps, drums, or other containers of mercury-containing devices (MCDs), batteries, crushed lamps, PCB ballasts, etc.; therefore, area inventory and volume will vary. Storage capacities listed here include all incoming and processed material. Our estimates are that 60% of the inventory will be materials awaiting processing and 40% will be processed materials awaiting shipment to a recycler.

These capacities do not include the temporary storage of non-hazardous processed materials outside in covered containers awaiting transportation.

NOTE:
Each Storage Area is intended for use as either a drum storage area or palletized lamp box storage area. The information presented in this summary details maximum calculated capacity for each area based on either of these assumptions - totaling all areas to achieve maximum storage capacity.

			Maximum Storage Capacity		
Basis:	S-#	Area contains only pallets of drums.	Total Capacity (all S Designations)	968	Drums
	1pallet	4 - open-top drums	or		
	L-#	Area contains only pallets of boxed lamps.	Total Capacity (all L Designations)	223,200	Lamps
	1pallet	900 - whole lamps (in boxes)			

Area	Storage Capacity					Materials Stored	Waste Codes	Type
One (1)	12 ft	x	8 ft	=	96 sq ft	Lamp Process Staging | Universal Waste Lamps	UW - N/A	Permitted | UW Handler (:5 1Year)
S-1	6 pallets		2 high	=	48 drums			
L-1	6 pallets		2 high	=	10,800 lamps			
Two (2)	20 ft	x	4 ft	=	80 sq ft	Lamp Process Staging | Universal Waste Lamps	UW - N/A	Permitted | UW Handler (:5 1Year)
S-2	5 pallets		2 high	=	40 drums			
L-2	5 pallets		2 high	=	9,000 lamps			
Three (3)	20 ft	x	4 ft	=	80 sq ft	Lamp Process Staging | Universal Waste Lamps	UW - N/A	Permitted | UW Handler (:5 1Year)
S-3	5 pallets		2 high	=	40 drums			
L-3	5 pallets		2 high	=	9,000 lamps			
Four (4)	24 ft	x	4 ft	=	96 sq ft	Mixed Universal Waste - Lamps, MCDs & Batteries, Hazardous Waste, 10 day material in transit.	UW - N/A	Permitted | LQG,UW Handler 1Year, 90 day, 10 day
S-4	6pallets		1 high	=	24 drums			
L-4	6pallets		2 high	=	10,800 lamps			

Area	Storage Capacity					Materials Stored	Waste Codes	Type
Five (5)	44 ft	x	4 ft	=	176 sq ft	Mixed Universal Waste - Lamps, MCDs & Batteries	UW - N/A	Permitted | UW Handler (5 1Year)
S-5	11 pallets		2 high	=	88 drums			
L-5	11 pallets		2 high	=	19,800 lamps			
Six (6)	40 ft	x	4 ft	=	160 sq ft	Mixed Universal Waste - Lamps, MCDs & Batteries	UW - N/A	Permitted | UW Handler (5 1Year)
S-6	10 pallets		2 high	=	80 drums			
L-6	10 pallets		2 high	=	18,000 lamps			
Seven (7)	40 ft	x	4 ft	=	160 sq ft	Mixed Universal Waste - Lamps, MCDs & Batteries	UW - N/A	Permitted | UW Handler (5 1Year)
S-7	10 pallets		2 high	=	80 drums			
L-7	10 pallets		2 high	=	18,000 lamps			
Eight (8)	40 ft	x	4 ft	=	160 sq ft	Mixed Universal Waste - Lamps, MCDs & Batteries	UW - N/A	Permitted | UW Handler (5 1Year)
S-8	10 pallets		2 high	=	80 drums			
L-8	10 pallets		2 high	=	18,000 lamps			
Nine (9)	40 ft	x	4 ft	=	160 sq ft	Mixed Universal Waste - Lamps, MCDs & Batteries	UW - N/A	Permitted | UW Handler (5 1Year)
S-9	10 pallets		2 high	=	80 drums			
L-9	10 pallets		2 high	=	18,000 lamps			
Ten {10)	36 ft	x	4 ft	=	144 sq ft	Mixed Universal Waste - Lamps, MCDs & Batteries	UW - N/A	Permitted | UW Handler (5 1Year)
S-10	9 pallets		2 high	=	72 drums			
L-10	9 pallets		2 high	=	16,200 lamps			
Eleven (11)	36 ft	x	4 ft	=	144 sq ft	Mixed Universal Waste - Lamps, MCDs & Batteries	UW - N/A	Permitted | UW Handler (5 1Year)
S-11	9 pallets		2 high	=	72 drums			
L-11	9 pallets		2 high	=	16,200 lamps			
Twelve (12)	36 ft	x	4 ft	=	144 sq ft	Mixed Universal Waste - Lamps, MCDs & Batteries	UW - N/A	Permitted | UW Handler (5 1Year)
S-12	9 pallets		2 high	=	72 drums			
L-12	9 pallets		2 high	=	16,200 lamps			
Thirteen (13)	36 ft	x	4 ft	=	144 sq ft	Mixed Universal Waste - Lamps, MCDs & Batteries	UW - N/A	Permitted | UW Handler (5 1Year)
S-13	9 pallets		2 high	=	72 drums			
L-13	9 pallets		2 high	=	16,200 lamps			
Forteen (14)	28 ft	x	4 ft	=	112 sq ft	Mixed Universal Waste - Lamps, MCDs &	UW - N/A | PCB	Permitted |

Area	Storage Capacity			Materials Stored	Waste Codes	Type
S-14	7 pallets	2 high	56 drums	Batteries	Ball asts - TSCA	UW Handler
L-14	7 pallets	2 high	12,600 lamps		Waste	(5 1Year)
Fifteen (15)	32 ft	x 4 ft	128 sq ft	Shipping & Receiving Staging Area	Various - Non-Haz I	Permitted I
S-15	8 pallets	2 high	64 drums		Haz I Universal	UW Handler
L-15	8 pallets	2 high	14,400 lamps		Wastes	(5 1Year)

ATTACHMENT 7
ITEM D.5
Operations Plan

Operations Plan	**Document #:**	**Revision Date:** 05/01/16	AERC RECYCLING SOLUTIONS
04 – AERC – Melbourne	**Department:** Regulatory Affairs	**Revision #:** A	Page 1 of 9

D. 5. Operations Plan

(The information provided in this section comprises the Operations Plan for recycling throughout AERC.)

Fluorescent and Mercury Lamp Processing and Recovery

This section describes how fluorescent and other mercury containing lighting devices are disassembled, treated and separated in the AERC systems. These systems include an integrated set of components, the technology, and a set of process control and operating procedures, the process, which, together, are considered the lamp recycling and recovery system. For purposes of this discussion, the machinery, equipment, vacuum system, crushers, separators, etc. can all be considered containers, in that the components of the lamps remain inside them as they are being processed.

We have included process descriptions, and have excerpted non-confidential portions of more comprehensive technical documents developed by the company or provided by equipment manufacturers on the installation, operation and maintenance of some of the recycling systems, along with confidential process schematic drawings of equipment components. AERC maintains the detailed confidential documents at its facility and will make this information available to state officials upon request.

This section also includes summary information on HID Recovery Systems currently being used by AERC. This equipment integrates into the existing Vacuum and Air Handling, Vapor Control, Materials Control and other processing systems. The procedures, methods, monitoring and testing requirements in any of the systems are essentially the same as those used for standard fluorescent lamps.

An integral part of all systems operations are process control and monitoring plans and procedures, along with a discussion of the use of personal protective equipment, standard health and safety practices, air monitoring, medical surveillance, hazardous communications, employee training requirements, as well as the company's monitoring and record keeping requirements, which are part of an extensive QA/QC Program. These are summarized in the Training Plan in Section D.7. and Quality Control Plan in Section D.8.

Fluorescent Lamp Recovery Process and Operations Descriptions

This operation involves processing and physical separation of fluorescent lamps containing mercury. The lamps are separated into the co-product streams of lamps end-caps, clean glass, and phosphor powder. The sources of these spent fluorescent lamps include households, schools, commercial and industrial sites, and the manufacturers of these lighting components. Fluorescent lamps are transported to the facility in accordance with local, state and federal regulations. The containers are then off-loaded from the vehicles and staged prior to processing.

After temporary storage, the lamps are processed in the equipment and physically separated into the components mentioned above. The recovery equipment components are designed for lamp crushing, co-product segregation, and include air filtration systems. The resulting materials generated from this activity (end caps, glass, and phosphor powder) are transported off site for further processing, recycling, or reuse.

Operations Procedures for Loading/Unloading, Handling and Storage of Mercury Lamps at AERC.

Loading/Unloading Procedures-

Lamps are delivered to the plant in small trucks, bobtails, 27' and 48' semi-trailers. Plant workers unload the boxes or other lamp containers onto pallets. Work gloves and eye protection must be worn, as there may be pieces of glass from breakage in shipment. Depending on how customers pack lamps and how the trucks are loaded there may be as much as 5% breakage in a load. If breakage exceeds this amount the customer and/or transporter will be notified so steps can be taken to minimize breakage. Most of the time the breakage is contained within the lamp boxes and can be taken directly into the process. Culls (broken pieces of lamps still large enough for processing) are separated from the rest and brought to the processing area as soon as possible.

During the loading/unloading, most breakage or spillage of lamps is contained on the truck deck, the loading dock, or floor. Any breakage that may fall to the ground is cleaned in accordance with the procedures established, including use of brooms, mops, buckets, dustpans, vacuum systems, etc. If breakage is excessive, the work area is monitored and cleanup continues with appropriate respirators and personal protective equipment.

Broken Lamp Clean-up Procedure-

Within 5-minutes from the time when lamps are discovered broken, clean-up shall be undertaken by plant operators as follows:

The operator shall collect any breakage, using a broom or dust mop and dustpan, or vacuum system, removing large pieces carefully. Large pieces of lamps should be collected and processed as soon as possible. Very small size breakage and powder residues are swept or vacuumed with the HEPA/Carbon filtered system in the plant. The area vacuumed includes approximately 25 square feet around the area where the breakage occurred. This will vary with the type and location of the breakage.

Handling and Storage Procedures-

Once the culls are handled, the remainder of the lamps are secured in boxes, bins and pallets and staged inside the plant prior to processing. Lamps are not left outside, unless they are inside closed trailers. This could occur if the trailer returned to the facility after receiving hours and couldn’t be

unloaded immediately. The trailers are secured via padlock if they cannot be immediately unloaded.

Once inside the building, the lamps are placed on the floor with the existing inventory. From this staging location the lamps are moved by hand, pallet jack and forklift directly to the process area. Sometimes the lamps must be unpackaged and sorted before subsequent processing.

Cardboard boxes which have been emptied of lamps are checked for remnants of broken pieces and powder. Remaining contamination is vacuumed if necessary. These boxes are then placed in a compactor, bailed and sold as recyclable cardboard.

For fire safety and health reasons, there is a no smoking policy in the building. The plant is equipped with a sprinkler system. No open flames are allowed, except in a controlled manner, such as for maintenance.

Crush and Separation

The process flows are summarized here:

Whole lamps enter the recycling process and end-caps are separated from the glass and collected from the system, sampled, analyzed for mercury content, and shipped to an off-site metals recycling facility for their aluminum, brass and tungsten content.

The glass is further processed to remove the residual phosphor powder coating. The processed glass is placed into a collection container and is sampled, analyzed for mercury content, and subsequently sent off-site for disposal/recycling.

The powder containing mercury and non-condensed mercury vapors are conveyed and filtered inside the system, separated in the LSS1 lamp recycling equipment, and accumulated in containers for further retort processing offsite.

The excess air from the LSS1 lamp equipment is cleaned of all remaining dust in the baghouse air filter system. Dust-free air then passes through the carbon filtration system prior to discharge.

Equipment

In order to reduce the hazards of land-filling fluorescent lamps, AERC uses a lamp recycling process which consists of eleven separate but integral components:

(a) The Feed Conveyors
(b) Breaking Bar
(c) Primary Crushing Drums
(d) Elevating Conveyor
(e) Primary Trommel
(f) Vibrating Screen Conveyor
(g) Secondary Trommel
(h) Magnetic Conveyor
(i) Vapor Collection System
(j) Vacuum System
(k) Process Control System

Each component has a special purpose which is discussed in detail in a confidential technical operations manual kept at the facility. This document can be made available to FLDEP staff upon request.

High Intensity Discharge (HID) Lamps

As discussed in the introduction to this section, the HID lamp recycling technology depicted here is being operated at the company's facilities throughout the U.S. The West Melbourne facility will use the same methods, procedures, QA/QC measures, testing and monitoring as used throughout the company. Currently, HIDs are processed as follows:

HID Lamp Process Description and Operating Procedures

HID lamps are processed one-at-a-time to remove the inner capsule containing mercury and separate the non-hazardous metals and glass. During this process an air current is passed over the process area to remove and filter potential mercury emissions.

Air Filtration System-

An air cleaning/filtration unit is fitted with a manometer to insure that the filters are not clogged and to determine when filters must be changed. Pressure differentials are measured across the filters. Filters are changed based on manufacturer specified pressure differentials. As lamps are being processed any processed materials which collect in the unit's tray are emptied into the proper container. The top of the system is checked for items on top of the metal grating, which could restrict the proper down draft air flow while the unit is operating. A continuous check for physical damage and proper operating conditions is performed while the system is operating

Materials Separation

See Figure D.5. HID Flow for the general flows and separation of the components.

H.I.D. Lamp Disassembling Procedure is as follows:

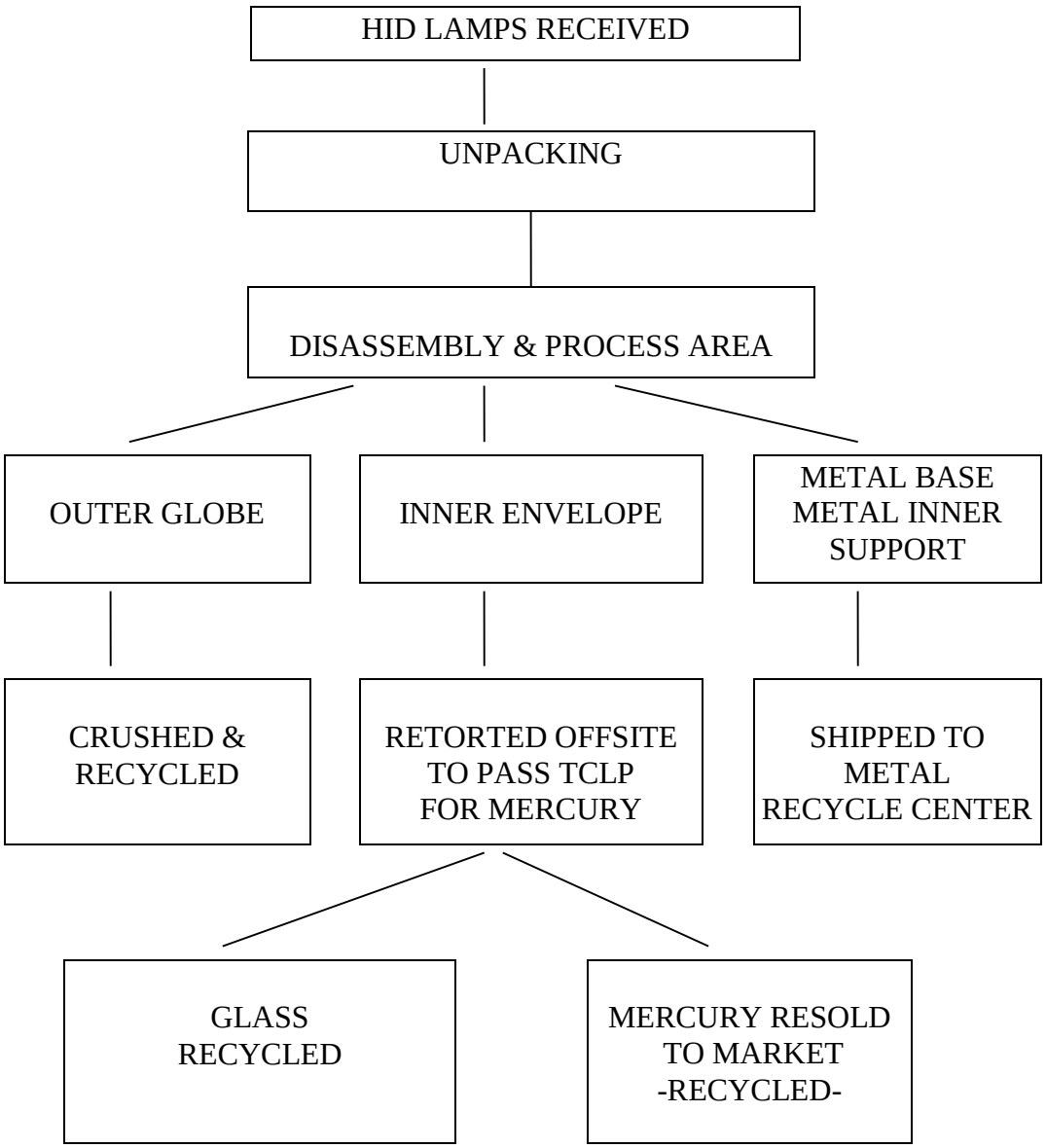
Work is performed on top of metal grating on the air flow unit. The outer globe of the H.I.D. is separated from the base and placed into the glass recovery drum. The inner envelope still attached to the base, is removed by cutting the wires and metal frame that holds the inner envelope. The inner envelope is placed into a collection container. The lamp base and other metal components are placed into appropriate containers.

The capsules containing mercury are sent off-site for further processing. The remainder of the lamp components are sampled, tested and shipped to metal or glass recyclers.

The main objective of the HID lamp processing system is to separate the lamp components without releasing mercury emissions into the air. The system is operated in conjunction with the Health and Safety and Quality Assurance/Quality Control measures discussed in Section D.8.

Figure D.5. HID Flow

Process Flow Summary for HID Lamp Recovery



Mercury Containing Device Processing

The offsite mercury retort systems which AERC utilizes are designed to thermally recover and purify, through a heating and distillation process, mercury from various devices, process materials and manufactured items, debris, equipment or other materials that contain or have become contaminated with mercury.

The permitted AERC TSD in Allentown, PA uses two retort units to heat devices, such as thermometers, switches, regulators, and other materials, such as precipitates, filter media, powders, soils, and the like, which contain mercury. The product from these systems is commodity grade mercury which is resold back to market. The cleaned glass and metal is shipped off-site for recycling.

Receipt of materials

Materials are received at the West Melbourne facility from generators in drums or other shipping containers. Upon receipt these materials are separated into similar components (e.g. switches, regulators, thermometers, etc.), some of which need to be disassembled before they can be processed. Some of the items contain materials which cannot be placed in the retort unit. These include rubber gaskets, plastic parts or other organic materials. Thus, in some cases, there is a significant reduction (approximately 50-80%) in volume by removing the non-hazardous components before retort. Other items may be placed in the retort whole and when the mercury is removed they come out intact.

Once separated, materials are containerized for future shipment to the AERC, PA facility or an alternate approved facility for retorting.

Lighting Ballasts

In addition to lamp recycling processing AERC.com, Inc. offers service to its customers for the effective handling of non-leaking PCB and non-PCB ballasts.

Wastes are received in containers ranging from fiber cartons and poly pails to 55-gallon steel drums. AERC.com, Inc. conducts visual QC of these waste containers, repackages and consolidates these items as needed for shipping purposes. Only intact, non-leaking ballasts are received. Once accumulated, wastes are shipped to an approved offsite ballast recycler.

Ballasts are shipped using standard shipping documents as “Non-Leaking PCB Ballast” or “Non-PCB Ballast” a Certificate of Recycling can be provided for customer records.

Used Electronic Scrap

AERC.com, Inc. (AERC) has developed a used electronic equipment management program as a service to its customers. These customers include a wide variety of generators, including, but not limited to retailers, manufacturers, as well as non-profit organizations and government institutions.

AERC's program has been designed to transport and collect whole, intact, electronic equipment. Electronic components are evaluated for reuse, rebuilt for reuse or disassembled or demanufactured by AERC for component resale and recycling. The computers and CRT's collected and shipped by AERC are identical to new computers being offered by establishments for sale or resale.

Although some disassembly may take place at the facility, the AERC West Melbourne facility primarily accumulates the used electronic equipment for shipment offsite to an AERC electronic scrap processing facility or to alternate approved electronic equipment recycling facilities.

AERC does not allow, authorize or approve of land disposal of any hazardous components generated through the electronic equipment demanufacturing processes.

AERC manages all used electronic equipment, whole and intact, and is not the ultimate recycling facility. AERC sends equipment to recycling facilities, which may, in-turn offer it for direct consumer resale.

AERC has interpreted that the products it collects are not waste. The decision-making for determining which components are offered for resale and which are demanufactured is not made by AERC, buy made rather, by the recycling/resale facilities using technical evaluation methods.

Components are shipped using standard Bill-of-Lading shipping documents are "Used Electronic Equipment for Recycling, Reuse or Resale". A Certificate of Recycling can be provided for customer records.

Battery Program

AERC.com, Inc. (AERC) in its continuing Universal Waste Program development, provides a necessary service for battery recycling.

Small quantity generators do not have the logistical capability of getting the batteries to the ultimate battery recycling facilities. Therefore, AERC created a service that includes but is not limited to various types of batteries such as lead acid, nickel-cadmium, alkaline, lithium and mercury batteries. AERC has established shipping and packaging guidelines for its customers to ensure that batteries are packaged and transported according to chemical compatibility and USDOT standards.

Once received at AERC, all batteries are inspected, unpacked and sorted into categories according to the final TSD or recycling facility requirements. These materials are repackaged and sent to the ultimate recycling facility. Attached are the specifics of this program.

Battery Processing Descriptions

AERC.com, INC. ("AERC") has developed a comprehensive battery recycling program. AERC provides onsite sorting and repackaging for all battery types. All containers of batteries are weighed, unpacked and sorted by recycling technicians at the Melbourne facility. If necessary, the recycling technicians utilize a computerized database to properly identify individual batteries. All sorted, repackaged batteries are then shipped to offsite, secondary facilities for final recycling. Each permitted recovery/treatment facility is audited and pre-approved by AERC prior to the recycling of any batteries at the facilities.

Battery Categories

AERC accepts the following types of batteries for processing at our approved facilities. Categories of waste have been designated for billing and packaging purposes. Batteries can be commingled within a category; however, categories should not be mixed.

Category 1 - Lead Acid:
Sealed Lead Acid, car batteries, Gel Cells, forklift batteries, Uninterrupted Power Source batteries

Category 2 - Corrosive Metals:
Alkaline and NiCad (wet and dry), Carbon Zinc (non-mercury), Nickel Iron, Nickel Hydride and Lithium Ion, Zinc Air

Category 3 - Mercury Bearing:

Carbon Zinc, Button Cell, Silver Oxide, Mercuric Oxide

Category 4 - Reactive Metals: Lithium Metal and Magnesium

Ten-Day Transfer Operations

The AERC, West Melbourne facility is set up as a ten-day transfer facility for hazardous wastes under its Florida DEP hazardous waste transporter approval. Wastes that are ultimately destined to the AERC, PA TSD facility may be transported through the AERC, FL facility on an as needed basis. This transfer operation is designed to help organize and provide cost effective logistical operations to clients for those wastes generated in the southeastern portion of the United States that ultimately must be shipped to the AERC, PA facility for acceptance and processing.

ATTACHMENT 7

EXHIBIT D.5.1

Model LSS1 Lamp Recycling System Operating Manual

RESOURCE TECHNOLOGY, INCORPORATED

Model LSS1
Lamp Recycling System

Revised May 31, 2000

TABLE OF CONTENTS

APPENDICES

1.0 Introduction

2.0 Process Description

2.1 General Description

The Model LSS1 Lamp Recycling System achieves the goal of setting a new standard for simplicity, safety, and recycling efficiency. Lamps enter this system on a power-feed belt passing through a negative pressure air chamber. Each lamp is crushed, separating glass and metal components into individual coproducts storage bins. Phosphor powder collects in the multi-stage filtration system. This powder should be treated in other equipment to recover elemental mercury for commercial use. Mercury vapors adsorb onto activated carbon filters eliminating fugitive emissions during processing. The Model LSS1 is fully computerized assuring easy operation. A touch screen control module provides one touch start-up for the entire system. This feature also provides operational monitoring of process and coproducts recovery lines. The Model LSS1 may include optional equipment that will continuously monitor the exhaust vent and provide a permanent record of system air quality.

2.2 Capacity and Performance

The Model LSS1 Lamp Recycling System has the capability of processing 2300 pounds (952 kg) of fluorescent lamps per hour. This equates to approximately:

T-12	T-8 lamps
3,500 4-foot	5,250 4-foot
1,750 8-foot;,	3,075 8-foot

The Model LSS1 also handles circular and U-shaped fluorescent lamps, high intensity discharge lamps, and more.

2.3 Equipment Description

1. **#1 Lamp Feed Conveyor**: The #1 Lamp Feed Conveyor receives the manually loaded fluorescent lamps and transports them to the implosion chamber conveyor. The implosion chamber conveyor consists of a conveyor belt, loading aprons, electric motor, and gear reducer.
2. **#2 Lamp Feed Conveyor**: The #2 Feed Conveyor receives the fluorescent lamps from the #1 Feed Conveyor and transports the bulbs to the breaker bar. The #2 Feed Conveyor and all subsequent components to this system are enclosed and operated under vacuum to collect fugitive mercury emissions.
3. **Breaker Bar**: The Breaker Bar is comprised of rotating steel arms which break the lamps prior to their being gravity-fed into the primary crushing drums.
4. **Primary Crushing Drums**: The Primary Crushing Drums consist of two rotating steel drums which crush the lamp components and deposit the particles on the elevating conveyor.

5. **Elevating Conveyor**: The Elevating Conveyor receives the crushed lamps from the primary crushing drums and transports them to the primary trommel.
6. **Primary Trommel**: The Primary Trommel utilizes a multi-layer screen which separates the components by particle size. Larger (aluminum end-caps) are retained within the screen and are discharged for recycling. Particles between one inch and 1/16 of one inch (glass) are retained by the screen and continue onto the secondary trommel via the vibrating conveyor. Particles less than 1/16 of one inch pass through both screens to a 100 mesh vibrating screen separator. The rotating action of the primary trommel provides enough agitation to scrub the phosphor powder and mercury from the aluminum end-caps and from the glass particles.

   ***Note*: After passing through the Primary Trommel, the aluminum is discharged via a chute to a receiving container which can then be shipped as a commodity for recycling.**

7. **Vibrating Screen Separator**: The Vibrating Screen Separator receives phosphor powder and glass fines from the primary trommel. The Vibrating Screen Conveyor retains clean glass fines and transports them to a drum for recycling. The calcium phosphate powder passes through the vibrating screen and is collected in sealed drums for transport to a mercury retorting facility.
8. **Secondary Trommel**: The Secondary Trommel receives material from the primary trommel via a vibrating conveyor and again agitates and scrub the glass. The glass particles that do not pass through the 1/16 of one inch openings in the outer screen of the secondary trommel are gravity-fed into the secondary crushing drums.
9. **Secondary Crushing Drums**: The Secondary Crushing Drums consists of two rotating steel drums which crush the lamp glass to its final size and deposits the glass on the magnetic conveyor.
10. **Magnetic Conveyor**: The Magnetic Conveyor receives particles of glass from the secondary crushing drums and transports them to a receiving container. Metallic particles (filaments and aluminum end-caps attached to filaments) attract to the magnetic conveyor and are transported to an additional receiving container which can then be shipped for recycling.
11. **HID De-Globing Chamber**:
    The HID de-globing chamber serves to remove the outer glass from the HID lamps. Most all configurations of lamps may be placed socket side down into the chamber at the rate of five lamps per cycle. After loading, the door must be closed and the cycle start button depressed. This will activate the de-globing process. Upon completion of this cycle the door to the chamber may be opened. The HID frames and mercury bearing

arc tubes are manually removed from the chamber. Using a wire cutting device the operator should separate the two remaining components. The wire is ready for recycling at a local metals recycler and the mercury bearing arc tube should be sent off for retort.

12. **Vapor Collection System**: The Vapor Collection System is designed to control mercury vapor and dust emissions from the process. The vapor collection system is comprised of a five horsepower fan, a baghouse equipped with a series of particulate filters, an air compressor for filter back purge, and an activated carbon vessel. The blower which produces an air flow of approximately 500 CFM draws mercury vapors and dust from the process equipment into the baghouse. The baghouse incorporates a set of nine cylindrical particulate filters that are in series with a set of two flat rectangular filters. This filter arrangement is designed to trap 99.99% of air-borne particles measuring 0.5 microns or larger. Purge occurs once each hour of running time on the feed belts. The purge opens a diaphram and back purges the filters with a powerful burst of compressed air. When the system computer senses that back purging the filters is no longer effective at reducing the pressure drop across the filters, the process control system will disable the system and display the appropriate alarm signal on the touch screen. The system can be restarted following the replacement of the filters. Dust accumulates in the collection barrel located underneath the baghouse.
13. **Housekeeping Vacuum System**: The LSS1 is supplied with a positive displacement vacuum pump connected to the vapor collection system. Controlled manually at the touch screen it is used for general housecleaning around the system
14. **Process Control System**: The Process Control System incorporates a programmable logic controller, touch screen, main disconnect, fuses, motor starters, and thermal overload protection for the equipment. The system operation is accomplished by following user prompts on the touch screen. Example screens are included in Appendix A and an electrical diagram is included in Appendix D. The system control logic is such that when in automatic mode no component can be operated without the vapor collection system or without the activation of the previous component in the process. The main control panel contains high voltage components and should only be accessed with the main disconnect in the off position and after following proper lock-out/tag-out procedures, located in section 3.5 of this manual.

2.4 System Specifications

Height: 12 feet (3.66 meters)
Length: 30 feet (9.15 meters)
Width: 11 feet (3.35 meters)
Electrical Requirements: 100 AMP, 208/230/460 volt, 3 phase
Electrical control panel is UL approved.

3.0 Safety

3.1 General Safety Awareness

The LSS1 should be used in accordance with the manufacturer's instructions and good safety and health practices. The manufacturer also recommends that a health and safety professional be consulted regarding mandatory personal protective equipment (P.P.E.) and safety practices prior to the operation of the system.

3.1-1 Warning Signs

The LSS1 contains signs and labels required by OSHA 29 CFR 1910.145 and convey pertinent hazard warning information to the operator that is needed during the operation of this equipment.

3.1-2 Emergency Stop Buttons

Emergency stop buttons are located in four areas on the LSS1; three are on the front or operating side of the equipment, and one on the back side. Anytime there is an emergency and the LSS1 must be stopped immediately, an operator can depress any one of the four emergency stop buttons. This will completely shut down the LSS1, including the vapor fan. In order for the LSS1 to restart, the emergency stop button that was activated must be pulled out to deactivate the emergency stop condition, and the system must be restarted at the touch screen.

3.1-3 Safety Interlocks

When operating in the automatic mode, the LSS1 is programmed through the Programmable Logic Controller (PLC) which prevents operation of the system without operating the vapor collection system. Furthermore, no system component can be operated out of sequence. Additional information concerning control logic is included in section 5.2 of this manual.

3.1-4 Machine Guarding

The Model LSS1 is designed and manufactured to provide a safe work environment for the operator. The LSS1 meets the requirements of OSHA 29 CFR1910.212 Machine Guarding Standard.

3.2 Operator Training Requirements

Operators of the LSS1 should be trained in compliance with the requirements of the Occupational Safety and Health Administration (OSHA) 29 CFR1910.120(p) for hazardous waste site workers. Additional training or certifications may be required by state or local agencies and should be researched and obtained prior to operation of this system. Training should include proper emergency response procedures and reporting requirements. Additionally, operators should be informed of the potential for adverse health effects resulting from the improper handling of mercury-containing material. Operators should be familiar with respiratory protection devices and other personal protective equipment which should be worn during the operation and maintenance of this equipment. Finally, operators should be familiar with the lock-out procedures which are outlined in section 3.5 of this manual.

3.3 Chemical Hygiene

While operating the LSS1, operators should follow good chemical hygiene practices. This is done by prohibiting consumption of food or beverage and use of tobacco products in areas where lamps are handled, stored or processed. Operators must use the proper P.P.E. while handling or processing lamps. Operators should wash their hands and face thoroughly with soap and water before breaks and meals, and shower at the end of the work shift.

3.4 Personal Protective Equipment

The LSS1 separates fluorescent lamps into three primary components: clean aluminum end-caps, clean crushed glass, and calcium phosphate powder (phosphor powder) containing mercury. Each of these waste streams has a potential to cause injury or illness if handled improperly. The aluminum end-caps and crushed glass have sharp edges and can produce cuts and puncture wounds in unprotected operators. As a minimum requirement, protective gloves should be worn any time lamps are being handled or loaded. Phosphor powder containing mercury vapor is released from the lamps and collected throughout the system. Mercury can be introduced into the body by inhalation, absorption and ingestion. Care should be exercised in avoiding inhalation of this powder. Use of respiratory protection during certain operations and maintenance of this equipment is required. Specific personal protective equipment which is to be worn will be outlined in the following sub-sections.

3.4-1 Respiratory Protection

Since the primary root of mercury vapor entry into the body is through inhalation, respiratory protection may be required during certain operations and maintenance performed on the LSS1. Respiratory protection should be used anytime mercury vapors are present. Respiratory protection should be worn if a direct reading mercury vapor instrument indicates that mercury vapors are present during operation.

3.4-2 Eye Protection

Safety glasses shall be worn at all times while handling lamps, operating the LSS1, or conducting maintenance on the LSS1.

3.4-3 Hearing Protection

OSHA 29 CFR1910.95 the Occupational Noise Exposure Standard states that any employee exposed to 90 decibels of sound or greater for an eight hour period of time is required to wear hearing protection. The Model LSS1 Lamp Recycling System generates approximately 90 dBA of noise while in full operation. Therefore, all such exposed operators and anyone around the LSS1 while it is operating are required to wear hearing protection.

3.4-4 Body Protection

Since the phosphor powder contained in fluorescent lamps contains mercury, it is important that protective coveralls be worn by all personnel who are operating or conducting maintenance on the LSS1. This is important so that cross contamination does not occur from the phosphor powder collecting on their work uniforms.

3.5 Lock-out Procedure

In order to ensure that employees performing maintenance or repairs on the LSS1 do not become injured by accidental start-up or release of stored energy, all required precautions as outlined in OSHA 29 CFR 1910.147 Lock-Out/Tag-Out Standard should be followed.

The Procedure*:*

Step 1: Locate the circuit breaker that supplies power to the main control panel. Turn off the circuit breaker and lock-out the circuit breaker.

Step 2: Go to the main control panel for the LSS1 and turn off the knife switch on the outside of the electrical panel and lock that switch in the off position. Following the directions on the front of the panel, open the control panel. Check to ensure that the main breaker has been turned off. Then go to the touch screen and attempt to operate the equipment .

Step 3: Go to the rear of the LSS1 to the electrical switch for the air compressor, turn the switch to the off position , close the lock-out hasp over the switch, and place the lock through the hasp on the switch.

Step 4: Open the air system drain valve on the air compressor, this is to make sure there is no stored pneumatic energy in the LSS1.

Step 5: Turn the air system ball valve to the off position. Close the lock-out hasp over the valve and place a lock through the hasp on the valve.

Step 6: Attempt to operate any part of the LSS1 in order to verify that there is no stored energy within the equipment. After completion of the previous steps, you may perform the required work on the LSS1. In order to return the LSS1 to service, make sure all tools and equipment are removed from the machine and all components are secured back in the machine and follow the lock-out steps in reverse order.

3.6 Air Monitoring

Air monitoring for mercury vapor concentration should be conducted in the area around the LSS1. A direct reading mercury vapor instrument should be used to collect this data. Air monitoring should be conducted in the operator work area, vapor fan stack, and coproduct's collection areas to ensure that all employees working around the LSS1 will not be exposed to mercury vapor concentrations above the ACGIH Threshold Limit Value (TLV). If at any time the mercury vapor readings get close to the TLV, the people working in the affected area should don air purifying respirators, and correct the cause of emission.

4.0 Pre-operation and Start-up

The LSS1 start-up is accomplished by using the touch screen and following the prompts as they appear and as outlined in section 4.2 below.

4.1 Pre-operation Inspection

Prior to start-up of the LSS1, a walk around inspection should be performed to ensure that all coproduct receptacles are empty and in position to receive the co-products as they are discharged from the LSS1. Furthermore, ensure that the four drums around the LSS1 are properly positioned and have straight, unobstructed connection boots and secure connection rings.

4.2 Equipment Start-up

The LSS1 is designed to run in an automatic mode. When the LSS1 runs in its automatic mode, all equipment operations are supervised through the programmable logic controller (PLC). If there is an alarm, the LSS1 will stop and indicate the reason for the alarm. To start the LSS1, make sure the circuit breaker supplying the LSS1 control panel is in the "ON" position. Proceed to the LSS1 main electrical panel and make sure that the knife switch on the control panel is in the "ON" position. Proceed to the front of the LSS1, turn the key switch on the touch pad to the "ON" position, follow the prompts on the screen, and touch the screen in the areas indicated to make your selection. To run the LSS1 in the Automatic mode press

"automatic" in the selection area of the screen. When the automatic screen appears, press the system start to activate a five-second buzzer which indicates that the system will start. When the buzzer shuts off, the system will start in a sequence. When all of the systems are operating all indicator lights of the system, except "Vacuum Bar and H.I.D.", will be lit. It is at this point that you can start feeding lamps into the LSS1.

5.0 Equipment Operation

5.1 Feeding Lamps into Equipment

Lamps are manually placed on the #1 Feed Conveyor by trained operators. The Model LSS1 is designed to process approximately 3,500 lamps per hour. The lamps can be continuously laid end-to-end completely across the conveyor. Be careful not to place the lamps any higher than the guard at the end of the conveyor. This will avoid having the lamp break prior to entry into the implosion chamber conveyor. **DO NOT** feed cardboard, wood, plastic, or other debris into the machine as such will clog the vacuum lines or jam the equipment.

Caution: In order to prevent jamming of the machine, plastic coated lamps must not be placed directly on feed conveyor #1.

5.2 Monitoring Equipment Operation

The process control system incorporates a programmable logic controller (PLC) which monitors equipment operation. Should a motor overload, filters become clogged, or an emergency stop button be depressed, the PLC will shut down that system and alert the operator to the problem. During normal operations it is important to pay attention externally to equipment operation. Look for signs of wear and tear such as leaking or clogged vacuum lines. Listen for any sound abnormalities that may indicate a bearing failure, a motor failure, or a jam in the equipment. It is also important to monitor the levels of glass, aluminum, fines, and powder discharged to containers. Proximity sensors are mounted in the lids of the drums attached to the glass fine discharge, the powder discharge, baghouse discharge and the vacuum container discharge. These switches will shut off equipment operation via the PLC should the containers become full. When full, please check the touch screen alarm screen for indication as to which drum needs to be changed out. When a new drum is placed back into position, the PLC will allow operation to continue.

5.3 Monitoring Coproduct Quality and Volume

Quality in the lamp recycling business refers to how well the process can separate the hazardous materials from the non-hazardous materials. In order for the process to perform properly, the crush and separation operation must

separate the end-caps, glass and contaminated powder from the other components. During normal operation, it is important to inspect the coproducts and coproduct discharge areas to ensure that there is no mixing of coproducts or cross contamination of materials (e.g. visible phosphor powder on the glass or aluminum end-caps, or glass-laden aluminum end caps).

One simple method to inspect glass quality is to put on rubber gloves and pick up a handful of glass gently and return it to the storage container. Inspect the rubber glove for evidence of powder. It may be necessary to sample the clean glass and the clean aluminum in order to maintain compliance with permit regulations.

It is important during operation of the LSS1 to monitor both the glass and aluminum discharge to assure that material is flowing freely and that no back-up of material will occur through the discharge chutes. Glass may be discharged into containers as small as 55 gallon drums or as large as semi trailers with optional equipment. Aluminum may also be discharged in the same manner. It is important to monitor these discharges as often as necessary to ensure that those containers do not get overfilled.

5.4 Using the Housekeeping Vacuum

The LSS1 is supplied with a positive displacement vacuum pump connected to the vapor collection system. The household vacuum system is controlled at the touch screen and is programmed to operate only when the LSS1 is running in the automatic mode. It is used for general housecleaning around the LSS1. Vacuum ports are located at various points around the equipment and are to be used to collect small particles of glass, aluminum, and phosphor powder. These materials will then be separated throughout the remainder of the system . It is important to ensure that a vacuum hose is attached to an open vacuum port prior to initiating the vacuum system. Otherwise, damage may result to the vacuum system. It is important to vacuum only lamp components into the system so that foreign materials do not contaminate recyclable materials or cause blockages when passing through the machine.

6.0 Equipment Shutdown

6.1 Emergency Shutdown

If at anytime the LSS1 needs to be immediately shut down, an operator should depress one of the four emergency stop buttons located on the LSS1. Three emergency stop buttons are located on the front of the machine, and one is located on the back. In order to deactivate the alarm and restart the LSS1, the emergency stop button that was activated must be pulled out from the stop position. Note that the vapor collection system is disabled with an emergency shutdown. To prevent fugitive vapor emissions the vapor

collection system must be restarted immediately following the treatment of the emergency.

6.2 Routine Shutdown

At the end of the production day or when you want to shut down the LSS1, simply press the system stop button on the touch screen of the automatic menu. This will shut down all operations of the LSS1 with the exception of the vapor fan.

(**The vapor fan should be allowed to continue to operate even though the LSS1 is not actively processing lamps. This will ensure that a negative pressure is maintained within the LSS1, preventing the release of mercury vapors from any residual lamps or phosphor powder that may remain in the system.)**

6.3 Daily Clean-up Procedures

At the end of each shift, the LSS1 should be allowed to continue to operate in the automatic mode for at least 10 minutes following the cessation of all processing. During this period the LSS1 equipment and surrounding floors should be swept of all visible calcium phosphate powder (phosphor powder) in order to decontaminate the area of mercury vapor. Coproduct collection containers should also be emptied at this time.

7.0 Routine (Scheduled) Maintenance

Below is a list of scheduled maintenance items:

ITEM	MONTHLY	SIX MONTH	ANNUAL
#1 Feed Conveyor	X	X	X
#2 Feed Conveyor	X	X	X
Elevated Conveyor Flights	X	X	X
Gear Reducers Oil Change		X	X
Carbon			See below
Glass Conveyor	X	X	X
Trommel Rollers	X	X	X
Air Compressor Oil	X	X	X
Vacuum Pump			X
Vacuum Blower Motor			X
All Air Lines	X	X	X

DAILY: Perform visual equipment inspection, check visible components for visible wear. Check nuts, bolts for tightness.

#1 Feed Conveyor: Inspect for tracking, wear and tension.
Adjust tracking and tension if necessary, replace if worn.

#2 Feed Conveyor: Inspect for tracking, wear and tension.
Adjust tracking and tension if necessary, replace if worn.

Elevated Conveyor Flights: Inspect the flights for wear, replace if wear is excessive.
Replace if UHMW wear strips are worn down to the metal flite

Gear Reducers: Check seals.
Change oil.

Carbon: Change when exhaust levels exceed regulatory levels.

Air Compressor: Change oil.

Vacuum pump: Change oil.

Air Lines: Check connections for air leaks

Every 100,000 lamps: Inspect clean-out points. Clean as necessary at the following locations: Feed conveyor side doors, Trommell #1 end access, vibrating conveyor port, magnetic conveyor tail.

8.0 Recommended Parts Inventory

SPARE PARTS INVENTORY

PARTS	QUANTITY
Conveyor Belt 1	1
Conveyor Belt 2	1
Cylindrical HEPA Filters	15
Square HEPA Filters	2
Air Compressor Oil	
Elevated Conveyor Flights	1 set
Elevated Conveyor Divider	1

Vacuum Blower Motor Oil - Mobil DTE BB
Texaco R & O 220
Amoco 220, or equal

Vacuum Blower Bearing Grease - Follow Manufacturers Recommended Instructions

Gear Reducer Motor Oil - Mobil 600 W Super
Texaco Honor cyl. Oil 680
Chevron NL Gear Comp 680

Touch-up Paint

Air Line

Gasketing Material (foam)

Gasketing Material (perma gum)

Silicone Sealant (RTV)

9.0 Warranty and Disclaimer

Resource Technology, Inc. ("RTI") warrants that its Model LSS1 Machine will be free from defects in materials and workmanship at the time of RTI's and for a period of 90 days thereafter exclusive of conveyor belts, which are excluded from warranty coverage; and electrical components, which are subject only to applicable manufacturer's warranties, if any.

During this limited warranty period RTI will provide new replacement parts or Equipment on an exchange basis as set forth below. All replaced parts or Equipment become the property of RTI. This limited warranty also does not include service to repair damage resulting from any accident, disaster, misuse, abuse, or any non-RTI installation, modification or attempted repair of the Equipment.

FOR WARRANTY SERVICE OR ASSISTANCE IT IS REQUIRED THAT A SERVICE REQUEST BE MADE WITHIN THE WARRANTY PERIOD. NO EQUIPMENT OR PARTS MAY BE RETURNED TO RTI WITHOUT RTI'S PRIOR WRITTEN AUTHORIZATION, AND ALL SUCH RETURNS WILL BE AT CUSTOMERS SOLE EXPENSE. If shipping is authorized, Customer must also prepay applicable RTI part or Equipment shipping charges and either obtain shipping insurance or assume the risk of loss or damage in transit. RTI reserves the right to charge Customers' account for replacement of parts or Equipment which are subsequently determined to be outside of Limited Warranty coverage, including applicable travel or service call charges.

THIS LIMITED WARRANTY IS THE SOLE AND EXCLUSIVE WARRANTY OFFERED BY RTI, AND NEITHER RTI NOR ANY REPRESENTATIVE MAKES ANY OTHER REPRESENTATION OR WARRANTY OF ANY KING, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTIES OR MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow limitations or exclusions of implied warranties, so the above exclusions may not apply to you.

CUSTOMER'S SOLE REMEDY UNDER THIS LIMITED WARRANTY SHALL BE PART OR EQUIPMENT AS PAROVIDED ABOVE. IN NO EVENT WILL RTI BE LIABLE FOR ANY DAMAGES, INCLUDING ANY ALLEGED DOWNTIME, LOST PROFITS, LOST SAVINGS, OR OTHER SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE SUCH EQUIPMENT, EVEN IF RTI HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

APPENDIX B:
Trouble Shooting Guide

TROUBLE SHOOTING GUIDE

Symptom	Possible Causes	Corrective Action
Feed conveyors stop	• Debris between conveyors • Belt is ripped • Debris in systems • Belt tension too loose • Conveyor pulley moved from center • Key is dislodged from shaft or reducer	• Remove debris • Replace belt • Remove debris • Adjust belt tension • Re-position pulley • Replace key in shaft
Crushing drums stop turning	• Debris in system (nuts, bolts, wood, etc.) • Key is dislodged from shaft	• Reverse motor to clear jam • Remove cover to clear debris • Replace key in shaft
Elevated conveyor stops	• Material overload • Debris in system • Key is dislodged from shaft	• Reverse conveyor to clear jams • Open cleanout(s) to remove material/debris
No power	• Main breaker off • Knife switch off • Key switch off	• Turn on main breaker • Turn on knife switch • Turn on key switch
Phosphor powder coming from co-product chute	• Clogged vapor lines	• Check ports • Clear lines
Baghouse filters clogged	• Air pulse system not working • Filters at end of service life	• Turn on air compressor • Ensure valve is open • Change filters
No air pressure	• Air compressor not turned on • Air compressor unplugged • Ball valve not closed • Mechanical problem • Filter has been ruptured and carbon contaminated with phosphor powder • Leak in air line	• Turn on air compressor • Plug in air compressor • Open valve • Replace air line • Replace cylindrical and square particulate filters – replace carbon
High mercury vapor emissions from exhaust stack	• Carbon is saturated	• Replace carbon
Air compressor will not shut off	• Diaphragm valve stuck open • Air line disconnected or damaged	• Disassemble and clean • Reconnect or replace

*Should a component that is commercially available fail, please refer to the component manufacturer's manuals

APPENDIX C:
Inspection Form

START-UP CHECKLIST

	YES	NO
Make sure coproduct containers are empty and are ready to receive material.		
Make sure drum connection boots are straight, and connecting rings are secure.		
Make sure the power is turned on to the control panel..		
Turn on the air compressor, open the air valves.		
Walk around and inspect the machine. Look for loose nuts, bolts, fittings. Listen for air leaks. Check air gauges for proper pressure: **Compressor 140 psi** **Top Regulator 95 psi** **Lower Regulator 65 psi**		
Stage material for processing.		
Turn the key switch on the tough screen to the "ON" position.		
Follow the instructions on the touch screen. Proceed to run the equipment in "Automatic" mode.		
Perform air monitoring in the operator area, co-product area, exhaust stack.		
Begin processing lamps.		

ATTACHMENT 7

EXHIBIT D.5.2

Battery Type and Characteristics Summary Table

EXHBIT D.5.2 - Battery Type and Characteristics Summary Table

			CONTAINER SIZE				
BATTERY TYPE	**COMMON SIZES**	**SALES**	**55-GALLON**	**30-GALLON**	**5-GALLON**	**NOTES/USAGE**	**HAZARDOUS CONSTITUENTS**
Alkaline	9-volt, D, C, AA, AAA, button, coin	* 63% of consumer battery market *Increasing	600 lbs.	330 lbs.	55 lbs.	Most commonly used and recognized battery nonrechargeable Portable Cassette Players and Radios	Manganese Dioxide, Potassium Hydroxide, Mercury
Carbon-zinc/ Lelanche/ Heavy-duty	9-volt, D, C, AA, AAA, general purpose and heavy duty	*21% of consumer battery market *Decreasing	300 lbs.	180 lbs.	30 lbs.	Nonrechargeable Flashlights, Toys	Manganese Dioxide, Zinc, Zinc Chloride, Mercury
Mercuric Oxide	Button, D, C, AA, AAA	*20% of button battery market *1% of total *banned from sale in MN after 2/1/92	250 lbs.	150 lbs.	25 lbs.	Nonrechargeable Hearing aids, Pacemakers and Photography. Marked with (+) symbol. Wastecode: D009	Mercury, Mercuric Oxide, Potassium or Sodium Hydroxide, Zinc Powder, Manganese Dioxide
Lithium Ion	9 volt, C, AA, coin, button	*0.4% of button market *0.2% of total *increasing	350 lbs.	210 lbs.	35 lbs.	Rechargeable and Nonrechargeable Cameras, Calculators. Often labelled with Li or Cr.	Lithium Cobaltate, Ethylene Carbonate, Diethyl Carbonate
Zinc Air	Button	*41% of button battery market *3 of total *increasing				Nonrechargeable Hearing aids and Pagers. Identify by Pinhole	Potassium Hydroxide, Manganese Dioxide, Zinc Dust, Mercury
Silver Oxide	Button	*38% of button market *3% of total				Nonrechargeable Photography Equipment, Power Tool & Appliances. Waste Code: D011	Silver Oxide, Manganese Dioxide, Potassium or Sodium Hydroxide, Zinc Powder, Mercury
Nickel-cadmium	9 volt, D, C, AA, AAA, flat box	*9% of consumer market *increasing dramatically	600 lbs.	330 lbs.	55 lbs.	Rechargable Appliances, Power Tools. Waste Code: D007	Nickel & Nickel Hydroxide, Cadmium & Cadmium Hydroxide, Potassium Hydroxide
Sealed lead-acid (non-automotive)	D and larger	Unknown but small *Increasing	650 lbs.	360 lbs.	60 lbs.	Rechargeable Power Tools, Emergency Lighting, Standby Power Waste Code: D008	Lead, Sulfuric Acid

* These weights are averages only - actual weights may vary due to the many different sizes of batteries available.

ATTACHMENT 7

EXHIBIT D.5.3a

Guidelines for Shipping & Packaging of Batteries

Battery Packaging & Shipping Guidelines	**Document #:** UW OP-008-W3	**Revision Date:** 05/17/16	AERC RECYCLING SOLUTIONS
00 – AERC – All Locations	**Department:** Operations	**Revision #:** D	**Page:** Page 1 of 38

1.0 Purpose & Scope

1.1 This document prescribes methods and practices for the safe handling and management of universal waste batteries, including lead acid, nickel, alkaline, and mercury based batteries handled at any AERC facility. This procedure is intended to provide baseline safe work operating procedures in the management of such devices. Employees must recognize the need to employ sound judgment and responsible practices to ensure their personal safety as well as the safety of their co-workers and the community in which AERC operates. Additional information on Battery Handling, Packaging, and Shipping is available from the AERC Regulatory Affairs Department upon request.

1.2 ***This document is not intended for the handling of intentionally broken batteries, as this would be considered Hazardous Waste and not acceptable at any AERC facility. However, incidental breakage and leakage may occur in the normal course of handling batteries. Incidental breakage requires additional handling as noted in the details of this work instruction.***

2.0 Prerequisite Tools and Personal Protective Equipment

2.1 Work Uniform or Cover Up
2.2 Steel Toe Boots
2.3 Safety Glasses
2.4 Nitrile Gloves
2.5 Lifting belt (optional)
2.6 Splash Goggles and Splash Apron when working with Unsealed Wet Lead Acid batteries
2.7 Other PPE may be required as necessary for leaking batteries

3.0 Instructions

3.1 **Battery Danger Signs**

3.1.1 **Danger:** If batteries are hot or smoking, get your supervisor. Do not attempt to separate batteries from each other.

3.1.2 **Danger:** A battery container is leaking or bulged get your supervisor immediately. Do not attempt to open container until advised what to do by your supervisor.

3.1.3 **Danger:** A battery may never be thrown onto the floor to identify the battery inside. Batteries may not be dropped, hit or broken in any way. No battery may be taken apart with tools or by hand to identify the battery. Battery packs will not be taken apart so they fit into a container. Batteries may not be opened in any way.

3.2 **Spill Response** work instructions are available in CP-008-W3 Leaking Lead Acid Battery Spill Response.

3.3 **Quality Control of Incoming Batteries**

3.3.1 Before removing batteries from truck, look for containers that may be leaking or bulging. Danger: If you find a container that is bulging or leaking, STOP! Notify your supervisor immediately!

3.3.2 Remove pallets of batteries with a forklift or pallet jack.

3.3.3 All drums that are floor-loaded should be removed by using a drum dolly or drum grabber (drum grabber for metal drums only).

3.3.4 Lithium batteries must be QC'd and moved to the battery staging area first.

3.4 **Sorting & Packaging**

3.4.1 Lithium based batteries must be processed first due to the higher risk of fire.

3.4.2 Batteries must be separated not only by AERC category, but by type within each category.

3.4.3 Never mix batteries of different categories together in the same container.

3.4.4 Use the OP-011 Source Control Procedure and OP-011-F1 to report and manage any type or quantity discrepancies between batteries listed on the BOL and those received or processed.

3.4.5 Incident reporting is required by law for **ALL incidents** of fire, violent rupture, explosion, or a dangerous evolution of heat which occur as a direct result of a battery or battery-powered device. *Dangerous evolution of heat* is defined as an amount of heat sufficient to be dangerous to packaging or personal safety to include charring of packaging, melting of packaging, scorching of packaging or other evidence. Notify the Regulatory Affairs department upon any incident in question.

3.4.6 Each page that follows has instructions for the packaging and labeling of each type of battery in accordance with RCRA and DOT regulations. Each page represents the instructions for one type of battery (with a few that expand to two pages).

3.4.7 If you are unsure of the battery type or have questions on the appropriate handling, seek guidance from your supervisor. The Health & Safety Coordinator may also be contacted according to the information posted in your facility.

Battery Packaging & Shipping Guidelines	**Document #:** UW OP-008-W3	**Revision Date:** 05/17/16	AERC RECYCLING SOLUTIONS
00 - AERC – All Locations	**Department:** Operations	**Revision #:** D	**Page:** Page 3 of 38

AERC Category	Battery Type	Packaging	Labeling
1	**Wet-Cell Lead Acid** [Flooded lead acid batteries of various sizes used in industrial, automotive and standby power (UPS) applications.]   	**Fully cover each terminal with electrical tape or similar non-conductive material.** Package SMALL (< 3" x 5" X 6") batteries in one of the following DOT specification packages. • 1H2 – Plastic, removable head drum; or • 1G2 – Fiberboard drum with poly liner (4 mil thickness); or • CF – Fiber box with poly liner (4 mil thickness). Metal drums (1A2) are not acceptable for shipping of wet cell batteries. PG III performance level spec packaging required. Vented pressure relief bungs are required for containers > 5-gallon capacity to avoid potentially dangerous overpressure. Close and seal container with appropriate lid. Package LARGE, non-leaking lead acid batteries using one of the following methods: 1. Place batteries securely on a wooden pallet. Use shrink-wrap or nylon strapping to secure batteries to the pallet. DO NOT USE METAL STRAPPING TO SECURE BATTERIES TO THE PALLET. Batteries may be double stacked on pallets, but pallet height may not exceed 2 times the height of the battery. 2. Individual, large lead acid batteries may be packaged one battery per pallet, poly 5-gallon pail or fiberboard box.	Apply Universal Waste and Corrosive Labels to each pail, drum and/or pallet.   Ship on a standard BOL using the description  **UN2794, Batteries, wet, filled with acid, 8, III (Used lead acid batteries for recycling)(ERG #154)** Mark an × in the HM Column

Battery Packaging & Shipping Guidelines	**Document #:** UW OP-008-W3	**Revision Date:** 05/17/16	AERC RECYCLING SOLUTIONS
00 - AERC – All Locations	**Department:** Operations	**Revision #:** D	**Page:** Page 4 of 38

AERC Category	Battery Type	Packaging	Labeling
1	**Dry-Cell (Sealed) | Non-spillable or Valve Regulated Lead Acid (VRLA)** [Non-Automotive/SLI batteries D-Size and larger used in portable/rechargeable tools, emergency lighting and marine applications.] 	**Fully cover each terminal with electrical tape or similar non-conductive material.** Package SMALL (< 3" x 5" X 6") batteries in one of the following DOT specification packages. • 1H2 – Plastic, removable head drum; or • 1G2 – Fiberboard drum with poly liner (4 mil thickness); or • CF – Fiber box with poly liner (4 mil thickness). Metal drums (1A2) are not acceptable for shipping of wet cell batteries. PG III performance level spec packaging required. Vented pressure relief bungs are required for containers > 5-gallon capacity to avoid potentially dangerous overpressure. Close and seal container with appropriate lid. Package LARGE, non-leaking lead acid batteries using one of the following methods: 1. Place batteries securely on a wooden pallet. Use shrink-wrap or nylon strapping to secure batteries to the pallet. DO NOT USE METAL STRAPPING TO SECURE BATTERIES TO THE PALLET. Batteries may be double stacked on pallets, but pallet height may not exceed 2 times the height of the battery. 2. Individual, large lead acid batteries may be packaged one battery per pallet, poly 5-gallon pail or fiberboard box.	Apply Universal Waste and Corrosive Labels to each pail, drum and/or pallet.   Batteries must be contained in a strong outer packaging with the battery and outer packaging plainly identified with a durable marking stating "**NONSPILLABLE**" or "**NONSPILLABLE** BATTERY." Ship on a standard BOL using the description  **UN2800, Batteries, wet, non-spillable, 8, III (Used lead acid batteries for recycling)(ERG #154)** Mark an ✖ in the HM Column

Battery Packaging & Shipping Guidelines	**Document #:** UW OP-008-W3	**Revision Date:** 05/17/16	AERC RECYCLING SOLUTIONS
00 - AERC – All Locations	**Department:** Operations	**Revision #:** D	**Page:** Page 5 of 38

AERC Category	Battery Type	Packaging	Labeling
1	Leaking Lead Acid Batteries Damaged Wet Cell	**Damage Wet Cell** 1. Separate all free liquid from battery casing. This liquid should be placed in 1H1 poly drum. Profile this solution separately using AERC Recycling Profile. 2. Place the battery carcasses in a poly drum liner (4 mil thickness) and place in a poly 1H2 drum. Leaking batteries must be labeled and shipped as hazardous waste. **Fully cover each terminal with electrical tape or similar non-conductive material.** **Containerized battery acid managed as:** **UN2796, Waste Battery fluid , acid, 8, II (ERG#157)**	Apply Universal Waste and Corrosive Labels to each pail, drum and/or pallet.  Ship on hazardous waste manifest using the description : **UN2794, Batteries, wet, filled with acid, 8, III (Used/Damaged lead acid batteries and battery acid for recycling)(ERG #154)** EPA hazardous waste code D008 (Lead) should be entered in item 13 of manifest. EPA hazardous waste code D002 (Corrosive) should be entered in item 13 of manifest.

Battery Packaging & Shipping Guidelines	**Document #:** UW OP-008-W3	**Revision Date:** 05/17/16	AERC RECYCLING SOLUTIONS
00 - AERC – All Locations	**Department:** Operations	**Revision #:** D	**Page:** Page 6 of 38

AERC Category	Battery Type	Packaging	Labeling
2	Alkaline [Dry - includes 1.5 & 9-volt]  Used in consumer devices (non-rechargeable) with common sizes: A, AA, AAA, C, D, 9-volt, button & coin.]	(EXCEPT IN THE STATE OF CALIFORNIA) Batteries of this type (with the shipping description noted to the right) – DO NOT require protection from short circuiting. These batteries DO NOT need to be taped (insulated) from contact of terminals **IF < 9-VOLTS capacity**. Dry-Cell, non-leaking Category 2 batteries (segregated from leaking) in one of the following DOT specification packages. PG III performance level spec packaging required. • 1A2 – Steel, removable head drum with a minimum 4-mil thickness poly liner; or • 1H2 – Plastic, removable head drum; or • 1G2 – Fiberboard drum with poly liner (4 mil thickness). Close and seal container with appropriate lid.	 Ship on a standard BOL using the description  **Batteries, dry, sealed, n.o.s., (Used alkaline/zinc-carbon batteries for recycling)**
		CALIFORNIA ONLY: Apply Universal Waste label to each pail, drum and/or pallet instead of the Non-RCRA Regulated Waste Label.	

Battery Packaging & Shipping Guidelines	**Document #:** UW OP-008-W3	**Revision Date:** 05/17/16	AERC RECYCLING SOLUTIONS
00 - AERC – All Locations	**Department:** Operations	**Revision #:** D	**Page:** Page 7 of 38

AERC Category	Battery Type	Packaging	Labeling
2	Zinc-carbon [Dry | Non-Hg | 6-volt]  [Used in consumer devices (non-rechargeable) with common sizes: A, AA, AAA, C, D, 9-volt | general purpose & heavy duty.]	(EXCEPT IN THE STATE OF CALIFORNIA) Batteries of this type (with the shipping description noted to the right) – DO NOT require protection from short circuiting. These batteries DO NOT need to be taped (insulated) from contact of terminals **IF < 9-VOLTS capacity**. Dry-Cell, non-leaking Category 2 batteries (segregated from leaking) in one of the following DOT specification packages. PG III performance level spec packaging required. • 1A2 – Steel, removable head drum with a minimum 4-mil thickness poly liner; or • 1H2 – Plastic, removable head drum; or • 1G2 – Fiberboard drum with poly liner (4 mil thickness). Close and seal container with appropriate lid.	 Ship on a standard BOL using the description  **Batteries, dry, sealed, n.o.s., (Used alkaline/zinc-carbon batteries for recycling)**
		CALIFORNIA ONLY: Apply Universal Waste label to each pail, drum and/or pallet instead of the Non-RCRA Regulated Waste Label.	

Battery Packaging & Shipping Guidelines	**Document #:** UW OP-008-W3	**Revision Date:** 05/17/16	AERC RECYCLING SOLUTIONS
00 - AERC – All Locations	**Department:** Operations	**Revision #:** D	**Page:** Page 8 of 38

AERC Category	Battery Type	Packaging	Labeling
2	Alkaline [Wet]	**Fully cover each terminal with electrical tape or similar non-conductive material.** Package SMALL (< 3" x 5" X 6") batteries in one of the following DOT specification packages. • 1H2 – Plastic, removable head drum; or • 1G2 – Fiberboard drum with poly liner (4 mil thickness); or • CF – Fiber box with poly liner (4 mil thickness). Metal drums (1A2) are not acceptable for shipping of wet cell batteries. PG III performance level spec packaging required. Vented pressure relief bungs are required for containers > 5-gallon capacity to avoid potentially dangerous overpressure. Close and seal container with appropriate lid.	Apply Universal Waste and Corrosive Labels to each pail, drum and/or pallet.   Ship on a standard BOL using the description  **UN2795, Batteries, wet, filled with alkali, 8, III (Used Alkaline batteries for recycling)(ERG #154)** Mark an ✖ in the HM Column

Battery Packaging & Shipping Guidelines	**Document #:** UW OP-008-W3	**Revision Date:** 05/17/16	AERC RECYCLING SOLUTIONS
00 - AERC – All Locations	**Department:** Operations	**Revision #:** D	**Page:** Page 9 of 38

AERC Category	Battery Type	Packaging	Labeling
2	NiFe (Nickel Iron)	**Fully cover each terminal with electrical tape or similar non-conductive material.** Package SMALL (< 3" x 5" X 6") batteries in one of the following DOT specification packages. • 1H2 – Plastic, removable head drum; or • 1G2 – Fiberboard drum with poly liner (4 mil thickness); or • CF – Fiber box with poly liner (4 mil thickness). Metal drums (1A2) are not acceptable for shipping of wet cell batteries. PG III performance level spec packaging required. Vented pressure relief bungs are required for containers > 5-gallon capacity to avoid potentially dangerous overpressure. Close and seal container with appropriate lid.	Apply Universal Waste and Corrosive Labels to each pail, drum and/or pallet.   Ship on a standard BOL using the description  **UN2795, Batteries, wet, filled with alkali, 8, III (Used NiFe batteries for recycling)(ERG #154)** Mark an × in the HM Column

Battery Packaging & Shipping Guidelines	**Document #:** UW OP-008-W3	**Revision Date:** 05/17/16	AERC RECYCLING SOLUTIONS
00 - AERC – All Locations	**Department:** Operations	**Revision #:** D	**Page:** Page 10 of 38

AERC Category	Battery Type	Packaging	Labeling
2	Zinc Air  [Sealed battery used consumer devices (as non-rechargeable) commonly found as a button or coin cells.]	**Fully cover each battery with electrical tape or place in a small sealed plastic bag.**   Package SMALL (< 3" x 5" X 6") batteries in one of the following DOT specification packages. • 1H2 – Plastic, removable head drum; or • 1G2 – Fiberboard drum with poly liner (4 mil thickness); or • CF – Fiber box with poly liner (4 mil thickness). Metal drums (1A2) are not acceptable for shipping of wet cell batteries. PG III performance level spec packaging required. Vented pressure relief bungs are required for containers > 5-gallon capacity to avoid potentially dangerous overpressure. Close and seal container with appropriate lid.	Apply Universal Waste and Corrosive Labels to each pail, drum and/or pallet.   Ship on a standard BOL using the description  **UN2795, Batteries, wet, filled with alkali, 8, III (Used Zinc Air batteries for recycling)(ERG #154)** Mark an ✖ in the HM Column

Battery Packaging & Shipping Guidelines	**Document #:** UW OP-008-W3	**Revision Date:** 05/17/16	AERC RECYCLING SOLUTIONS
00 - AERC – All Locations	**Department:** Operations	**Revision #:** D	**Page:** Page 11 of 38

AERC Category	Battery Type	Packaging	Labeling
2	NiMH (Nickel Metal Hydride)  [Used in consumer devices and portable tools (rechargeable) with common sizes: AA, C, D, 9-volt & flat box.]	(EXCEPT IN THE STATE OF CALIFORNIA) Batteries of this type (with the shipping description noted to the right) – DO NOT require protection from short circuiting. These batteries DO NOT need to be taped (insulated) from contact of terminals **IF < 9-VOLTS capacity**. Dry-Cell, non-leaking Category 2 batteries (segregated from leaking) in one of the following DOT specification packages. PG III performance level spec packaging required. • 1A2 – Steel, removable head drum with a minimum 4-mil thickness poly liner; or • 1H2 – Plastic, removable head drum; or • 1G2 – Fiberboard drum with poly liner (4 mil thickness). Close and seal container with appropriate lid.	 Apply a Non-RCRA Regulated Waste label to each drum, pail, or pallet. Ship on a standard BOL using the description  **Batteries, dry, sealed, n.o.s., (Used nickel-metal hydride batteries for recycling)**
		CALIFORNIA ONLY: Apply Universal Waste label to each pail, drum and/or pallet instead of the Non-RCRA Regulated Waste Label.	

Battery Packaging & Shipping Guidelines	**Document #:** UW OP-008-W3	**Revision Date:** 05/17/16	AERC RECYCLING SOLUTIONS
00 - AERC – All Locations	**Department:** Operations	**Revision #:** D	**Page:** Page 12 of 38

AERC Category	Battery Type	Packaging	Labeling
2	NiCd (Nickel Cadmium)  [Dry-cell used in consumer devices and appliances (rechargeable) with common sizes: A, AA, AAA, C, D, 9-volt & flat box.]	**Fully cover each terminal with electrical tape or similar non-conductive material.** **NOTE: No taping need IF** terminals are recessed within the battery and can be packaged so that there is no hazard from short-circuiting Dry-Cell, non-leaking Category 2 batteries (segregated from leaking) in one of the following DOT specification packages. PG III performance level spec packaging required. • 1A2 – Steel, removable head drum with a minimum 4-mil thickness poly liner; or • 1H2 – Plastic, removable head drum; or • 1G2 – Fiberboard drum with poly liner (4 mil thickness). Close and seal container with appropriate lid. **RCRA Regulated Universal Waste -** These batteries commonly fail TCLP for cadmium and consequently are regulated as Universal Waste.	 Apply Universal Waste label to each pail, drum and/or pallet. Ship on a standard BOL using the description  UN3028, Batteries, dry, containing potassium hydroxide solid, 8, III (Used nickel-cadmium batteries for recycling)(ERG #154)

Battery Packaging & Shipping Guidelines	**Document #:** UW OP-008-W3	**Revision Date:** 05/17/16	AERC RECYCLING SOLUTIONS
00 - AERC – All Locations	**Department:** Operations	**Revision #:** D	**Page:** Page 13 of 38

2	NiCd [Wet]  [Wet-cell commonly used in industrial applications such as back-up power.]	**Fully cover each terminal with electrical tape or similar non-conductive material.** Package SMALL (< 3" x 5" X 6") batteries in one of the following DOT specification packages. • 1H2 – Plastic, removable head drum; or • 1G2 – Fiberboard drum with poly liner (4 mil thickness); or • CF – Fiber box with poly liner (4 mil thickness). Metal drums (1A2) are not acceptable for shipping of wet cell batteries. PG III performance level spec packaging required. Vented pressure relief bungs are required for containers > 5-gallon capacity to avoid potentially dangerous overpressure. Close and seal container with appropriate lid. LARGE, non-leaking wet NiCd batteries (> 3" x 5" X 6") must be packaged using one of the following methods: 1. Place batteries securely on a wooden pallet. Place a piece of electrical tape over each terminal to avoid terminal contact. Use shrink-wrap or nylon strapping to secure batteries to the pallet. DO NOT USE METAL STRAPPING TO SECU*RE BATTERIES TO THE PALLET. Batteries may be double stacked on pallets, but pallet height may not exceed* 1/1/2 times the width of the pallet. 2. Individual, large Category 2 batteries may be packaged one battery per pallet, poly 5-gallon pail or fiberboard box.	Apply Universal Waste and Corrosive Labels to each pail, drum and/or pallet.  Ship on a standard BOL using the description  **UN2795, Batteries, wet, filled with alkali, 8, III** **(Used nickel-cadmium batteries for recycling)(ERG #154)** Mark an ✖ in the HM Column

Battery Packaging & Shipping Guidelines	**Document #:** UW OP-008-W3	**Revision Date:** 05/17/16	AERC RECYCLING SOLUTIONS
00 - AERC – All Locations	**Department:** Operations	**Revision #:** D	**Page:** Page 14 of 38

2	Leaking or damaged Category 2 Batteries (Incidental Damaged)	Handle UW batteries having incidental damage as UW packaged in a separate 1H2 container (Plastic, removable head drum/pail).	Apply Universal Waste and Corrosive Labels to each pail, drum and/or pallet.  Ship on BOL with other UW batteries under **separate line item** with the appropriate DOT name according to the battery type. **UN2795, Batteries, wet, filled with alkali, 8, III (Used/damaged (fill-in) batteries and electrolyte for recycling)(ERG #154)** **Or –** **Batteries, dry, sealed, n.o.s., (Used/damaged (fill-in) batteries and electrolyte for recycling)(ERG #154)** **Or –** **UN3028, Batteries, dry, containing potassium hydroxide solid, 8, III (Used/damaged (fill-in) batteries and electrolyte for recycling)(ERG #154)**

Battery Packaging & Shipping Guidelines	**Document #:** UW OP-008-W3	**Revision Date:** 05/17/16	AERC RECYCLING SOLUTIONS
00 - AERC – All Locations	**Department:** Operations	**Revision #:** D	**Page:** Page 15 of 38

AERC Category	Battery Type	Packaging	Labeling
			 Mark an ✖ in the HM Column

Battery Packaging & Shipping Guidelines	**Document #:** UW OP-008-W3	**Revision Date:** 05/17/16	AERC RECYCLING SOLUTIONS
00 - AERC – All Locations	**Department:** Operations	**Revision #:** D	**Page:** Page 16 of 38

AERC Category	Battery Type	Packaging	Labeling
3	Mercury Mercury Oxide  [Used in consumer devices (non-rechargeable) with common sizes: AA, AAA, C, D & button cell.]	Batteries of this type (with the shipping description noted to the right) – DO NOT require protection from short circuiting. These batteries DO NOT need to be taped (insulated) from contact of terminals **IF < 9-VOLTS capacity**. Packages which contain < 2 ½ pounds (estimated as less than RQ) – shipping description as noted. Non-leaking Category 3 batteries (segregated from leaking) in one of the following DOT specification packages. PG III performance level spec packaging required. • 1A2 – Steel, removable head drum with a minimum 4-mil thickness poly liner; or • 1H2 – Plastic, removable head drum; or • 1G2 – Fiberboard drum with poly liner (4 mil thickness). Close and seal container with appropriate lid. Batteries must be contained in strong outer packaging. ***Continued on Next Page***	Apply Universal Waste Label to each pail, drum and/or pallet.  Ship on a standard BOL using the description  **Batteries, dry, sealed, n.o.s., (Used mercury-containing batteries for recycling)**

Battery Packaging & Shipping Guidelines	**Document #:** UW OP-008-W3	**Revision Date:** 05/17/16	AERC RECYCLING SOLUTIONS
00 - AERC – All Locations	**Department:** Operations	**Revision #:** D	**Page:** Page 17 of 38

AERC Category	Battery Type	Packaging	Labeling
		Packages which contain ≥ 2 ½ pounds (considered greater than RQ)	Apply Universal Waste and Corrosive Labels to each pail, drum and/or pallet.   Ship on a standard BOL using the description  **RQ, UN2809, Mercury contained in manufactured articles, 8, III (Used mercury batteries for recycling)(ERG #172)** Mark an ✖ in the HM Column

Battery Packaging & Shipping Guidelines	**Document #:** UW OP-008-W3	**Revision Date:** 05/17/16	AERC RECYCLING SOLUTIONS
00 - AERC – All Locations	**Department:** Operations	**Revision #:** D	**Page:** Page 18 of 38

AERC Category	Battery Type	Packaging	Labeling
3	Carbon Zinc (w/Hg)  [Used in consumer devices, e.g., flashlights and toys - non-rechargeable.]	Batteries of this type (with the shipping description noted to the right) – DO NOT require protection from short circuiting. These batteries DO NOT need to be taped (insulated) from contact of terminals **IF < 9-VOLTS capacity**. Packages which contain < 1 Lb Mercury are less than the RQ – shipping description as noted. Non-leaking Category 3 batteries (segregated from leaking) in one of the following DOT specification packages. PG III performance level spec packaging required. • 1A2 – Steel, removable head drum with a minimum 4-mil thickness poly liner; or • 1H2 – Plastic, removable head drum; or • 1G2 – Fiberboard drum with poly liner (4 mil thickness). Close and seal container with appropriate lid. Batteries must be contained in strong outer packaging. ***Continued on Next Page***	Apply Universal Waste Label to each pail, drum and/or pallet.  Ship on a standard BOL using the description  **Batteries, dry, sealed, n.o.s., (Used mercury-containing batteries for recycling)**

Battery Packaging & Shipping Guidelines	**Document #:** UW OP-008-W3	**Revision Date:** 05/17/16	AERC RECYCLING SOLUTIONS
00 - AERC – All Locations	**Department:** Operations	**Revision #:** D	**Page:** Page 19 of 38

AERC Category	Battery Type	Packaging	Labeling
		Packages which contain > 1 Lb Mercury are greater than the RQ – shipping description as noted.	Apply Universal Waste and Corrosive Labels to each pail, drum and/or pallet.   Ship on a standard BOL using the description  **RQ, UN2809, Mercury contained in manufactured articles, 8, III (Used mercury batteries for recycling)(ERG #172)** Mark an ✖ in the HM Column

Battery Packaging & Shipping Guidelines	**Document #:** UW OP-008-W3	**Revision Date:** 05/17/16	AERC RECYCLING SOLUTIONS
00 - AERC – All Locations	**Department:** Operations	**Revision #:** D	**Page:** Page 20 of 38

AERC Category	Battery Type	Packaging	Labeling
3	Silver Oxide (w/Hg) (aka Silver-Zinc)  [Used in consumer devices such as hearing aids, watches, cameras and calculators (non-rechargeable) - common size: button cell.]	Batteries of this type (with the shipping description noted to the right) – DO NOT require protection from short circuiting. These batteries DO NOT need to be taped (insulated) from contact of terminals **IF < 9-VOLTS capacity**. Packages which contain < 2 ½ pounds (estimated as less than RQ) – shipping description as noted. Non-leaking Category 3 batteries (segregated from leaking) in one of the following DOT specification packages. PG III performance level spec packaging required. • 1A2 – Steel, removable head drum with a minimum 4-mil thickness poly liner; or • 1H2 – Plastic, removable head drum; or • 1G2 – Fiberboard drum with poly liner (4 mil thickness). Close and seal container with appropriate lid. Batteries must be contained in strong outer packaging. . ***Continued on Next Page***	Apply Universal Waste Label to each pail, drum and/or pallet.  Ship on a standard BOL using the description  **Batteries, dry, sealed, n.o.s., (Used mercury-containing batteries for recycling)**

Battery Packaging & Shipping Guidelines	**Document #:** UW OP-008-W3	**Revision Date:** 05/17/16	AERC RECYCLING SOLUTIONS
00 - AERC – All Locations	**Department:** Operations	**Revision #:** D	**Page:** Page 21 of 38

AERC Category	Battery Type	Packaging	Labeling
		Packages which contain ≥ 2 ½ pounds (considered greater than RQ) – shipping description as noted.	Apply Universal Waste and Corrosive Labels to each pail, drum and/or pallet.   Ship on a standard BOL using the description  **RQ, UN2809, Mercury contained in manufactured articles, 8, III (Used mercury batteries for recycling)(ERG #172)** Mark an ✖ in the HM Column

Battery Packaging & Shipping Guidelines	**Document #:** UW OP-008-W3	**Revision Date:** 05/17/16	AERC RECYCLING SOLUTIONS
00 - AERC – All Locations	**Department:** Operations	**Revision #:** D	**Page:** Page 22 of 38

AERC Category	Battery Type	Packaging	Labeling
3	Silver Oxide (aka Silver-Zinc)  [Used in consumer devices such as hearing aids, watches, cameras and calculators (non-rechargeable) - common size: button cell.]	Batteries of this type (with the shipping description noted to the right) – DO NOT require protection from short circuiting. These batteries DO NOT need to be taped (insulated) from contact of terminals **IF < 9-VOLTS capacity**. Non-leaking Category 3 batteries (segregated from leaking) in one of the following DOT specification packages. PG III performance level spec packaging required. • 1A2 – Steel, removable head drum with a minimum 4-mil thickness poly liner; or • 1H2 – Plastic, removable head drum; or • 1G2 – Fiberboard drum with poly liner (4 mil thickness). Close and seal container with appropriate lid. Batteries must be contained in strong outer packaging. .	Apply Universal Waste Label to each pail, drum and/or pallet.  Ship on a standard BOL using the description  **Batteries, dry, sealed, n.o.s., (Used silver oxide batteries for recycling)**

Battery Packaging & Shipping Guidelines	**Document #:** UW OP-008-W3	**Revision Date:** 05/17/16	AERC RECYCLING SOLUTIONS
00 - AERC – All Locations	**Department:** Operations	**Revision #:** D	**Page:** Page 23 of 38

3	ATON "Aids to Navigation" batteries vary in construction and chemistry but commonly contain zinc and mercury and an alkaline electrolyte (such as sodium hydroxide).	**Fully cover each battery with electrical tape or place in a small sealed plastic bag.** Package batteries in one of the following DOT specification packages. • 1H2 – Plastic, removable head drum; or • 1G2 – Fiberboard drum with poly liner (4 mil thickness); or • CF – Fiber box with poly liner (4 mil thickness). Metal drums (1A2) are not acceptable for shipping of wet cell batteries. PG III performance level spec packaging required. Close and seal container with appropriate lid.	Apply Universal Waste and Corrosive Labels to each pail, drum and/or pallet.   Ship on a standard BOL using the description Packages which contain < 2 ½ pounds  **UN2795, Batteries, wet, filled with alkali, 8, III (Used ATON batteries for recycling)(ERG #154)** Mark an ✖ in the HM Column Packages which contain ≥ 2 ½ pounds **RQ, UN2795, Batteries, wet, filled with alkali, 8, III (Used ATON batteries for recycling)(ERG #154)**

AERC Category	Battery Type	Packaging	Labeling
3	Damaged or Leaking Category 3 Batteries (Incidental Damage)	**Fully cover each battery with electrical tape or place in a small sealed plastic bag.** Package batteries in one of the following DOT specification packages. • 1H2 – Plastic, removable head drum; or • 1G2 – Fiberboard drum with poly liner (4 mil thickness); or • CF – Fiber box with poly liner (4 mil thickness). Metal drums (1A2) are not acceptable for shipping of wet cell batteries. PG III performance level spec packaging required. Close and seal container with appropriate lid. ***Continued on Next Page***	Apply Universal Waste Label to each pail, drum and/or pallet.  Apply Corrosive Label to each pail, drum and/or pallet containing ATON batteries  Ship on a standard BOL using the appropriate description below. Add "RQ" as a prefix where quantities are >= 2 ½ pounds. **RQ, UN2809, Mercury contained in manufactured articles, 8, III (Used/Damaged mercury-containing batteries for recycling)(ERG #172)** **Or –**

AERC Category	Battery Type	Packaging	Labeling
			UN2795, Batteries, wet, filled with alkali, 8, III (Used/damaged Mercury Containing batteries)(ERG #154) **Or –** **Batteries, dry, sealed, n.o.s., (Used/damaged Mercury Containing batteries for recycling)(ERG #154)** **Or –**  **Batteries, dry, sealed, n.o.s., (Used/damaged silver oxide batteries for recycling)(ERG #154)** Mark an ✖ in the HM Column

Battery Packaging & Shipping Guidelines	**Document #:** UW OP-008-W3	**Revision Date:** 05/17/16	AERC RECYCLING SOLUTIONS
00 - AERC – All Locations	**Department:** Operations	**Revision #:** D	**Page:** Page 26 of 38

AERC Category	Battery Type	Packaging	Labeling
4 CAT HW	Lithium Metal (Primary) & Li-Alloy  [Used in consumer devices such as cameras and calculators (non-rechargeable) in sizes: AA, C, 9-volt, button & coil cell.  	**FAILURE TO PROTECT TERMINALS WILL LEAD TO OVERHEATING and/or FIRE and EXPLOSION** DURING STORAGE and/or TRANSPORTATION. Package each battery to ensure protection of the terminals and avoid electrical short circuit. The following practices are recommended: • Place each battery in sealed individual plastic bag; OR • Use original packaging in which the batteries were received (if in good condition and can be resealed); OR • Place a piece of electrical, i.e., insulating, tape over each terminal to avoid terminal contact. Based on the high-energy density and reactivity of this battery category, containers of reactive metal batteries are limited to a maximum size of 5-gallons (66 lb gross weight per container). Non-leaking Category 4 batteries (segregated from leaking) in one of the following DOT specification packages. **PG II performance level spec packaging required.** • 1A2 – **5-gallon** steel, removable head drum with a minimum 4-mil thickness poly liner; or • 1H2 – **5-gallon** plastic, removable head drum; or • 1G2 – **5-gallon** fiberboard drum with poly liner (4 mil thickness).	Apply Universal Waste, Caution and #9 label to each pail, drum, and/or pallet.    PRIMARY LITHIUM BATTERIES - FORBIDDEN FOR TRANSPORT ABOARD PASSENGER AIRCRAFT Ship on Standard BOL using the description:

Battery Packaging & Shipping Guidelines	**Document #:** UW OP-008-W3	**Revision Date:** 05/17/16	AERC RECYCLING SOLUTIONS
00 - AERC – All Locations	**Department:** Operations	**Revision #:** D	**Page:** Page 27 of 38

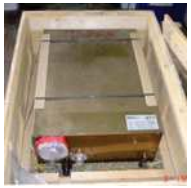
AERC Category	Battery Type	Packaging	Labeling
		Package batteries to prevent movement during shipment. For example, layer with vermiculite, speedi-dry or kitty litter for larger batteries. Failure to prevent movement or shifting of batteries may lead to a fire or explosion during storage and/or transportation!	 **UN3090, Lithium metal batteries including lithium alloy batteries, 9, II (Used lithium metal batteries for recycling)(ERG #138)** **UN3091, Lithium Metal batteries contained in equipment including lithium alloy batteries, 9, II** **UN3091 Lithium metal batteries packed with equipment including lithium alloy batteries, 9, II** Mark an × in the HM Column

4	Li-Ion & Li-Poly (Secondary)  Li-Ion or Li-Poly batteries are rechargeable and commonly used in consumer electronics, e.g., laptops.]  Fully Recessed Terminals Below 	**FAILURE TO PROTECT TERMINALS WILL LEAD TO OVERHEATING and/or FIRE and EXPLOSION** DURING STORAGE and/or TRANSPORTATION. Package each battery to ensure protection of the terminals and avoid electrical short circuit. The following practices are recommended: • Place each battery in sealed individual plastic bag; OR • Use original packaging in which the batteries were received (if in good condition and can be resealed); OR • Place a piece of electrical, i.e., insulating, tape over each terminal to avoid terminal contact. ***Lithium-Ion Battery Packs with fully recessed terminals do not need to be taped or bagged if packaged with other fully recessed Lithium-Ion Battery Packs.** Non-leaking Category 4 batteries (segregated from leaking) in one of the following DOT specification packages. **PG II performance level spec packaging required.** The lithium cells or batteries must be placed in non-metallic inner packaging that completely enclose the cells or batteries, and separate the cells or batteries from contact with equipment, other devices, or conductive materials (e.g., metal) in the packaging. The Inner packaging containing lithium cells or batteries must be placed in one of the following Outer packaging meeting the requirements of part 178, subparts L and M, of this subchapter at the Packing Group II level: • Metal (4A, 4B, 4N*), wooden (4C1, 4C2, 4D, 4F), fiberboard (4G), or solid plastic (4H1*, 4H2) box; • Metal (1A2, 1B2, 1N2*), plywood (1D), fiber (1G*), or plastic (1H2*) drum;	Apply Universal Waste, Caution and #9 label to each pail, drum, and/or pallet.    Ship on Standard BOL using the description:  **UN3480, Lithium ion batteries including Lithium polymer, 9, II (Used lithium ion polymer batteries for recycling)(ERG #138)**

AERC Category	Battery Type	Packaging	Labeling
		• Metal (3A2, 3B2) or plastic (3H2) jerrican. Package batteries to prevent movement during shipment. For example, layer with vermiculite, speedi-dry or kitty litter for larger batteries. Failure to prevent movement or shifting of batteries may lead to a fire or explosion during storage and/or transportation!	**UN3481 Lithium ion batteries contained in equipment including Lithium polymer, 9, II** **UN3481 Lithium ion batteries packaged with equipment including Lithium polymer, 9, II** Mark an **×** in the HM Column

4	Magnesium   Similar to alkaline batteries - used in consumer devices (non-rechargeable) of varying sizes. Rechargeable versions of this battery type have been examined but are not believed to be commercially available.	**FAILURE TO PROTECT TERMINALS WILL LEAD TO OVERHEATING and/or FIRE and EXPLOSION** DURING STORAGE and/or TRANSPORTATION. Package each battery to ensure protection of the terminals and avoid electrical short circuit. The following practices are recommended: • Place each battery in sealed individual plastic bag; OR • Use original packaging in which the batteries were received (if in good condition and can be resealed); OR • Place a piece of electrical, i.e., insulating, tape over each terminal to avoid terminal contact. Based on the high-energy density and reactivity of this battery category, containers of reactive metal batteries are limited to a maximum size of 5-gallons (66 lb gross weight per container). Non-leaking Category 4 batteries (segregated from leaking) in one of the following DOT specification packages. **PG II performance level spec packaging required.** • 1A2 – **5-gallon** steel, removable head drum with a minimum 4-mil thickness poly liner; or • 1H2 – **5-gallon** plastic, removable head drum; or • 1G2 – **5-gallon** fiberboard drum with poly liner (4 mil thickness). Package batteries to prevent mo vement during shipment. For example, layer with vermiculite, speedi-dry or kitty litter for larger batteries. Failure to prevent	Apply Universal Waste label to each pail, drum, and/or pallet.  Ship on Standard BOL using the description:  **Batteries, dry, sealed, n.o.s. (Used magnesium batteries for recycling)**

AERC Category	Battery Type	Packaging	Labeling
		movement or shifting of batteries may lead to a fire or explosion during storage and/or transportation!	

4	Sodium Nickel Chloride  [Used in industrial and/or military applications requiring high power density, e.g., weapon systems and possible applications in electrical vehicles (rechargeable).]	**FAILURE TO PROTECT TERMINALS WILL LEAD TO OVERHEATING and/or FIRE and EXPLOSION** DURING STORAGE and/or TRANSPORTATION. Package each battery to ensure protection of the terminals and avoid electrical short circuit. The following practices are recommended: • Place each battery in sealed individual plastic bag; OR • Use original packaging in which the batteries were received (if in good condition and can be resealed); OR • Place a piece of electrical, i.e., insulating, tape over each terminal to avoid terminal contact. Based on the high-energy density and reactivity of this battery category, containers of reactive metal batteries are limited to a maximum size of 5-gallons (66 lb gross weight per container). Non-leaking Category 4 batteries (segregated from leaking) in one of the following DOT specification packages. **PG II performance level spec packaging required.** • 1A2 – **5-gallon** steel, removable head drum with a minimum 4-mil thickness poly liner; or • 1H2 – **5-gallon** plastic, removable head drum; or • 1G2 – **5-gallon** fiberboard drum with poly liner (4 mil thickness). Package batteries to prevent movement during shipment. For example, layer with vermiculite, speedi-dry or kitty litter for larger batteries. Failure to prevent	Apply Universal Waste and Dangerous #4 label to each pail, drum, and/or pallet  Ship on Standard BOL using the description:  **UN3292, Batteries, containing sodium, 4.3, II (Used sodium batteries for recycling)(ERG #138)** Mark an ✖ in the HM Column

AERC Category	Battery Type	Packaging	Labeling
		movement or shifting of batteries may lead to a fire or explosion during storage and/or transportation!	

4	Incidental Damaged Lithium UW Batteries	**FAILURE TO PROTECT TERMINALS WILL LEAD TO OVERHEATING and/or FIRE and EXPLOSION** DURING STORAGE and/or TRANSPORTATION. Package each battery to ensure protection of the terminals and avoid electrical short circuit. • Place each battery in a sealed individual plastic bag; • Package in a separate 1H2 5-Gallon container (Plastic, removable head drum/pail) for damaged batteries Based on the high-energy density and reactivity of this battery category, containers of reactive metal batteries are limited to a maximum size of 5-gallons (66 lb gross weight per container). Package batteries to prevent movement during shipment. For example, layer with vermiculite, speedi-dry or kitty litter for larger batteries. Failure to prevent movement or shifting of batteries may lead to a fire or explosion during storage and/or transportation! The outer Packaging must be marked "Damaged/Defective Lithium Ion Battery or Lithium Metal Battery. Forbidden from Transport on Aircraft".	Apply Universal Waste and Dangerous #9 label to each pail, drum, and/or pallet   PRIMARY LITHIUM BATTERIES - FORBIDDEN FOR TRANSPORT ABOARD PASSENGER AIRCRAFT Ship on Standard BOL using the description: **UN3480 or UN3090, Lithium battery used/damaged batteries for recycling, 9, II (ERG #138)** Mark an × in the HM Column

AERC Category	Battery Type	Packaging	Labeling
4	Incidental Damaged Sodium Nickel Chloride UW Batteries	**FAILURE TO PROTECT TERMINALS WILL LEAD TO OVERHEATING and/or FIRE and EXPLOSION** DURING STORAGE and/or TRANSPORTATION. Package each battery to ensure protection of the terminals and avoid electrical short circuit. • Place each battery in a sealed individual plastic bag; • Package in a separate 1H2 5-Gallon container (Plastic, removable head drum/pail) for damaged batteries Based on the high-energy density and reactivity of this battery category, containers of reactive metal batteries are limited to a maximum size of 5-gallons (66 lb gross weight per container). Package batteries to prevent movement during shipment. For example, layer with vermiculite, speedi-dry or kitty litter for larger batteries. Failure to prevent movement or shifting of batteries may lead to a fire or explosion during storage and/or transportation!	Apply Universal Waste and Dangerous #4 label to each pail, drum, and/or pallet  Ship on BOL with other UW batteries under **separate line item** BOL using the description:  **UN3292, Batteries, containing sodium, 4.3, II (Used/Damaged sodium batteries for recycling)(ERG #138)** Mark an ✖ in the HM Column

Battery Packaging & Shipping Guidelines	**Document #:** UW OP-008-W3	**Revision Date:** 05/17/16	AERC RECYCLING SOLUTIONS
00 - AERC – All Locations	**Department:** Operations	**Revision #:** D	**Page:** Page 36 of 38

AERC Category	Battery Type	Packaging	Labeling
4	Incidental Damaged Magnesium UW Batteries	**FAILURE TO PROTECT TERMINALS WILL LEAD TO OVERHEATING and/or FIRE and EXPLOSION** DURING STORAGE and/or TRANSPORTATION. Package each battery to ensure protection of the terminals and avoid electrical short circuit. • Place each battery in a sealed individual plastic bag; • Package in a separate 1H2 5-Gallon container (Plastic, removable head drum/pail) for damaged batteries Based on the high-energy density and reactivity of this battery category, containers of reactive metal batteries are limited to a maximum size of 5-gallons (66 lb gross weight per container). Package batteries to prevent movement during shipment. For example, layer with vermiculite, speedi-dry or kitty litter for larger batteries. Failure to prevent movement or shifting of batteries may lead to a fire or explosion during storage and/or transportation!	Apply Universal Waste label to each pail, drum, and/or pallet  Ship on BOL with other UW batteries under **separate line item** BOL using the description:  **Batteries, dry, sealed, n.o.s. (Used/Damaged magnesium batteries for recycling)**

4.0 Hazards & Risks

	Hazard	Mitigation
4.1	**Foot Injury** may occur when a heavy object, such as a car battery is dropped.	Use of steel-toe safety shoes is necessary to minimize the chance of injury from such incidents. Use safe work habits to prevent possible injuries from occurring.
4.2	**Eye Injury** may occur during handling of wet cell batteries.	Always wear company issued safety glasses that meet ANSI standards. NOTE: Some batteries contain corrosive liquids – splash goggles and apron should be worn when managing unsealed-type wet-cell batteries.
4.3	**Lifting Hazards** may be found in repetitive motion associated with loading and unloading of pallets or drums.	Employ proper lifting techniques to avoid injury to the back.
4.4	**Acids and Caustics** are found in specific UW batteries. Some batteries, most notably lead acid and nickel cadmium, can contain free liquid corrosives (sulfuric acid in lead acid and potassium hydroxide in nickel cadmium). This electrolyte, i.e., battery fluid, is very corrosive and will burn eyes and skin if spilled out of the battery.	Proper care must be taken in handling batteries. During any battery sorting, proper PPE including nitrile gloves, splash goggles and splash apron must be worn when managing such unsealed-type wet-cell batteries.
4.5	**Fire Hazard** is associated with the storage of Reactive Batteries. Most notably, Lithium batteries can overheat and cause fire when terminals make contact for long periods of time.	Ensure all Category 1 and Category 4 batteries are properly insulated and packaged according to these instructions at all times

5.0 Referenced Documents

5.1 Shipping & Packaging Guidelines - Batteries_TR004 (general DOT guidance document offered by AERC Regulatory Affairs Department)

5.2 OP-011-F1 Electronics Discrepancy Form

5.3 OP-011 Source Control Procedure

5.4 CP-008-W3 Leaking Lead Acid Battery Spill Response

APPENDIX I

AERC Forms

- Load/Piece Count/Paperwork Discrepancy Form
- AERC Profile for Recycling of Batteries
- AERC Waste Information Profile

AERC
RECYCLING SOLUTIONS

11247

Discrepancy Form

Generator / Customer Name:_____

Generator Address:_____

Manifest / Document #_____ Date Received:_____

Customer Container #_____ Material Location:_____

AERC Container #_____ Pik Tik #_____

AERC Approval Code:_____ Container Weight:_____

Original Shipping Description

Lamps:	☐ Fluorescent	☐ HID	☐ Crushed	☐ Arc	☐ UV	☐ Incandescent	
Ballasts	☐ PCB	☐ Non-PCB					
Batteries:	☐ Cat. 1	☐ Cat. 2	☐ Cat. 3	☐ Cat. 4			
E-scrap	☐ Level A	☐ Level B	☐ Level C	☐ Not Noted			
Mercury	☐ Metallic	☐ Devices	☐ Debris	☐ GW/MW	☐ Comm. Switches		☐ Other
	☐ Salts & Solutions						
Container Size	☐ 1 Gal.	☐ 2 Gal.	☐ 5 Gal.	☐ 10 Gal.	☐ 15 Gal.	☐ 20 Gal.	☐ 30 Gal
	☐ 55 Gal.	☐ Pallet	☐ Other				
Container Type	☐ DF	☐ CF	☐ CW	☐ DM	☐ Other		

Actual Description

Lamps:	☐ Fluorescent	☐ HID	☐ Crushed	☐ Arc	☐ UV	☐ Incandescent	
Ballasts	☐ PCB	☐ Non-PCB					
Batteries:	☐ Cat. 1	☐ Cat. 2	☐ Cat. 3	☐ Cat. 4	☐ Caustic Solution		☐ Leaking
	☐ Acid Solution	☐ No Liner	☐ No Tape	☐ Mixed	☐ Other_____		
E-scrap	☐ Level A	☐ Level B	☐ Level C	☐ Not Noted			
Mercury	☐ Metallic	☐ Devices	☐ Debris	☐ GW/MW	☐ Comm. Switches		☐ Other
	☐ Salts & Solutions						

Comments:_____

Actions / Charges

☐ Reject back to customer
☐ Redirect to_____
☐ Re-bill
☐ Off-Spec. Fee $_____

Man hours_____ x $50.00=_____
Solution Disposal_____ x $15.00 gal.=_____
Debris_____ x $15.00 gal.=_____

TOTAL CHARGES $_____

Technical Review By:_____ Date:_____
Sales Review By:_____ Date:_____
Facility Manager Signature:_____ Date:_____

Distribution: White: Facility Manager Canary: Folder Pink: Sales Gold: Container

Safeguard UTHO USA Form No. 811-4/L05CS000566 07/14

AERC.com, Inc.
2591 Mitchell Ave
Allentown, PA 18103
(800) 949-1553 | Fax: (610) 797-7696 | (610) 797-0938

Approval #:

(AERC Use Only)

Date Received:

Location: ☐ Allentown | 02 ☐ West Melbourne | 04 ☐ Hayward | 05 ☐ Richmond | 17

AERC Profile for Recycling of Batteries

(Please type or print in ink)

Customer No:	
Waste Name/Description:	
Generator:	EPA ID #:
Shipping Address (Street, City, State, Zip):	
Generator Contact:	E-Mail Address:
Phone:	Fax:
Billing Information (Company,Street, City, State, Zip):	
Billing Contact:	E-Mail Address:
Phone:	Fax:
Process Generating Waste-Be Specific:	

Waste Description/Characterization & DOT Information (Describe material and designate appropriate category and type of battery(ies)):

Reference 40 CFR and 49 CFR for applicable requirements. Complete all sections as appropriate for ALL categories of batteries expected to be managed under this approval. Generator must follow applicable waste handling and transportation requirements as set forth in 40 CFR and 49 CFR. See AERC's *Guidelines for Shipping & Packaging Batteries* for specific guidance and recommended practices.

Physical Description of Waste: ☐ Intact or Incidentally Broken Batteries | Manage as Universal Waste (40 CFR Part 273)
☐ Leaking/Damaged Batteries | Manage in Agreement with Hazardous Waste Mgmt Requirements[1]
(40 CFR 261 | 262, et. Al.) Applicable EPA Waste Codes: _____

Category 1 | Lead Acid Battery	Proper DOT Shipping Description[2] — CHECK ALL THAT APPLY
☐ Lead Acid	UN2794, Batteries, wet, filled with acid, 8, III (Used lead acid batteries for recycling)(ERG #154)
☐ Sealed Lead Acid | VRLA	UN2800, Batteries, wet, non-spillable, 8, III (Used sealed lead acid batteries for recycling)(ERG #154)
Is material being managed as:	☐ Universal Waste (40 CFR Part 273) ☐ Lead Acid for Reclaim *(Exemption per 40 CFR part 266 subpart G)*

Category 2 | Corrosive Metal Battery	CHECK ALL THAT APPLY
☐ Alkaline – Dry cell | **1.5-volt | 9-volt | Not-Mixed with other chemistries/DOT descriptions.**	Batteries, dry, sealed, n.o.s. (Used alkaline batteries for recycling)
☐ Alkaline – Wet cell	UN2795, Batteries, wet, filled with alkali, 8, III (Used alkaline batteries for recycling)(ERG #154)
☐ Zinc Carbon (non-Hg) | Zinc Air | **6-volt | Not-Mixed with other chemistries/DOT descriptions.**	Batteries, dry, sealed, n.o.s. (Used zinc carbon batteries for recycling)
☐ NiCd – Dry cell **| 9-volt | Not-Mixed with other chemistries/DOT descriptions.**	Batteries, dry, sealed, n.o.s. (Used nickel-cadmium dry-cell batteries for recycling) NOTE: NiCd batteries rated > 9-volts must meet SP 130 requirements.
☐ NiCd – Wet cell	UN2795, Batteries, wet, filled with alkali, 8, III (Used nickel-cadmium batteries for recycling)(ERG #154)
☐ Nickel Iron Batteries	UN2795, Batteries, wet, filled with alkali, 8, III (Used nickel-iron batteries for recycling)(ERG #154)
☐ Nickel Metal Hydride (NiMH)	Batteries, dry, sealed, n.o.s. (Used NiMH batteries for recycling) NOTE: NiMH batteries rated > 9-volts must meet SP 130 requirements.

Category 3 | Mercury Bearing Battery

CHECK ALL THAT APPLY

☐ Zinc Carbon (w/Hg) * ☐ Mercury | Mercuric Oxide* ☐ Silver Oxide (w/Hg) * * Containers of > ≈2 ½ Lbs these batteries meet the definition of a hazardous material (RQ Hg - 1 Lb). Use the alternative DOT Description →	Batteries, dry, sealed, n.o.s. (Used mercury-containing batteries for recycling) Batteries, dry, sealed, n.o.s. (Used silver oxide mercury-containing batteries for recycling) RQ, UN2809, Mercury contained in manufactured articles, 8, III (Used mercury batteries for recycling)(ERG #172)
☐ Silver Oxide	Non-DOT Regulated | RCRA-Regulated Universal Waste (Used silver oxide batteries for recycling)
☐ ATON	UN2795, Batteries, wet, filled with alkali, 8, III (Used ATON batteries for recycling)(ERG #154)

Category 4 | Reactive Metal Battery

CHECK ALL THAT APPLY

☐ Lithium Metal (Primary) ☐ Li-Ion | Li-Polymer ☐ Li-Thionyl Chloride | Li-Co Alternative Shipping Descriptions may be used: (As per 8/25/09 PHMSA *Notice of Approval*)	UN3090, Lithium metal batteries, 9, II (Used lithium metal batteries for recycling)(ERG #138) UN3480, Lithium ion batteries, 9, II (Used lithium ion polymer batteries for recycling)(ERG #147) UN3090, Lithium metal batteries, 9, II (Used lithium thionyl chloride for recycling)(ERG #138)
☐ Magnesium Metal	Batteries, dry, sealed, n.o.s. (Used magnesium batteries for recycling)
☐ Sodium | NaNiCl	UN3292, Batteries, containing sodium, 4.3, II (Used sodium batteries for recycling)(ERG #138)

NOTES:

(1) Materials to be managed under this approval are assumed to meet the requirements of the universal waste standard (40 CFR Part 273 & associated applicable state regulations). Management under the full hazardous waste standard **REQUIRES SUBMITTAL OF A SEPARATE HAZARDOUS WASTE PROFILE**. Shipment must be completed on a hazardous waste manifest using an alternative shipping description than noted above and may require management alternate processing/charges. Contact AERC Customer Service representative and/or Regulatory Affairs Department staff.

(2) Specified DOT Shipping Description for management of batteries that are **not** classified for management under the full hazardous waste requirements. Specify "RQ" upon reaching hazardous substance threshold(s) as detailed within 49 CFR §172.101 Appendix A, Table 1 and Table 2.

Alternative DOT Description Not Specified Above:

DOT Hazardous Material Basic Description: Specify the **Identification Number**, the **Proper Shipping Name**, the **Hazard Class** and the **Packing Group** | **ISHP**		
Reportable Quantity:	ERG#:	EPA Waste Codes if Applicable:

Estimated Quantity of Waste for Management:

☐ Event/One-Time ☐ Base/On-going (Check One)

Estimated Quantity: _____ ☐ Lbs ☐ Tons ☐ Cu Yd ☐ DM/DF ☐ Other (specify):_____ (Check One)

Shipping Frequency: _____ Units per ☐ Mth ☐ Qtr ☐ Yr ☐ Other (specify):_____ (Check One)

Annual Report Information (Codes)

SIC Code(s):			Source Code(s):			Form Code(s):		
			Mgmt Method Code(s):					

Certification

I hereby certify that I have personally examined and am familiar with the information submitted in this and all attached documents. Based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete to the best of my knowledge and ability and that all known and suspected hazards have been disclosed. As Authorized Representative for the Generator, I hereby certify that material offered for management will meet applicable waste handling and transportation requirements as set forth in 40 CFR and 49 CFR. Materials offered for shipment and management that are not prepared in accordance with the applicable requirements will be subject to rejection and/or notice of discrepancy (and surcharge). I understand that batteries will be managed by AERC according to the appropriate regulatory standards, i.e., Universal Waste Standards 40 CFR 473, unless otherwise agreed upon and authorized between the Generator and AERC.

Signature **Date**

Print Name/Title

I have received a copy of the AERC guidance for shipping & packaging of batteries. _____ *(Initial)*

AERC.com, Inc.
2591 Mitchell Ave
Allentown, PA 18103
610-797-7608 | Fax: 610-797-0938
www.aercrecycling.com
EPA ID# PAD987367216

AERC RECYCLING SOLUTIONS

Approval #:

(AERC Use Only)

AERC Waste Information Profile

Date Received:

(Please type or print in ink)

Waste Name/Description: Universal Waste Batteries for Recycle	
Process Generating Waste (Be Specific):	
Physical Description of Waste:	
Generator:	**EPA ID #:**
Shipping Address (Street, City, State, Zip):	
Generator Contact:	E-Mail Address:
Phone:	Fax:
Billing Information (Company,Street, City, State, Zip):	
Billing Contact:	E-Mail Address:
Phone:	Fax:

DOT/EPA Information

DOT Hazardous Material Basic Description: Specify the **Identification Number**, the **Proper Shipping Name**, the **Hazard Class** and the **Packing Group** | **ISHP**

RQ:	ERG#:	RCRA and/or State Waste Codes: ☐ N/A (List All Codes that Apply)

Waste Material Characterization Chemical Composition | Constituents (Must Account for 100%)	**Total %** Low (%)	**Total %** High (%)	**Concentration** [mg/L or mg/kg]	**Add'tl Information | Potential UHCs** (Known | Suspected | Estimated – ppm or mg/L) Constituent	Concentration & UOM
				Antimony	
				Arsenic	
				Barium	
				Beryllium	
				Cadmium	
				Chromium	
				Copper	
				Cyanide	
				Lead	
				Mercury	
				Nickel	
				Nitrates	
				Organics	
				Selenium	
				Silver	
				Sulfates	
				Sulfide	
				Thallium	
				Vanadium	

AERC Recycling Solutions | Waste Information Profile

Halogens	**Layers**	**Solids**	**Odor**	**Physical State:**
☐ « 2% ☐ Cl ☐ 2-5% ☐ F ☐ 5-10% ☐ Br ☐ 10-30% ☐ I ☐ » 30% ☐ Measured: _____	☐ Multilayered ☐ Bi-Layered ☐ Single Phase Color: _____	☐ Suspended _____% ☐ Settleable _____% ☐ Dissolved _____% Color: _____	☐ None ☐ Mild ☐ Strong Describe: _____	☐ Solid ☐ Flowable Powder ☐ Semisolid ☐ Pumpable ☐ Liquid Viscosity ☐ High (Syrup) ☐ Medium (Oil) ☐ Low Water ☐ Gas
pH	**Specific Gravity**	**Flash Point (°F)**	BTU/LB _____ % ASH _____ Water Solubility _____	
☐ « 2 ☐ 2-5 ☐ 5-9 ☐ 9-12.5 ☐ » 12.5 ☐ Exact _____ ☐ N/A ☐ Not Specified/Determined	☐ < 0.8 ☐ 0.8-1.0 ☐ 1.0 ☐ 1.0-1.2 ☐ > 1.2 ☐ Measured: _____ ☐ Not Specified/Determined	☐ < 80 ☐ 80-100 ☐ 101-140 ☐ 141-200 ☐ > 200 ☐ No Flash ☐ Measured: _____ ☐ Not Specified/Determined	**Hazardous Characteristics (Potential or Known)** ☐ Reactive Material – Specify: _____ ☐ Radioactive ☐ Explosive ☐ Biohazard [Certificate of Sterilization/Disinfection **REQUIRED**]	

Container Information:

		Type	Size
Packaging:	Present Container:	_____	Varies
	Shipping Container:	_____	Varies
Shipping Frequency:	Units: _____		[Check One] | One Time ☐ | Per Day ☐ | Per Wk ☐ | Per Mth __ | Per Qtr ☐ | Per Yr __
	UOM: _____ [e.g., Drums, Boxes, Totes, etc..]		Other Description: _____

Additional Information:

	Yes	No
Is this waste subject to subpart CC regulations (i.e. contains >500 ppm volatile organic compounds)?	☐	☐
Are there underlying hazardous constituents, other than mercury listed in 40CFR268.48?	☐	☐
Does the waste contain >500 ppm of any 40CFR Part 261 Appendix VIII Constituents?	☐	☐

If any of the above items were answered yes, explain below:

_____

Addt'l Comments: _____

Generator Certification:

I hereby certify that I have personally examined and am familiar with the information submitted in this and all attached documents. Based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete to the best of my knowledge and ability and that all known and suspected hazards have been disclosed.

_____ _____

Signature *Date*

_____

Print Name/Title

TSDF Notification to the Generator: *If approved for management, AERC.com, Inc., dba AERC Recycling Solutions, has all the appropriate permit(s) for, and will accept, the waste that has been characterized and identified by the Generator within this profile document.*

Qtrly | Annual Reporting Information:

NAICS|SIC Code(s):	Source Code:	Form Code:	Mgmt Method Code:	Module #:

ATTACHMENT 7

EXHIBIT D.5.3b

Guidelines for Shipping & Packaging Mercury Devices

Guidelines for Shipping and Packaging Mecury Devices	**Document #:** UW OP-008-W4	**Revision Date:** 11/20/14	AERC RECYCLING SOLUTIONS
00 – AERC – All Sites	**Department:** Regulatory Affairs	**Revision #:** B	**Universal Waste** Page 1 of 3

Guidelines for Shipping & Packaging Mercury Devices

49 CFR §172.101 Hazardous Material (HM) Table - Excerpts of Interest

The information contained here-in is offered as a guide and that you as the Shipper must always check the HMR, Part 172, Subpart C, for specific requirements. Additional requirements, special provisions, and/or revisions may be applicable. The information contained here-in should be considered current as of the date of this revision.

£ (1)	HM Description and Proper Shipping Name (2)	Hazard Class of Division (3)	ID Number (4)	PG (5)	Label Codes (6)	Special Provisions (§172.102)+ (7)	Packaging (§173.***) (8A)	(8B)	(8C)	ERG #
A	Mercury *contained in manufactured articles*	8	UN3506	III	8	…..	None	164	None	172

NOTES

✚ ONLY Special Provisions specific to multi-modal application that may apply to bulk and non-bulk packagings, i.e., consisting only of numbers (for example, "29") and codes containing the letter "N"(referring only to non-bulk packaging requirements) are presented in this summary. See the full text of the HMT for all applicable Special Provisions references for each cited proper shipping name.

£ NOTE: "RQ" added as prefix to shipping description if the container contains > than reportable quantity for an individual hazardous constituent as contained within specific battery types (based upon the Manufacturer's

Guidelines for Shipping and Packaging Mecury Devices	**Document #:** UW OP-008-W4	**Revision Date:** 11/20/14	AERC RECYCLING SOLUTIONS
00 – AERC – All Sites	**Department:** Regulatory Affairs	**Revision #:** B	**Universal Waste** Page 2 of 3

Referenced Special Provisions & Packaging Specifications

This appendix details excerpts from the DOT regulations as referenced above.

Packaging Specifications – As detailed in HMT Columns with reference to the appropriate 49 CFR §173.*** section as it applies to the HM described here-in.

Packaging Specifications | §173.*** | (8A) – Exceptions; (8B) – Non-Bulk; (8C) - Bulk

Title 49: Transportation

PART 173—SHIPPERS—GENERAL REQUIREMENTS FOR SHIPMENTS AND PACKAGINGS

§ 173.164 Mercury (metallic and articles containing mercury).

1. For transportation by aircraft, mercury must be packaged in packagings which meet the requirements of part 178 of this subchapter at the Packing Group I performance level, as follows:
    a. In inner packagings of earthenware, glass or plastic containing not more than 3.5 kg (7.7 pounds) of mercury, or inner packagings which are glass ampoules containing not more than 0.5 kg (1.1 pounds) of mercury, or iron or steel quicksilver flasks containing not more than 35 kg (77 pounds) of mercury. The inner packagings or flasks must be packed in steel drums (1A2), steel jerricans (3A2), wooden boxes (4C1), (4C2), plywood boxes (4D), reconstituted wood boxes (4F), fiberboard boxes (4G), plastic boxes (4H2), plywood drums (1D) or fiber drums (1G).
    b. [Reserved]
    c. When inner packagings of earthenware, glass or plastic are used, they must be packed in the outer packaging with sufficient cushioning material to prevent breakage.
    d. Either the inner packagings or the outer packagings must have inner linings or bags of strong leakproof and puncture-resistant material impervious to mercury, completely surrounding the contents, so that the escape of mercury will be prevented irrespective of the position of the package.
2. Manufactured articles or apparatuses, each containing not more than 100 mg (0.0035 ounce) of mercury and packaged so that the quantity of mercury per package does not exceed 1 g (0.035 ounce) are not subject to the requirements of this subchapter.
3. Manufactured articles or apparatuses containing mercury are excepted from the specification packaging requirements of this subchapter when packaged as follows:
    a. Manufactured articles or apparatuses of which metallic mercury is a component part, such as manometers, pumps, thermometers, switches, etc. (for electron tubes, mercury vapor tubes and similar tubes, see paragraph (c)(3) of this section), **must be in strong outer packagings, having sealed inner liners or bags of strong leak-proof and puncture-resistant material impervious to mercury, which will prevent the escape of mercury from the package irrespective of its position**. Mercury switches and relays are excepted from these packaging requirements, if they are totally enclosed, leakproof and in sealed metal or plastic units.

b. Thermometers, switches and relays, each containing a total quantity of not more than 15 g (0.53 ounces) of mercury, are excepted from the requirements of this subchapter if installed as an integral part of a machine or apparatus and so fitted that shock of impact damage, leading to leakage of mercury, is unlikely to occur under conditions normally incident to transport.

c. Electron tubes, mercury vapor tubes and similar tubes must be packaged as follows:
   i. Tubes which are packed in strong outer packagings with all seams and joints sealed with self-adhesive, pressure-sensitive tape which will prevent the escape of mercury from the package, are authorized up to a total net quantity of 450 g (15.9 ounces) of mercury per package;
   ii. Tubes with more than 450 g (15.9 ounces) of mercury are authorized only when packed in strong outer packagings, having sealed inner liners or bags of strong leakproof and puncture-resistant material impervious to mercury which will prevent escape of mercury from the package irrespective of its position;
   iii. Tubes which do not contain more than 5 g (0.2 ounce) of mercury each and which are packed in the manufacturer's original packagings, are authorized up to a total net quantity of 30 g (1.1 ounces) of mercury per package;
   iv. Tubes which are completely jacketed in sealed leakproof metal cases are authorized in the manufacturer's original packagings.

d. A person offering for transportation electron tubes, mercury vapor tubes, and similar tubes shall indicate the quantity of mercury therein on the shipping paper.

e. Mercurial barometers conforming to paragraph (c)(1) of this section, which are loaded and unloaded from an aircraft under the supervision of, and accompanied in flight by, a National Weather Service official or similar United States agency official, are excepted from any other requirements of this subchapter.

4. For transportation by other than aircraft, mercury must be packaged—
   a. In any packaging which meets the requirements of part 178 of this subchapter at the Packing Group III performance level; or
   b. In non-specification reusable metal packagings.
   c. Except for a hazardous substance or a hazardous waste or for transportation by aircraft or vessel, packages containing less than 0.45 kg (1.0 pound) net weight of mercury are not subject to the requirements of this subchapter.

[Amdt. 173–224, 55 FR 52643, Dec. 21, 1990, as amended at 56 FR 66270, Dec. 20, 1991; Amdt. 173–241, 59 FR 67509, Dec. 29, 1994; Amdt. 173–246, 60 FR 49110, Sept. 21, 1995; 64 FR 10777, 10778, Mar. 5, 1999; 68 FR 57632, Oct. 6, 2003]

ATTACHMENT 7

EXHIBIT D.5.4

Acceptable Materials List

AERC Recycling Solutions
ACCEPTABLE MATERIALS

4317-J Fortune Place, West Melbourne, FL 32094 ● 321-952-1516 ● Fax: 321-952-1060

ACCEPTABLE MATERIALS LIST
WEST MELBOURNE, FL

Mercury-containing Lamps:

Arc Lamps
Deuterium Lamps
Germicidal Lamps
High Pressure Sodium Lamps
Mercury Vapor Lamps
Metal Halide Lamps
Neon Lamps
Ultraviolet Lamps
Fluorescent Lamps - Circular, Compact, Crushed, Coated, Straight and U-Tubes

Other Lamp Types:

Halogen Lamps
Incandescent Lamps

Electronic Scrap:

CPUs *Circuit Boards* *Keyboards* *Monitors /CRTs*

Ballasts:

PCB
Non-PCB

Batteries:

Alkaline
ATON
Carbon Zinc
Lead Acid
Lithium
Magnesium
Nickel Cadmium
Nickel Iron
Nickel Metal Hydride
Silver Oxide

Metallic Mercury

Mercury-containing Solids:

Carbon
Phosphor Powder

Mercury Apparatus, Debris, Devices and Soils:

*Amalgams (Silver, Sulfur, Zinc and Gold) - **[NO BIOHAZARDS]***
*Dental Amalgams (unused and/or in capsules) - **[NO BIOHAZARDS]***
*Esophageal Bougies - **[IN BLEACH - NO BIOHAZARDS]***
*Intestine Miller Abbott Tubes - **[IN BLEACH - NO BIOHAZARDS]***
Mercury Batteries
Debris: *Paper*, *PPE (aprons, gloves and tyveks)*, *Plastic*, *Wood*
Mercury-contaminated Glassware and Metalware:
Barometers *Glass Switches* *Ignitron Tubes* *Regulators*
Manometers *Relays* *Thermometers* *Thermostats*

ATTACHMENT 8
ITEM D.6
Contingency Plan

CONTINGENCY PLAN

Document #: UW CP-009-02

Facility Environmental Program Documentation
Prepared in Agreement with
40 CFR 264.52 & 264.53

AERC.com, Inc., dba AERC Recycling Solutions
4317 J Fortune Place West Melbourne, FL 32904

Revision #: F | Revision Date: 08/25/16

Prepared By: Regulatory Affairs Department
AERC.com, Inc.
111 Howard Blvd, Ste108, Mt Arlington, NJ 07856
(973) 691-3200 | Fax: (973) 691-3233

1.0 Purpose

1.1 The purpose of this Contingency Plan, prepared for the AERC.com, Inc. West Melbourne facility (AERC), is to establish guidance and procedures for facility personnel to minimize hazards to human health or the environment. Hazards include: fires, explosions or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil or surface water.

2.0 Scope

2.1 This plan applies to hazardous and universal waste management activities at the AERC facility located at 4317 J Fortune Place West Melbourne, FL.

2.2 USEPA ID Number FLD984262782 has been assigned to the site for the following universal waste (UW) and hazardous waste (HW) activities, respectively:

- UW Large Quantity Handler (LQH),
- UW Transporter,
- HW Large Quantity Generator (LQG), and
- HW Transporter (in agreement with 10-day transfer requirements).

2.3 The provisions of this Plan shall be carried out immediately whenever there is a fire, explosion or release of hazardous substance, which could threaten human health or the environment.

3.0 Definitions

3.1 ***Battery*** means a device consisting of one or more electrically connected electrochemical cells, which is designed to receive, store, and deliver electric energy. An electrochemical cell is a system consisting of an anode, cathode, and an electrolyte, plus such connections (electrical and mechanical) as may be needed to allow the cell to deliver or receive electrical energy. The term battery also includes an intact, unbroken battery from which the electrolyte has been removed. The common types of batteries managed by AERC include:

3.1.1 Category 1 - Lead Acid And Sealed Lead Acid Batteries;

3.1.2 Category 2 - Alkaline Or Nickel-Cadmium Batteries, Zinc Air, Carbon Zinc (Non-Mercury), Nickel Iron, And Nickel Metal Hydride Batteries;

3.1.3 Category 3 - Mercury, Mercuric Oxide, Carbon Zinc (With Mercury), Aton, And Button Cell Silver Oxide Batteries, and

3.1.4 Category 4 - Lithium, Lithium Ion and Magnesium Batteries.

3.2 ***Destination facility*** means a facility that treats, disposes of, or recycles a particular category of universal waste. AERC currently operates as a Destination facility.

3.3 ***Lamp,*** also referred to as ‘‘universal waste lamp’’ is defined as the bulb or tube portion of an electric lighting device. A lamp is specifically designed to produce radiant energy, most often in the ultraviolet, visible, and infra-red regions of the electromagnetic spectrum. Examples of common universal waste electric lamps include, but are not limited to, fluorescent, high intensity discharge (HID), neon, mercury vapor, high pressure sodium, and metal halide lamps. AERC receives and handles all types of universal waste lamps, forwarding the materials to a sister facility in Allentown, PA for processing, i.e., recycling/recovery of mercury.

3.4 ***Mercury-containing equipment*** means a device or part of a device (including thermostats, but excluding batteries and lamps) that contains elemental mercury integral to its function. AERC receives and transports mercury-containing devices for further treatment at other off-site facilities.

3.5 ***Universal Waste*** *(with regard to activities at AERC)* means any of the following hazardous waste that are subject to the universal waste requirements of federal regulations set forth in 40 CFR Part 273:

3.6.1 Batteries as described in § 273.2,

3.6.2 Mercury-containing equipment as described in § 273.4; and,

3.6.3 Lamps as described in § 273.5.

3.6 ***Universal Waste Handler*** means the owner or operator of a facility, including all contiguous property, that receives universal waste from other universal waste generators and/or handlers, accumulates universal waste, and sends universal waste to another universal waste handler or destination facility. As a Large Quantity Universal Waste Handler, AERC accumulates 5,000 kilograms or more total of universal waste (batteries, mercury-containing equipment, or lamps, calculated collectively) at any time during the calendar year.

4.0 Responsibility

4.1 ***Emergency Coordinator*** is responsible for:

4.1.1 A listing of current AERC employees designated to act as Emergency Coordinator is detailed within form *Emergency Coordinator List* (Attachment 1).

4.1.2 Whenever there is an imminent or actual emergency situation, the Emergency Coordinator will immediately:

4.1.2.1. Activate facility alarms (or verify same has been done) to notify facility personnel of the emergency, and

4.1.2.2. Notify local emergency response agencies including the Brevard County Fire-EMS Department.

(See form *Emergency Notification Contact Summary* | Attachment 2.

4.1.3 Whenever there is a hazardous emission, discharge, fire or explosion, the Emergency Coordinator must immediately identify the character, exact source, amount and extent of emitted or discharged materials. This will be accomplished by observation or review of records and, if necessary, by chemical analysis.

4.1.4 During an emergency, the Emergency Coordinator must take all measures necessary to ensure that the emission, discharge, fire or explosion does not occur, reoccur or spread to other material at the facility. Such measures shall include, where applicable:

4.1.4.1. Stopping operations, i.e., the source of the release;

4.1.4.2. Containment, confinement and collection of released materials;

4.1.4.3. Removing or isolation of ruptured containers; and

4.1.4.4. Protection or isolation of nearby personnel and/or property that may be impacted by the release.

4.1.5 The Emergency Coordinator must ensure that adequate monitoring is conducted for leaks, pressure build-up, gas generation or ruptures of containers, wherever appropriate.

4.2 ***Facility Manager*** is responsible for:

4.2.1 Acting as the ***primary Emergency Coordinator*** in case of a facility emergency as discussed within this Plan.

4.2.2 Ensuring the safety and security of employees during the emergency and in the event of facility evacuation.

4.2.3 Ensuring the security of the company's property, including equipment, records and other legal documentation.

4.2.4 Coordinating site visits and reviews of the facility by local emergency authorities, including the inspection by the Brevard County Fire-EMS Department for fire code permit renewal.

4.2.5 Completing annual refresher training on this Plan and related emergency procedures.

4.3 ***Facility/Shift Supervisor*** is responsible for:

4.3.1 Acting as the ***secondary Emergency Coordinator*** in case of a facility emergency as discussed within this Plan.

4.3.2 Assisting the Facility Manager with the safety and security of facility personnel working during their shift.

4.3.3 Providing a headcount of operations staff and/or shift employees in the event of facility evacuation.

4.3.4 Inspecting facility emergency supplies and providing recommendations to the Facility Manager for the replenishment of such materials.

4.3.5 Assisting the Facility Manager in ensuring the security of the company's property, including physical assets and equipment.

4.3.6 Completing annual refresher training on this Plan and related emergency procedures.

4.4 ***Regional Service Coordinator*** is responsible for:

4.4.1 Acting as the ***tertiary Emergency Coordinator*** in case of a facility emergency as discussed within this Plan.

4.4.2 Making notification to facility personnel and outside authorities as directed by the Facility Manager.

4.4.3 Providing a headcount of facility employees by securing both the Visitor's Log Book and employee time cards/status board sheet upon exiting the building in the event of facility evacuation.

4.4.4 Assisting the Facility Manager in ensuring the security of the company's property, most notably employee records and legal documentation.

4.4.5 Completing annual refresher training on this Plan and related emergency procedures.

4.5 ***Director of Regulatory Affairs*** is responsible for:

4.5.1 Acting in a technical support role and/or assuming duties as ***Emergency Coordinator*** in case of a facility emergency as discussed within this Plan.

4.5.2 Providing assistance to the Facility Manager through coordination of resources and outside services to ensure the safety and security of employees during an emergency.

4.5.3 Coordinating and/or completing follow-up reporting to local authorities and government officials in the event of outside notification and/or response.

4.5.4 Directing detailed investigations and/or critiques in the event of a significant emergency involving loss of life, a reportable quantity release to the environment or substantial damage to physical property.

4.5.5 Reviewing this Plan annually and providing approval of updates as required.

4.5.6 Completing annual refresher training on this Plan and related emergency procedures.

4.6 ***Environmental, Health and Safety (EHS) Services Specialist***, or designated Regulatory Affairs Department staff person, is responsible for:

4.6.1 Acting in a technical support role or assuming duties as ***Emergency Coordinator*** in case of a facility emergency as discussed within this Plan.

4.6.2 Directing detailed investigations and/or critiques in the event of a significant emergency involving loss of life, a reportable quantity release to the environment or damage to physical property.

4.6.3 Reviewing this Plan annually and coordinating the completion of necessary updates and 3rd-party notifications. The HSE Coordinator, with the assistance of the Facility Manager, will ensure a current revision of the Contingency Plan, i.e., the Plan, shall be maintained at the West Melbourne facility and will be submitted to local police departments, fire departments and state and local emergency response teams that may be called upon to provide assistance in response to an emergency.

4.6.4 Completing annual refresher training on this Plan and related emergency procedures.

4.7 ***Local Authorities and 3rd Party Service Providers*** are asked to:

4.7.1 Provide assistance to the Facility Manager and/or AERC's employees upon request during an emergency.

4.7.2 Take receipt of copies of this Plan; Review periodic updates to this Plan.

4.7.3 Conducting periodic site visits and/or inspections as required by local ordinances or regulations of the State of Florida, or as deemed necessary and appropriate by the individual authority.

4.7.4 Participate in facility drills or related Plan evaluations (as may be requested by the Facility Manager).

4.8 ***Employees*** are responsible for:

4.8.1 Knowing how to identify and respond to an emergency situation in their area, including how to initiate emergency response and contact personnel as detailed on form *Emergency Notification Contact Summary* (Attachment 2).

4.8.2 Reporting to the Facility Manager or his designee upon evacuating the facility as required by the *Emergency Action and Evacuation Plan*.

4.8.3 Reading and understanding this Plan.

4.8.4 Participate in facility drills or related Plan evaluations.

4.8.5 Knowing the location of all emergency exits and primary mustering point.

4.8.6 Knowing the location of fire extinguishers, eye wash station(s) and other facility emergency equipment including fire alarm pull stations.

4.8.7 Employees who are hosting Visitors will ensure that such persons receive an emergency evacuation briefing prior to beginning work.

4.9 ***Visitors*** are required to:

4.9.1 Document their entry to the facility by signing into the Visitor Log Book.

4.9.2 As coordinated by your AERC employee point-of-contact, obtain the required facility overview and emergency evacuation briefing as required by this Plan.

4.9.3 If an evacuation is necessary, follow all emergency evacuation procedures as instructed by their AERC point-of-contact.

5.0 Summary of Facility Hazards

5.1 The universal waste materials managed by AERC, as defined in Section 3.5, exhibit a variety of potential hazards. The following discussion provides a summary of the associated primary hazards for the most common materials managed by AERC. This information serves as reference documentation for emergency response personnel. It does not replace formal hazard communication documentation and/or training that is offered to AERC employees.

5.1.1 Mercury: Is commonly found as an activator within fluorescent lamps and/or other lighting devices. It is also found in liquid metallic form within mercury-containing devices. Mercury will volatilize at ambient temperatures presenting an inhalation exposure hazard. Exposure to mercury may occur during the handling of universal wastes containers or during on-site processing through the LSS1 recycling unit.

5.1.2 Sulfuric Acid: As a key component of lead-acid batteries it is one of primary hazards found at AERC. As a corrosive liquid, "battery acid" represents a potential dermal/splash hazard that may result upon release from a damaged battery casing. A secondary, albeit key, component of this category of universal waste is lead. As a solid, contained part of these manufactured articles handled by AERC it represents limited potential for exposure or release to the environment.

5.1.3 Other Materials: To a lesser degree, based on material type and volume, the other universal wastes managed by AERC present potential hazards. These materials, received and managed as spent manufactured articles, are inspected and repackaged, stored/accumulated and/or transported off-site for recycling/processing.

5.1.3.1. Low-Pressure Sodium Vapor Lamps: Contain sodium metal that can react with moisture presenting a reactivity/fire hazard. This hazard may result if a container of lamps is damaged and lamps are broken.

5.1.3.2. Lithium-ion Batteries: Contain lithium metal that can react with moisture presenting a reactivity/fire hazard. This hazard may result if an individual cell is damaged.

5.1.3.3. Nickel-Cadmium Batteries: (NiCd) Contain cadmium metal that is noted by NIOSH to be a potential carcinogen and nickel that is a non-combustible solid that can be flammable as a powder/dust.

5.1.3.4. Potassium Hydroxide: A common electrolyte found in Category 2, e.g., wet-cell NiCd, batteries. Some of these batteries can be of significant size containing several gallons of electrolyte.

5.1.4 10-Day Transfer Facility Materials: As noted, AERC is a Transporter of hazardous waste (as well as other DOT-regulated material). In operating under the 10-day transfer requirements, AERC does not routinely inspect nor repackage these materials during transportation activities. These materials, which are commonly transported to the AERC Allentown facility, include:

- Mercury-containing manufactured articles and devices. Other characteristic hazardous wastes (D009 code) - hazards as detailed above (Section 5.1.1).
- Polychlorinated Biphenyls (PCBs) may be present in older equipment (circa 1980) such as fluorescent lighting ballasts and electronic equipment transformers and/or capacitors. These devices are received and transporter in conjunction with lamp recycling activities. PCBs are commonly light yellow to colorless thick, oily-liquids that are probable carcinogens and teratogens in humans. Contact with PCBs should be limited | PPE required.

5.2 Communication of potential hazards is done in agreement with AERC's Hazard Communication Plan HS-001 (per OSHA 29 CFR 1910.1200). Specifically, AERC identifies specific areas of the warehouse with markings, labels or signs to indicate the types of materials stored within each area. The hazards associated with the stored materials will be communicated to facility and emergency response personnel using a combination of NFPA markings, DOT ID numbers and common chemical names and/or descriptions.

6.0 Emergency Response Procedures

6.1 FIRE and/or EXPLOSION

6.1.1 Primary efforts will be placed on preventing fires from occurring and stopping incipient stage fires from spreading to nearby areas. AERC's facility personnel will control such small-scale fires using portable fire extinguishers.

6.1.2 The following actions will be immediately taken in the event of a fire or explosion:

6.1.2.1. Fire, police and emergency personnel will be notified.

6.1.2.2. Facility operations will be shut down.

6.1.2.3. All AERC personnel will be notified of the emergency via activation of the nearest alarm pull station.

6.1.2.4. If not already on the scene, the Emergency Coordinator will be contacted.

6.1.2.5. Sweep Leaders, or other designated personnel, will ensure the facility is cleared of all personnel. It is the Sweep Leader's responsibility to ensure all fire doors and fire suppression system doors are shut as they clear the facility.

6.1.2.6. Any injured personnel will be removed and qualified personnel will administer medical treatment.

6.1.2.7. As can be safely accomplished, air inside and/or outside the building will be monitored for mercury. If levels of mercury are detected greater than the OSHA PEL, response personnel will be notified to ensure appropriate action, i.e., use of respiratory protection, is taken.

6.1.2.8. If there are elevated levels of mercury outside the building, monitoring will continue at frequent intervals down wind to determine attenuation levels. This information will be reported to the local and county authorities to aid in emergency response measures.

6.1.3 Although early containment of fires can significantly decrease injury and total property damage, incipient stage fire fighting will not be done at the risk of injury to response personnel. Plant evacuation will be initiated as necessary in case of a major fire or explosion. Personnel are trained in evacuation procedures.

6.1.4 When the fire has been extinguished, either an incipient stage fire or full-scale event requiring evacuation, the Emergency Coordinator will coordinate the evaluation of the incident with the assistance of local authorities.

6.2 **SPILL or MATERIAL RELEASE**

6.2.1 All materials handled at AERC are most commonly containerized, i.e., non-bulk quantities, or packaged as the original manufactured-article (such as a large sealed lead-acid battery). As such, a spill/release will likely involve only a single container, be of limited quantity and

contained within the immediate area of the stored container. Containment pallets are commonly used for liquid-containing materials such as lead-acid batteries to aid in minimizing the impact of such spills.

6.2.2 If an employee discovers a chemical spill or a malfunctioning piece of equipment causing a release of hazardous materials, he or she will immediately report it to the Facility/Shift Supervisor. In turn, the Supervisor will contact the Emergency Coordinator and/or assume command of the initial response.

6.2.3 When contacted, the Emergency Coordinator will obtain information regarding the severity of the incident, including:

6.2.3.1. Determination if any personnel have been injured.

6.2.3.2. The nature of the malfunction and/or cause of the release.

6.2.3.3. The material spilled or released.

6.2.3.4. The location of the incident.

6.2.3.5. An estimate of the quantity released.

6.2.3.6. The direction in which the spill, vapor, dust or smoke is heading and likelihood of harm to personnel and/or adjoining property or equipment.

6.2.3.7. The possibility of escalation of the incident including possible fire/explosion or release outside of the facility.

6.2.4 The Emergency Coordinator will assess the magnitude and potential severity of the spill or release. If the incident is determined to be within AERC's emergency response capabilities the necessary facility personnel will be contacted and deployed. If the accident is beyond AERC's capabilities, the Emergency Coordinator will contact the appropriate authorities and outside contractors. Key criteria for making such a capability assessment include:

6.2.4.1. Identity of the spilled material: Materials that are highly toxic or expected to be in concentrations that displace oxygen to levels < 19.5 % shall require 3rd-party assistance.

6.2.4.2. Spill volume: The volume of material spilled and availability of necessary response supplies to confine, contain and adequately clean-up the spill must be considered.

6.2.4.3. Other Factors: Potential for additional hazards, impact on nearby areas and/or escalation of the event.

6.2.5 The initial response to such an emergency will be to identify, isolate, contain and treat the individual container and spilled material. The Emergency Coordinator will direct personnel to:

6.2.5.1. Use available emergency supplies, including: absorbent pads, booms or other inert materials to **C**onfine, **C**ontain and **C**lean-up the release. See Attachment 4.1, *Emergency Equipment List*, for a summary of available emergency supplies

6.2.5.2. Instruct primary actions to take in the case of the spill of common materials handled by AERC as additionally detailed in Attachment 4.2.

6.2.5.3. Place all containment and clean-up supplies into appropriate DOT-approved containers for proper off-site management. Such containers will be appropriately marked/labeled to identify the contents in agreement the waste characterization of such spill residuals.

6.2.6 The Emergency Coordinator shall manage the incident to ensure all precautions are taken, including monitoring for leaks, pressure build-up, gas generation or ruptures of containers, as appropriate.

6.2.7 If the spill results in the formation of toxic vapors that are being dispersed off the property, as may result from the release of mercury-containing material, the facility will be evacuated to an area an appropriate distance upwind. Adjoining industrial properties and other populations that are considered potentially at risk will be notified as deemed necessary and appropriate by the local authorities.

6.2.8 As can be safely accomplished, air inside and/or outside the building will be monitored for mercury. If levels of mercury are detected greater than the OSHA PEL, response personnel will be notified to ensure appropriate action, i.e., use of respiratory protection, is taken.

6.2.9 If there are elevated levels of mercury outside the building, monitoring will continue at frequent intervals downwind to determine attenuation levels. This information will be reported to the local and county authorities to aid in emergency response measures.

6.2.10 AERC personnel will assist Brevard Fire-EMS Emergency Response Teams (ERTs) as directed by these authorities upon their assumption of incident command.

6.3 EMERGENCY EVACUATION

6.3.1 The Emergency Coordinator is responsible for determining which emergency situations require facility evacuation. The telephone system will be used to notify facility personnel as to the nature of the emergency and the recommended plan of action.

6.3.2 Facility evacuation routes are indicated on the attached floor plan (See Attachment 5 – *Evacuation Floor Plan*).

6.3.3 In the event the Emergency Coordinator calls for facility evacuation, the following actions will be taken:

6.3.3.1. The call for evacuation will be given via activation of an alarm, announcing the need to initiate facility.

6.3.3.2. All personnel, visitors and contractors will immediately leave the building through the shortest and safest designated evacuation route.

6.3.3.3. Once evacuation is initiated, Employees shall assist contract personnel and/or visitors in leaving the facility and ensuring that these persons are accounted for during facility headcounts.

6.3.3.4. No further entry of visitors, contractors or trucks will be permitted. All vehicle traffic around the facility will cease to allow safe evacuation.

6.3.3.5. The Facility Manager, or his designee, shall make appropriate notifications to neighboring facilities.

6.3.3.6. No persons shall be allowed to re-enter the facility unless specifically authorized by the Emergency Coordinator. Those personnel remaining within the facility will only include duly authorized emergency response team members.

6.3.3.7. No persons shall be allowed to re-enter the facility unless specifically authorized by the Emergency Coordinator.

6.3.3.8. All persons will be accounted for by the Regional Services Coordinator and/or Facility/Shift Supervisor. No AERC personnel shall be allowed to endanger their own lives or those of other personnel in an attempt to find unaccounted persons. It is the responsibility of the Fire Department to find missing persons.

6.3.3.9. Re-entry into emergency areas will be made only after the Emergency Coordinator gives "all-clear."

7.0 Reporting Requirements

7.1 The type and quantity of material released during an incident will determine the specific reporting requirements to be followed, including:

7.1.1 RCRA and the Florida Department of Environmental Protection (FLDEP) for releases of hazardous wastes.

7.1.2 Superfund Amendments and Reauthorization Act (SARA) for releases of reportable quantities of extremely hazardous substances (EHS).

7.1.3 Comprehensive Environmental Responsibility and Cleanup Act (CERCLA) for releases of reportable quantities of CERCLA Hazardous Substances.

7.2 The following specific reporting procedures shall be followed for emergency incidents involving the release/potential release of hazardous materials that threaten human health and/or the environment outside the facility. The Emergency Coordinator will immediately:

7.2.1 Notify appropriate local authorities if an assessment indicates evacuation of local areas is advisable; and

7.2.2 Notify the Florida Department of Environmental Protection (FLDEP); and

7.2.3 Notify the National Response Center if it is determined that the release is of a reportable quantity (RQ) of any CERCLA hazardous substance;

7.2.4 Notification calls shall be made as detailed on form Emergency *Notification Contact Summary*.

7.2.5 Report the following information:

7.2.5.1. Name of person reporting incident;

7.2.5.2. Name, EPA ID Number and location of the facility;

7.2.5.3. Phone number where the person reporting the incident can be reached;

7.2.5.4. Time of the incident;

7.2.5.5. Brief description of the incident, nature of the materials involved, extent of any injuries and possible hazards to human health and the environment;

7.2.5.6. The estimated quantity of material involved;

7.2.5.7. The extent of known or suspected contamination of land, water or air;

7.2.5.8. An indication of whether the substance is an extremely hazardous substance (EHS);

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

7.3 Immediately after an emergency, the Emergency Coordinator will:

7.3.1 With FLDEP approval, provide for treating, storing or disposing of residues, contaminated soil, etc., resulting from response to the incident;

7.3.2 Ensure that, in the affected areas, no incompatible materials are treated, stored or disposed of until cleanup procedures are completed;

7.3.3 Emergency equipment utilized during the response is cleaned and fit for its intended use prior to resuming operations.

7.3.4 Ensure that emergency equipment decontamination is performed using appropriate decontamination agents and practices.

8.0 Employee Training

8.1 New AERC employees will be trained on the contents of this procedure during their company orientation briefing and initial job training. This briefing will be accomplished during the first days/week of an employee's work assignment with AERC.

8.2 The scope of overall training programs is based upon the need of a specific regulatory requirement, plan or procedure. As such, employees will be instructed upon their responsibilities in the event of an emergency condition detailed within this Plan.

8.3 The frequency and cross-section of personnel receiving training, for this program and all other required activities, is detailed within the AERC *Health, Safety and Environmental Training Matrix*.

8.4 Drills, which will be commonly unannounced, will be held to practice these procedures.

8.5 Additional training exercises will be performed by the emergency response personnel to familiarize both AERC and local responders with the facility and potential hazards.

8.6 Exercises, drills and real scenarios will all be documented.

9.0 Exhibits

- Attachment 1 - *Emergency Coordinator List*
- Attachment 2 - *Emergency Notification Contact Summary*
- Attachment 3 – Facility Hazard Supplemental Information
- Attachment 4.1 – Emergency Equipment List
- Attachment 4.2 – Common Material Cleanup Procedures
- Attachment 5 – Evacuation Floor Plan

10.0 Distribution

10.1 Hard Copies –

- Facility Manager
- Brevard County Fire·EMS
- Brevard County Police Department
- Florida Department of Environmental Protection

Attachment 1

Emergency Coordinator List

Emergency Contact:	***Position:***	***Phone:***
Primary Contact: ***Mark Larsen*** *Residence:* *1921 Jacques Drive* *Melbourne, FL 32904*	Facility Manager	Cell: 321-890-4432 Office: 321-952-1516 Home: 321-213-2049
Secondary Contact: ***Christian San Martin*** *Residence:* *5631 Babcock Street NE* *Palm Bay, FL 32907*	Warehouse Supervisor/Operations	Cell: 321-917-1421 Office: 321-952-1516
Tertiary Contact: ***Mark Kasper*** *Residence:* *53 Dalton Way* *Holland, PA 18966*	COO	Cell: 484-951-6702 Office: 973-691-3200
Technical Support: ***Stephen Lefon*** *Residence:* *1100 Rolling Dr* *Greenwood, MO 64034*	Director of Sustainability	Cell: 804-840-1532 Office: 973-691-3200

Attachment 2

Emergency Notification Coordinator List/Contact Summary

Agency |Outside Authority	***Description | Affiliation***	***Telephone Number***
National Response Center	Reportable Release	800-424-8802
Florida Division of Emergency Management	Central District Emergency	800-320-0519
Fire – EMS ***Brevard County***	Emergency Non-Emergency	911 321-633-2056
Ambulance ***Brevard County***	Emergency Non-Emergency	911 321-633-2056
Police	City of West Melbourne	911 321-723-9673
Sheriff	Brevard County	321-633-7162
Hospital	Holmes Regional Medical	321-434-7298
Brevard County Emergency Operations Center	24 hour	321-633-1770
Veolia North America *(AERC Emergency Response Provider)*	3rd Party Response	321-722-2455
XL Insurance *(AERC Emergency Response Provider)*	Company Insurance Provider	800-823-7351
Florida Power and Light	Electric Power Emergencies	800-226-3545

Public Works	Water and Sewage Emergencies	321-727-3710
Chem-Trec		800-424-9300
Infortrac		800-535-5053
Poison Control Center		800-552-6337
Adjacent Properties:		
Atlas Van Lines		321-676-0050

Attachment 3

Facility Hazard Supplemental Information

The information contained within this attachment presents additional safety data for the safe handling and response to releases of each of the general hazardous materials detailed in Section 5.1. Information presented here-in is separated as detailed within the following contents summary.

Mercury

- Mercury Lamp MSDS
  - Mercury Hazard Data Sheet

Lead

- Lead-Acid Battery MSDS
  - Sulfuric Acid Hazard Data Sheet
  - Lead Hazard Data Sheet
- CRT Glass MSDS

Other Materials

- Low-Pressure Sodium Lamp MSDS
  - Sodium Hazard Data Sheet
- Lithium-ion Battery MSDS
  - Lithium Hazard Data Sheet
- Nickel Cadmium Battery MSDS
  - Nickel Hazard Data Sheet
  - Cadmium Hazard Data Sheet
- Potassium Hydroxide Data Sheet [material found in wet-cell (Category 2) batteries]
- Polychlorinated Biphenyls (PCBs) Data Sheet [material found in lighting ballasts]

Attachment 4.1

Emergency Equipment List

Item:	***Physical Description & Capabilities:***	***Location:***
Vermiculite	A non-combustible, inert packaging and adsorbent used to pack small containers for shipment.	Loading Dock/Warehouse
Absorbent Pads	A synthetic fiber material specifically designed to absorb oils and hydrocarbons. Used for spill containment and clean-up.	Warehouse
Shovels, Brooms, Other Hand Tools	Used in the pickup or distribution of adsorbents during spill clean-up.	Warehouse
DOT Shipping Containers	USDOT-spec containers for off-site shipment, including over packing of materials, e.g., 55-gallon drum placed into 85-gallon over-pack.	Warehouse
HgX	Salt/Chelating Agent – Mercury Decontamination Powder used in solid form or as a solution	Spill Kit Area
Mercury Spill Kit	Mercury spill cleanup kit (1-gallon capacity) containing Mercury Magnet adsorbent.	Spill Kit Area
HAZORB® Acid | Caustic Neutralizing Agents	Neutralizing agent used for buffering small quantity spills of acids or caustic solutions.	Spill Kit Area
Class ABC Type Portable Fire Extinguishers	Used for incipient-stage fires of the following types: Class A (Combustible Materials); Class B (Flammable/Combustible Liquids); and Class C (Electrical Equipment).	See Building Floor Plan
Air-Purifying Respirator Cartridges	Negative pressure filter cartridge filled with activated carbon adsorbent. Specific cartridges are used for acid gases, mercury vapor and dust/particulates.	Cartridges and associated APR's issued individually to employees
Tyvek® Coveralls | Gloves	Acid/Solvent chemical-resistant disposable clothing for protection of personnel during hazardous material spill response.	PPE Locker
First Aid Kit | Blood-borne pathogens Kit | Safety Eye-wash	Basic first aid supplies and incident response – employee decontamination.	See Building Floor Plan

Attachment 5.2

Baseline Spill Response Work Instructions

Clean up Procedures

The Emergency Coordinator (EC) will direct cleanup any resultant spills or contamination from the Event. The EC will work with all appropriate agencies to ensure that work is performed to their satisfaction.

Before reopening the facility, the coordinator will ensure that all affected areas have been cleaned, remediated, or decontaminated as appropriate. The EC will direct personnel to ensure that all emergency equipment has been decontaminated or replaced and shall notify local authorities that such action has been taken and that the facility is to reopen.

General Guidelines - All Employees

- Keep calm; Think; Avoid panic and confusion.
- Know all exit locations. Be sure you know the safest and quickest way out of the facility.
- The EC and the emergency support personnel must have visual access to all areas to ensure that the facility is clear of personnel.
- Do not delay evacuation of the facility and adjacent areas for any reason. Do not stop or divert your route to secure personal belongings.
- Do not assist in fire control unless properly trained and qualified.
- When evacuating the facility, WALK to the nearest safe exit. Report to the safe area, i.e., "the mustering point," away from the facility and wait for instructions from the EC or a company official.
- Keep out of the way, stay clear of the facility and DO NOT interfere with emergency operations.

DO NOT reenter the facility until instructed to do so by the EC or a company official.

Be a "buddy." As you leave the facility, take a quick look around to ensure that everyone heard the instructions to evacuate.

Emergency Procedure – HANDLING SMALL SCALE CHEMICAL SPILLS

If the hazardous material spill is of a small volume, i.e., less than one liter or a few gallons, and has a hazard rating below 2 in all hazard categories, the following procedures should be followed (i.e. mineral oil):

When a small scale chemical spill occurs:

- Restrict access to area.
- Immediately notify the Operations Supervisor and others in the area of the spill.
- Mark the area to prevent others from coming in contact with the spilled material.
- Contact the EC or secondary EC. Inform them to the:
- Name of chemical
- Quantity spilled
- Location of spill
- Obtain an MSDS for material. Refer to the chemical's MSDS or material data sheets found in this Plan for spill clean-up instructions. It is required that a MSDS be kept available for each chemical used.
- Review the MSDS Section on Precautions for safe handling and use.
- Use recommended Personal Protective Equipment. A minimum of nitrile gloves and safety glasses is required.
- Follow other precautions listed in MSDS.

General Procedures:

Simple acid and base spills should be neutralized with an appropriate neutralizing agent:

1. For acid spills (Sulfuric acid)

- Sodium bicarbonate, sodium sesqicarbonate or other derivatives are acceptable.

2. For basic spills (Potassium hydroxide)

- Citric acid or an acidic cleaner would be a suitable neutralizing agent.

3. Allow the spill time to neutralize (i.e., wait until the bubbling reaction stops.)

4. When using a neutralizing spill kit, these kits are buffered and will not have a bubbling action. Be careful not to over-neutralize.

5. Test the pH of the floor after the neutralization reaction has stopped with pH paper. Once a pH of between 6 and 9 has been achieved, the material can be transferred into an

appropriate container for disposal. Residuals from the cleanup of spilled acids/alkalis should be placed in poly containers.

6. The container will then be marked with the "Hazardous Waste" label appropriately identifying the material hazard and contents, e.g., “Neutralized Battery Acid”

Emergency Procedure – LIQUID MERCURY SPILLS

Mercury spills require special clean up procedures. Follow these instructions and utilize a specialized Mercury Spill Kit when dealing with mercury spills.

1. EVACUATE THE SPILL AREA: If people were in the room when the spill occurred, be sure that their shoes, clothing, and other articles have not been splashed with mercury before they leave the room. If mercury has contaminated any clothing or articles, remove these items from the person and place them in a plastic bag. Keep everyone else, especially children and pets, out of the spill area to prevent tracking.

2. TURN OFF CENTRAL VENTILATING OR AIR CONDITIONING SYSTEMS that could circulate air from the spill area to other parts of the home or building.

3. LOWER the TEMPERATURE of the room/area if possible, e.g., however, DO NOT TURN ON THE cooling system. The cooler the temperature - the fewer mercury vapors will be released into the air. Mercury vapors are odorless and colorless.

4. CLOSE INTERIOR DOORS leading to other rooms, but VENTILATE THE ROOM CONTAINING THE SPILL TO THE OUTDOORS by opening windows and any exterior doors. Place fans, facing out, in open windows or doors to speed up ventilation.

5. Use the MERCURY MAGNET™ Spill Kit. Instructions for clean-up are located on the Mercury Spill Kit container (copy attached after this page).

6. For broken mercury thermometers, clean up spilled mercury as described above and place collected glassware/metal ware device components, i.e., mercury and broken thermometer, in a sealable plastic bag or lined plastic pail (DOT-shippable) for disposal.

7. Contact the EC.

8. For larger mercury spills, e.g., greater than a single thermometer, contact the EC. A prolonged cleanup action or one within a poorly ventilated area MUST BE MONITORED ON AN ON-GOING BASIS using a Jerome Mercury-vapor analyzer or similar device.

Emergency Procedure – RELEASE OF MERCURY VAPORS

If there is a release of mercury vapor outside of the facility that is above the OSHA permissible exposure limit (0.025 mg/M3), we will notify our neighbors of the situation and make notification to the DTSC Duty Officer and Ashland Fire Department. AERC will take all necessary action to mitigate the release. AERC will monitor the air for mercury vapor inside and outside of our facility as well as inside of our neighbor's facility until the vapor levels are abated.

Emergency Procedure – LEAD ACID BATTERIES

Safety Equipment:

- Soda Ash
- Plastic shovels/scoops/dust pans
- Safety glasses with face shield
- Nitrile gloves - 2 pair

Immediate Action:

- Tend to any medical emergencies
- Don protective material. DO NOT touch any spilled material with unprotected hands or approach with unprotected eyes.
- Stop the lead if it is safe to do so, i.e. upright battery, over pack battery, etc.
- Absorb all spilled material with bentonite or other inert, inorganic absorbent
- Neutralize the floor by wiping the floor with rags with a soda ash solution on them.
- Sweep and remove all soda ash and place in the drum with the leaking battery.

Emergency Procedure – CRT GENERAL SAFE WORK PRACTICES

- Inspect packaging materials for shipping integrity prior to moving the pallet
- Repack or apply more shrink wrap if required
- Follow all safe lifting practices, such as use of legs rather than the back
- Inspect all units to look out for broken glass or sharp protrusions

CRT Clean up

CRT's are to be packaged in a manner to prevent breakage. Additionally, during disassembly, AERC has a strict process to minimize breakage of the CRT. Should breakage occur, it must be contained immediately to prevent contamination and minimize employee exposure. The CRT glass must be placed in a sift proof, leak proof container with a lid, such as a cubic yard box with a liner, or a drum with a lid. The small glass pieces must be swept and if required, utilized tape to pick up small shards. DO NOT use a hose to wash broken materials into drain. The container must be marked as Universal Waste CRT Glass, and the earliest received date of the CRT. The material will be shipped off-site for proper recycling. Proper PPE to be worn includes: Dust mask, leather or similar gloves and safety glasses at a minimum. DO NOT sweep up small pieces with your hand. Use a small broom and dustpan.

Basic equipment for spill clean-up includes:

- Hand brooms
- Dust pans
- Particulate face mask
- Leather or comparable gloves
- Containers with lids

Procedure:

- Alert Site Supervisor
- Assess the amount of material spilled
- Don proper PPE
- Use hand broom and dustpan to collect the spilled material
- Place the collected material into a container with a lid
- Mark the container as appropriate

Emergency Procedure – BALLAST, TRANSFORMERS, CAPACITORS, PROJECTION TV MINERAL OIL

The response to a leaking PCB ballast (or related electrical device leak) will be to identify, isolate, contain and treat the individual item/container and spilled material. The EC will direct personnel to:

- Use available emergency supplies, including: absorbent pads, booms or other inert materials to confine, contain and clean-up the release.

- Use proper personal protective equipment to clean up a PCB ballast leak. The PPE shall include:
  - AERC work uniform.
  - Tyvek® coveralls.
  - Neoprene outer-gloves over Nitrile® inner-gloves.

Place all containment and clean-up supplies into appropriate DOT-approved containers for proper management.

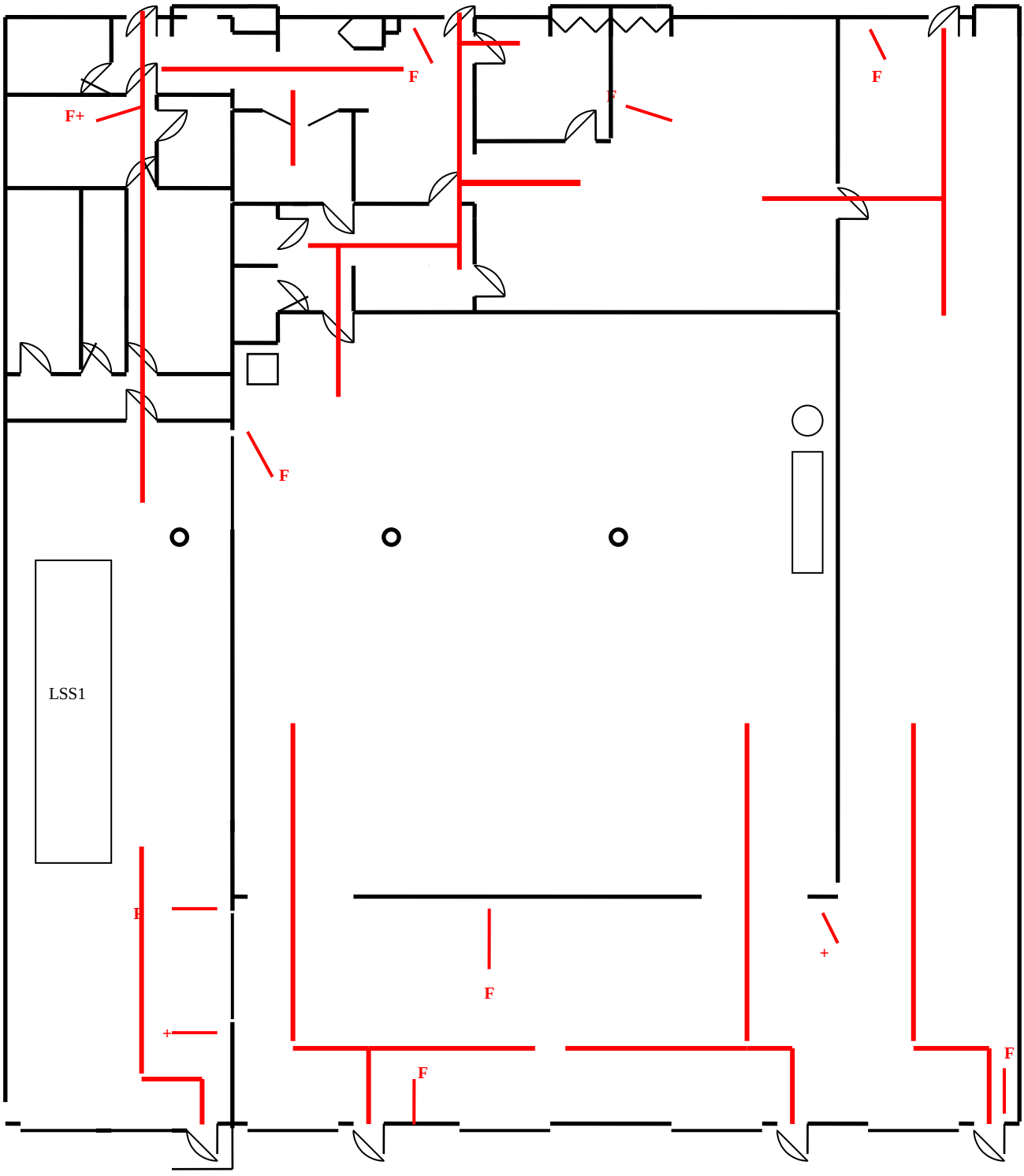
Cleanup residual PCB oil that may be on the floor/concrete after ballasts have been picked up and repacked:

- Use a small plastic scraper to remove as much visible oil and/or potting paste as possible.
- Place the scraped material into a plastic bag with the leaking ballast (s).
- Double wash/rinse all contaminated surfaces using a mixture of 5% solution of trisodium phosphate and water. Wipe down all potentially contaminated surfaces as necessary – placing the collected liquids and wipers containing PCBs into a plastic bag within the collection container.
- Place any contaminated PPE or cleanup supplies into the collection container. Use as small of a DOT-approved container as possible to adequately contain the ballast(s) and cleanup residuals.
- Ensure complete decontamination by conducting the collection of smooth surface wipe samples to detect the presence of residual PCB contamination. Sampling will be conducted in agreement with the minimum, U.S. EPA wipe-testing protocol (as follows):
- A standard-size template (10-cm square) should be used to present the area to be cleaned.
- Use a gauze or steel wool pad saturated with hexane. NOTE: Hexane is a volatile solvent. Proper PPE must be worn. The wipe sample must be collected quickly to limit evaporation of hexane from the saturated pad.
- The area, including a one-foot buffer surrounding the area of visible contamination, must be cleaned and sampled. If the area that is contaminated is outside the confines of the building, i.e., soil, the area must be excavated and filled with clean soil.
- EPA guidance shall be referenced for additional information with regard to the completion of post cleanup sampling.
- Once sampling is complete – any potentially contaminated sampling materials shall be placed into the collection container(s).

Attachment 6

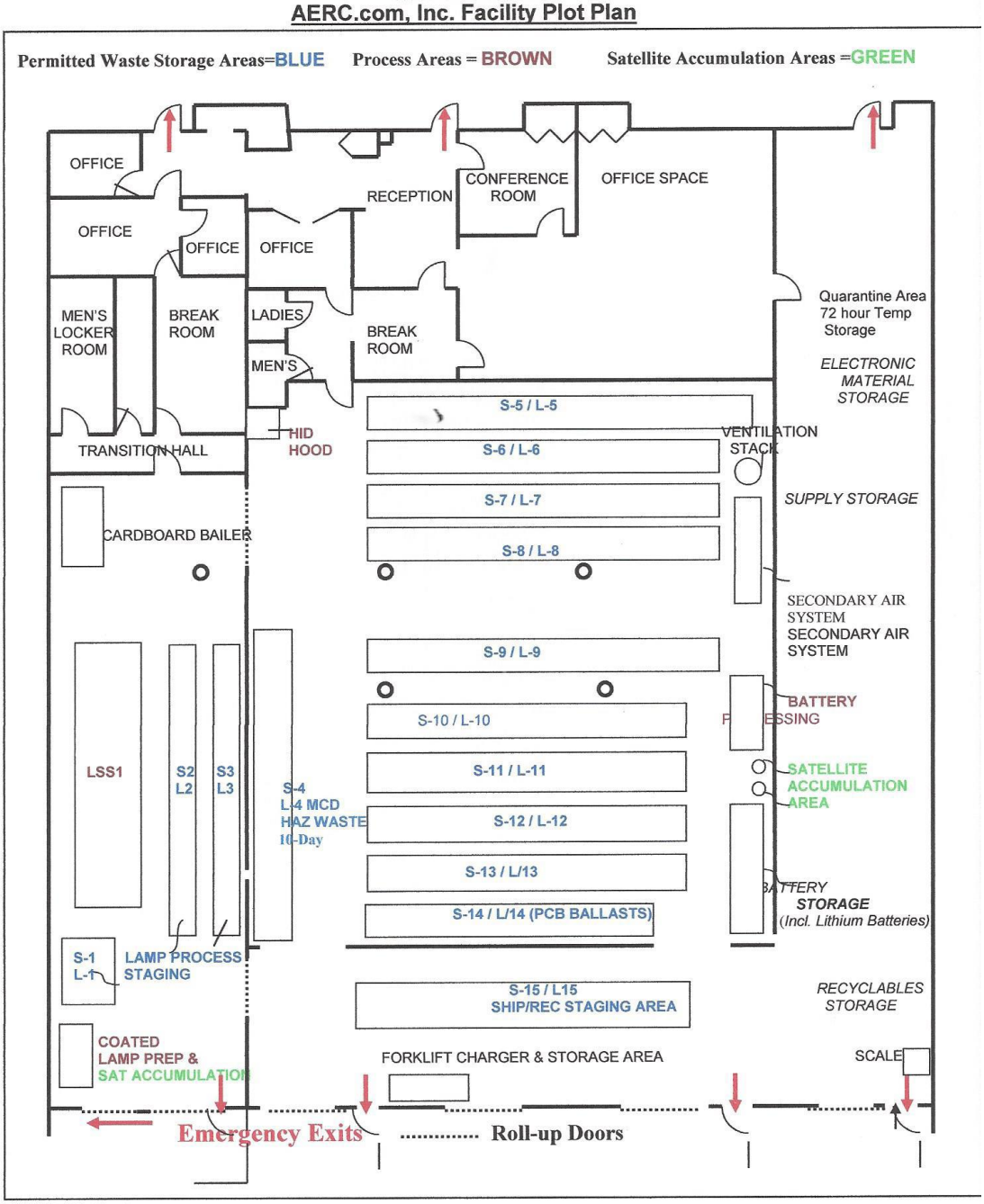
Evacuation Floor Plan

Evacuation Routes



Evacuation Route

UW-EP-004-02
AERC.com, Inc. Facility Plot Plan



Revision B July 2016

ATTACHMENT 8

EXHIBIT D.6.1

VEOLIA ES Waste Services/Emergency Response Agreement

July 2008

VEOLIA

EMERGENCY RESPONSE SERVICES AGREEMENT

THIS AGREEMENT, effective this 11th day of August 2008, by and between VEOLIA ES SPECIAL SERVICES, INC. duly organized and existing by virtue of the laws of the State of Wisconsin (Contractor), and AERC.com, Inc. (Client),
WHEREAS, Contractor is engaged in providing emergency services on a 24 hours per day, 7 days per week basis, as may be required to fulfill Client's obligations to federal, state and local governmental authorities, which may include analysis and remediation of contamination, surface and subsurface investigations, transportation, excavation and disposal of underground storage tanks, including monitoring well installation, and emergency services reasonably required to mitigate oil and hazardous substances released into the environment, which may include containment, recovery and removal (WORK); and,

WHEREAS, Client desires to engage Contractor to perform environmental emergency and non-emergency services as specified in this Agreement, and to perform other services as Client may require; and, NOW, THEREFORE, for valuable consideration, the parties agree as follows:

ARTICLE I. SCOPE OF WORK

1.1 Contractor agrees to provide emergency response services (WORK) required for the mitigation of adverse environmental conditions arising from or by the release, spill, escape of oil, hazardous substances, pollutants or contaminants into the environment, at a location specified by CLIENT (Project Site), and further identified on an Emergency Work Order (EWO) (Attachment A). Contractor and Client understand that the complete and exact WORK required may not be known at the time of Client's request. The complete and exact WORK to be performed by Contractor shall be determined by Contractor in Contractor's professional discretion and in coordination with Client's representative, whether or not Client's representative is present at the Project Site.

1.2 If the WORK to be performed involves diving services, Contractor's Diving Terms and Conditions are hereby incorporated by reference with the same force and effect as if fully set forth herein. (Attachment B).

1.3 Unless otherwise specifically agreed to in writing, Contractor, either directly or through Contractor's affiliated companies, or other Contractor-approved subcontractors, shall furnish all labor, materials, tools, equipment, unloading, hauling, taxes, insurance, and other items necessary, to perform the WORK in conformance with this Agreement. Contractor's affiliated companies shall include, but are not limited to, Veolia ES Industrial Services, Veolia ES Technical Solutions, LLC., Veolia ES Waste Services, Inc., US Filter, Inc., and their respective operating subsidiaries.

ARTICLE II. ADMINISTRATION

2.1 Client may request WORK by contacting Contractor's Emergency Response Dispatch Center at any time by calling 1-800-688-4005. An EWO will be prepared by Contractor's dispatcher and faxed to Client for signature and return fax to confirm WORK contracted for hereunder.

2.2 This Agreement shall not obligate Client to purchase WORK from Contractor nor shall it obligate Contractor to provide WORK, but shall govern all EWO's issued pursuant to this Agreement. Contractor will use its commercially reasonable best efforts to respond to all Client requests utilizing its own or subcontracted resources.

ARTICLE III. CONTRACTOR'S RESPONSIBILITIES

3.1 Contractor shall at all times keep the Project Site reasonably free from the accumulation of debris and rubbish that may result from its performance of the WORK. At the completion of the WORK, Contractor shall remove all of its vehicles, equipment, machinery, and surplus construction materials from and around the Project Site.

3.2 Contractor shall take necessary precautions for the safety of its employees, and shall comply with all applicable provisions of federal, state and local safety laws. Contractor shall erect and properly maintain, as required by the conditions and progress of the WORK, necessary safeguards for the protection of its employees. It is understood and agreed, however, that Contractor shall have no responsibility for the elimination or abatement of safety hazards created or otherwise resulting from WORK at the Project Site carried on by other persons or firms directly employed by Client as separate contractors or by Client's employees and agents. Client agrees to cause any such separate contractors, employees and/or agents to abide by and fully adhere to all applicable provisions of federal, state and local laws and regulations and to comply with all reasonable requests and directions of Contractor for the elimination or abatement of any such safety hazard at the Project Site. In all cases, Contractor's Response Manager will determine in his sole discretion whether conditions are safe for Contractor personnel.

3.3 Contractor shall exercise the standard of care normally exercised within the industry in the performance of WORK pursuant to this Agreement. Contractor makes no warranty of any kind, nor a warranty of merchantability or fitness for a particular use or purpose or otherwise concerning any materials with respect to which Client may request WORK. Contractor makes no expressed or implied warranties other than the warranties expressly made herein.

3.4 Contractor shall keep such records as may be necessary to reflect: (a) proper financial management under this Agreement; (b) the WORK performed at the project site, including, when applicable, all testing, sampling and investigatory services performed by Contractor. All such records will be subject to review by Client on the condition that Client identifies, in writing, those documents requested.

3.5 Contractor represents that it holds the occupational and professional permits and licenses required for the performance of its WORK generally expected to be performed pursuant to this Agreement.

3.6 Contractor represents, warrants and agrees that it shall provide its WORK including handling, transportation, and storage of oil and hazardous wastes in compliance with the Oil Pollution Control Act of 1990 (OPA90), Resource Conservation and Recovery Act, 42 USC, 6901, et. seq. (RCRA) when applicable, and all other applicable federal, state and local laws and regulations, and will conduct any cleanup consistent with the national, regional and area contingency plans and other lawful authority.

ARTICLE IV. CLIENT's RESPONSIBILITIES

4.1 Client shall provide full and complete information regarding its requirements for the WORK and shall immediately transmit to Contractor any new information which becomes available or any change in plans subsequent to any such providing of information.

4.2 Client shall be responsible for the location of any installations and underground utilities for Contractor prior to commencement of any WORK under this Agreement.

4.3 Client shall furnish, at no cost to Contractor, all available information on the project site describing: physical characteristics, soil reports and subsurface investigations, legal limitations, legal description, and other reports or documents that may be reasonably requested by Contractor

4.4 Client shall secure and pay for all necessary approvals, easements, and permits required for the WORK to be performed.

4.5 Client warrants either that a) Client holds clear title to all materials to be handled pursuant to the WORK and b) Client is under no obligation, legal restraint or order (whether statutory, regulatory, administrative, judicial or otherwise) which would otherwise prohibit the transportation, treatment, storage and/or disposal of such materials by any transporter or to any disposal facility; or, c) Client is fully authorized, and requires no additional approvals other than those already obtained, to execute this Agreement, and d) Client is fully authorized, and requires no additional approvals other than those already obtained, to provide for the transportation, treatment, storage and/or disposal of such materials.

4.6 Client shall immediately communicate to Contractor those special hazard risks of which Client is or becomes aware involved in the handling of the materials. Such information shall include, but not be limited to, any relevant notification of substantial risk required to be given by Client pursuant to the Toxic Substances Control Act (TSCA), as amended, or the Resource Conservation and Recovery Act (RCRA), as amended, or any applicable state counterpart to such statutes or regulations which statutes or regulations require identification or are hereafter revised to require identification of any substance or materials or any portion thereof present at the Project Site.

4.7 Notwithstanding any other provision of this Agreement, Contractor shall not be responsible for contamination of any product or raw material handled by Contractor or Contractor's subcontractors as part of the WORK, unless agreed to in writing by Contractor prior to commencement of the Work, nor for contamination of any product or raw material in proximity to the WORK, during the performance of this Agreement.

4.8 Client shall have sole and exclusive responsibility to notify all applicable persons and governmental agencies or authorities of a reportable incident, as required by any applicable federal, state or local laws, statutes, rules, regulations or orders, to protect the health and safety of persons or property, and to make any other notifications required by governmental agencies or authorities which may relate in any way to the WORK provided hereunder. In no event shall Contractor be deemed to have assumed the responsibilities described in this Section 4.8, unless otherwise agreed to in writing and signed by Contractor.

4.9 The information to be provided by Client required by Sections 4.1 through and including 4.7 shall be furnished promptly at Client's expense, and Contractor shall be entitled to rely upon the accuracy and completeness thereof.

4.10 Client may be required by federal, state or local regulation or statute to report the results of WORK performed by Contractor under this Agreement. It is agreed between parties that Client shall be responsible for all such reporting and shall hold harmless and indemnify Contractor from any and all fines, penalties, assessments and costs resulting from any failure of Client to make such report.

4.11 As between Contractor and Client, Client has and retains all legal liability for the evaluation and selection of the proper disposal site for any waste generated as a result of the WORK. Contractor may, upon request of Client, provide

NOT accept ownership, title, or responsibility for Client's waste, materials or substances involved with the WORK, unless such waste, material, or substance is/are treated at a facility owned by Contractor.

4.12 Client shall be responsible for the cost of any and all repairs to all roadways, structures, and rights of way to/from the project site and/or to/from the most convenient public way and Contractor's reasonable use thereof.

4.13 Materials requiring transportation and/or disposal/discharge will have the composition and characteristic described in the EWO. Any disposal, treatment, or storage facility shall be selected by the Client, who shall promptly complete any required paperwork to obtain approval at the said facility.

4.14 Client shall provide Contractor complete, legal access to all sites, locations, facilities and information as deemed necessary by Contractor for the safe, lawful, and proper provision of WORK under this Agreement.

4.15 Client shall designate a representative who has the knowledge and authority to act on behalf of Client, and shall identify this individual to Contractor's Response Manager.

4.16 In the event Client intends to use this Agreement for compliance with the Oil Pollution Act of 1990 (OPA90), Client agrees to notify Contractor of the Client's operating location(s) for which Contractor is the cited Contractor in Client's respective response plans. Client recognizes that OPA response times are for planning purposes only, and Client shall not hold Contractor liable for any damages associated with failure to respond within such timeframes.

4.17 Client's authorized representative shall be required to execute all documentation required for the lawful transportation and disposal of the wastes pursuant to the WORK, including the waste profile sheet. The waste profile sheet shall be provided to Contractor by any convenient means available, including facsimile transmission and the waste profile sheet shall include instructions as to the ultimate disposal site for the wastes. Notwithstanding anything contained in this Agreement to the contrary, exigent conditions at the Project Site may dictate that Veolia ES function as Client's agent only for the purposes of coordinating transportation for subsequent treatment, storage and/or disposal of wastes on behalf of Client in the absence of the Client's authorized representative. Contractor shall not, and in no event shall Contractor be required to, execute a waste profile sheet, or any documentation that could otherwise be deemed a waste profile sheet. Client hereby authorizes Contractor to coordinate those transportation activities as necessary in the absence of Client's authorized representative.

ARTICLE V. COMPENSATION

5.1 Contractor shall charge Client on a time and materials basis in accordance with the current Emergency Response Services Fee Schedule (Attachment C) attached hereto which charges shall be paid in US Dollars within thirty (30) days of the date of the invoice. Contractor reserves the right to increase such rates from time to time upon thirty- (30) days written notice to Client.

5.2 Client's obligation to pay amounts due pursuant to this Agreement, within the time periods specified, shall not be conditioned upon, nor limited by, the types, amounts, or availability of insurance coverage.

5.3 Client has specified that all invoices are to be submitted for payment to:
AERC.com, Inc.
3 Gold Mine Road, Suite 106, Flanders, NJ 07836
Telephone: (973) 691-3200 | Fax: (973) 691-3233 Attn: Nirsa Ortiz – Accts Payable

5.3 PAYMENT: Invoices shall be payable within thirty (30) days of the date of invoice. All outstanding balances remaining unpaid thirty (30) days after the invoice date shall be subject to accrued interest from the invoice date to the date of payment in full at the rate of one and one-half (1.5%) percent per month or the maximum rate of interest permissible under applicable law, whichever is less. Payments received will be applied first to collection costs (including attorneys' fees), if any second to accrued interest, and the balance of the payment to any unpaid charges. Contractor will be paid under the terms and conditions of this Agreement, and payment to Contractor for the WORK shall not be contingent upon nor be delayed pursuant to any insurance settlement.

5.4 All invoices not disputed in writing within fifteen (15) business days of the date of invoice are deemed accepted in full by Client as true, accurate, reasonable, and payable in full.

5.5 Contractor's obligations under this Agreement may be subject to Client's establishment of credit approval with the Contractor's credit department.

5.6 Contractor may, after giving ten (10) days written notice, suspend WORK under this Agreement, without liability until all past due amounts (including, but not limited to, collection costs, attorney's fees, and interest accrued) have been paid in full.

5.7 If at any time Client's account to Contractor or to any Contractor affiliated company becomes more than ninety (90) days past due (calculated from the date of the invoice), Contractor shall be under no obligation to respond to any request by Client for WORK to be performed.

5.8 If all or any portion of Client's account is referred to an attorney or other third party for collection, Client agrees to reimburse Contractor for all costs of collection, including all collection agency fees, court costs and actual attorneys fees, incurred by Contractor in collecting the unpaid amount.

ARTICLE VI. CHANGES IN THE WORK REQUESTED

6.1 In the event changes in the WORK requested in the EWO result in increased work, unless otherwise negotiated between the parties, Contractor will invoice Client for increased hours worked, equipment used and materials expended in accordance with the fee schedule.

ARTICLE VII. INDEMNIFICATION

7.1 Contractor agrees to indemnify and save harmless Client from and against any and all liabilities, claims, demands and causes of action for bodily injury to or death of any person or destruction of or damage to any property that occurred as a direct result of the negligent performance of the WORK by Contractor, its agents, employees or subcontractors, except to the extent such liabilities, claims, demands and causes of action occurred as a result of Client's failure to comply with and fulfill its obligations under this Agreement, or as a result of the negligent or intentional acts of Client. CONTRACTOR's liability under this Section shall not exceed CONTRACTOR's insurance coverage as set forth in Attachment D.

7.2 Client shall indemnify and hold harmless Contractor, its directors, officers, employees, agents and subcontractors against any and all costs, expenses (including attorneys fees), liabilities, claims, demands and causes of action for, including, without limitation, any bodily injury to or death of any person or destruction of or damage to any property, which Contractor, individually or collectively with Contractor affiliated companies, may suffer by reason of any act or omission of Client, its agents, contractors, employees or representatives, or the failure of any such party to observe or comply with any of Client's duties and obligations under this Agreement. Client shall further indemnify Contractor in accordance with the provisions of this Section 7.2 for CERCLA liability which might otherwise attach to Contractor pursuant to Contractor's authorized activities hereunder, unless CERCLA liability otherwise attaches to Contractor as a transporter, owner/operator, or generator.

7.3 In no event shall either party be liable to the other party for incidental or consequential damages of any kind or nature

7.4 To the extent available to Contractor, it is the intent of the parties that Contractor shall be entitled to the benefits of the provisions of OPA 90 and any applicable state statute providing for responder immunity.

ARTICLE VIII. CONFIDENTIALITY

8.1 Contractor and Client (including both parties, employees, officers, agents, and directors) shall treat as confidential and proprietary and not disclose to others during or subsequent to the term of this Agreement, except as is necessary to perform WORK under this Agreement, (and then only on a confidential basis and satisfactory to both parties), any information whether verbal or written, of any description whatsoever, (including any technical information, experience or data) regarding either party's plans, programs, plants, processes, products, costs, equipment, operations, or customers which may come within the knowledge of the parties, their officers, or their employees in the performance of this Agreement, without in each instance securing the prior written consent of the other party.

8.2 Nothing contained within this Article shall prevent either Contractor or Client from disclosing to others or using in any manner information which either party can show:

a) has been published or become part of the public domain other than by the acts, omissions, or fault of the party seeking to disclose or make use of such information or any agent, employee or contractor of such party;
b) has been furnished or made known to Contractor or Client by third parties (other than those acting directly or indirectly for or on behalf of Contractor or Client) as a matter of legal right without restrictions on its disclosure; or,
c) was in either party's possession prior to the disclosure thereof by Client or Contractor to each other.

8.3 In the event that either party shall be required by subpoena, court, or administrative order (hereinafter "The Order") to disclose any of the information deemed by this Agreement to be confidential and/or proprietary that party shall give immediate written notice to the other party. Upon receipt of same, the party whose information may be the subject of The Order expressly reserves the right to interpose all objections it may have to the disclosure of its information. The foregoing obligation shall survive the termination or expiration of this Agreement and shall continue until a specific written release is given by either party.

8.4 Notwithstanding the provisions of this Article 8, either party shall have the express right to publicly disclose, for the purposes of sales and marketing, the fact that it has entered into this Agreement without receipt of the other party's

approval. In addition, Client shall have the express right to provide copies of this Agreement, **minus Attachment C**, to any governmental agency as may be necessary to document compliance with any governmental regulation or law.

8.5 For purposes of compliance with OPA 90, Contractor is hereby authorized to communicate with any federal, state, or local governmental agency regarding the certification status of any contractor or subcontractor resources with or without prior notice to Client. In the event Contractor intends to decertify any resources which resources Client had been granted prior permission to certify, Contractor agrees to provide Client thirty (30) days written notice prior to notification of any federal, state or local governmental agency.

ARTICLE IX. EXCUSE OF PERFORMANCE

9.1 The performance of this Agreement, except for the payment of money for WORK already rendered, may be suspended by either party in the event performance of this Agreement is prevented by a cause or causes beyond the reasonable control of the party during excused performance. Such causes shall include, but not be limited to: acts of God, acts of war; riot; fire; explosion; accident; flood; or sabotage; lack of adequate fuel, power, raw materials, labor or transportation facilities; governmental laws, regulations, requirements, orders or actions; breakage or failure of machinery or apparatus; national defense requirements; injunctions or restraining orders; labor trouble, strike, lockout or injunction (provided that neither party shall be required to settle a labor dispute against its own best judgement).

ARTICLE X. DELEGATION AND ASSIGNMENT

10.1 Upon the prior written consent of Client, Contractor may delegate, orally or in writing, the performance of the WORK, or any portion thereof, which is by this Agreement undertaken by Contractor. Any such delegation shall not operate to relieve Contractor of its responsibilities hereunder; and, notwithstanding any such delegation, Contractor shall remain obligated to Client in these undertakings.

ARTICLE XI. LIEN NOTICE

11.1 As may be required by various states' mechanic's lien laws, and if appropriate to WORK contemplated under this Agreement, **Contractor hereby notifies Client that persons or companies who furnish labor or materials for the improvement of real property owned by Client and who give the Client appropriate statutory notice after furnishing labor or materials for the improvements, may have lien rights in Client's real property. Accordingly, Client may receive notices of claims for lien from those persons or companies who furnish labor or material for the improvement of Client's real property, and Client should give a copy of each notice received to Client's mortgage lender, if any. Contractor agrees to cooperate with Client and his lender, if any, to see that all potential lien claimants are duly paid.**

ARTICLE XII. ADDITIONAL GENERAL PROVISIONS

12.1 Waiver - Any waiver by either party of any provision or condition of this Agreement shall not be construed or deemed to be a waiver of any other provision or condition of this Agreement, nor a waiver of a subsequent breach of the same provision or condition, unless such waiver be so expressed in writing and signed by the party to be bound.

12.2 Survival – Sections 3.4, 4.5, 4.7, 4.8, 4.9, 4.10, 4.11, 4.12, all sections of Article V, all sections of Article VII, all sections of Article VIII, and all sections of Article XII hereof shall survive any termination of this Agreement, as shall any other obligations already accrued under this Agreement.

12.3 Construction – Headings of particular paragraphs or sections herein are inserted for convenience only and are in no way to be construed as a limitation of scope or intent of the paragraphs or sections to which they refer.

12.4 Severability - If any section, subsection, sentence or clause of this Agreement shall be adjudicated illegal, invalid or unenforceable, such illegality, invalidity or unenforceability shall not affect the legality, validity or enforceability of this Agreement as a whole or of any section, subsection, sentence or clause hereof not so adjudicated.

12.5 Independent Contractor – Contractor is and shall perform this Agreement as an independent contractor and, as such, shall have and maintain complete control over all of its employees, agents and operations. Neither Contractor nor anyone employed by Contractor shall be, nor deemed to be, the agent, representative, employee or servant of Client, unless specifically authorized by both Client and Contractor in writing.

12.6 Governing Law – The validity, interpretation and performance of this Agreement and the legal relations of the parties shall be governed by and construed in accordance with the laws of the State of Wisconsin, without regard to principles of conflicts of laws. The parties agree that the WORK provided hereunder shall not be subject to the provisions of any Uniform Commercial Code.

12.7 RCRA and CERCLA Status – Nothing contained in this Agreement shall be construed or interpreted as requiring Contractor to assume the status of a generator, transporter, or a treatment, storage or disposal facility, as those terms are

defined by RCRA or CERCLA, or any other federal, state or local law, statute, rule or regulation governing the generation, transportation, treatment, storage or disposal of hazardous wastes, solid wastes or special wastes.

12.8 Amendments - This Agreement may be amended or modified only by a written amendment to the Agreement signed by both parties. Additional or different terms or any attempt by Client, through a Purchase Order, or other document, to vary in any degree any of the terms of this Agreement shall be deemed material and shall be rejected, unless expressly agreed to in writing and signed by Contractor.

12.9 Notice - Any notice, communication, or statement required or permitted to be given hereunder shall be in writing and deemed to have been sufficiently given when delivered in person, by nationally-recognized commercial carrier, or by registered, or certified mail, postage prepaid, return receipt requested, to the address of the respective party below. Additional contact information is provided for convenience only, and shall not be construed as a means of providing sufficient legal notice.

Client:	Contract Administrator
Vice President of Operations	Veolia ES Special Services, Inc.
AERC.com, Inc. AERC Recycling Solutions	P.O. Box 367
2591 Mitchell Ave	Germantown, WI 53022-0367
Allentown, PA 18103	(262) 236-8130 Telephone
(610) 797-7608 Telephone	(262) 236-8140 Telecopier
(610) 797-7696 Telecopier	

12.10 Entire Agreement - This Agreement and its attachments, the completed Emergency WORK Order, and any duly executed change orders, represent the entire understanding and agreement between the parties hereto concerning emergency services and supersedes any and all prior emergency services agreements, whether written or oral, that may exist between the parties regarding same. In the event Agreement documents conflict, the terms and conditions as outlined in this Agreement, its attachments and duly authorized change orders shall take precedence over all other documents.

12.11 Electronic Signature - Both parties expressly stipulate that this document may be executed and become effective electronically by entering an electronic signature in the signature block below. Such electronic signature and document shall be deemed an original signature and an original document certifying the validity of this Agreement, its enforceability, and the intent to lawfully enter this Agreement.

12.12 Term of Agreement - This Agreement, effective as of the date last signed below, is for a one- (1) year term. This Agreement shall be automatically renewed for additional consecutive one- (1) year terms, unless either party gives a termination notice with at least thirty (30) days advance written notice.

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed by their duly authorized representative as of the day and year last signed below.

Client:	Veolia ES Special Services, Inc:
x [signature] By:	x [signature] By:
x Mark C. Kasan Printed Name:	x Jon Zielske Printed Name:
x VP Operations Title:	x Technical Services Manager Title:
x 8-11-08 Date:	x 8/12/08 Date:

ATTACHMENT 8

EXHIBIT D.6.2

AERC Transportation Contingency Plan

TRANSPORTATION CONTINGENCY PLAN

AERC.com, Inc.

US DOT ID # 687877

Transportation Contingency Plan	Document #: UW CP-009-05	Revision Date: 08/30/16	AERC RECYCLING SOLUTIONS
00 - AERC - All Locations	Department: Regulatory Affairs	Revision #: H	Page: Page 1 of 9

1.0 Contingency Plan and Emergency Procedures

The following Contingency Plan has been prepared for the operation of the hazardous and universal waste transport vehicles operated by AERC.com, Inc. (hereinafter, AERC). This plan is designed to minimize hazards to human health and the environment from any unplanned sudden or non-sudden release of hazardous materials, hazardous waste, universal waste or universal waste constituents to air, soil, surface water or groundwater during transportation. Copies of the Transportation Contingency Plan (latest revision) will be carried on all transport vehicles and maintained at all AERC.com, Inc. facilities. The provisions of the plan will be carried out immediately whenever there is a release of hazardous waste, universal waste or hazardous materials which could threaten human health or the environment.

2.0 All Emergency Incidents

In the most basic sense, an "Emergency" is defined as

ACCIDENT & INJURY REPORTING

In the event of an accident involving property damage or personal injury a report must be made as soon as is practical, i.e., after securing the accident scene and obtaining necessary medical care for injured parties.

This documentation, at a minimum, includes completion of Form HS-002-F1 *Incident Summary Form*. The report of an injury to an AERC employee must be done according to established company injury report procedures (as required by OSHA). The employee must complete as much information as possible detailed in Form HS-002-F2 - *Injury-Illness Report.*

A record of the accident, as required by AERC insurance provider, must also be documented using the XL Insurance *Driver Accident Report Form*. A copy of this form is provided as Attachment 1.1.

HAZARDOUS MATERIAL RELEASE

In the event of a release of hazardous materials, hazardous waste, universal waste or universal waste constituents to air, soil, surface water or groundwater during transportation, the vehicle operator shall determine whether any material resulting from the release is a hazard. Furthermore, if a determination is made that ***human health and the environment are threatened***, the Vehicle Operator will immediately:

Notify

A. Local municipal authorities **(Police, Fire, EMS, Haz-Mat)** **911**

B. **INFOTRAC** **800 535-5053**

Ask the INFOTRAC operator for the appropriate state agency and telephone number to report your emergency. Do this immediately!

C. **National Response Center** **(800) 424-8802**

D. **The generator of the material involved in the incident.**

NOTE: For incidents within the Commonwealth of Massachusetts see the AERC supplemental Notification Requirements Policy presented within Attachment 2.

Reporting instructions detailed in Section 6.0.

3.0 Emergency Coordinators

A current list of Emergency Coordinators who have the responsibility for coordinating all emergency response measures and who have the authority to commit the resources necessary to carry out this Contingency Plan is detailed within *Emergency Coordinator List* (Attachment 2).

Each Emergency Coordinator will be thoroughly familiar with all aspects of the Contingency Plan, all transportation activities and the steps to be taken to mitigate a transportation emergency.

EMERGENCY COORDINATORS

- All Vehicle Operators are initial on-scene Emergency Coordinators
- Frank Alioto | Amante Ramelb (California Operations)
- Mike Maliska (Florida and Georgia Operations)

- Jeremy Collier (Pennsylvania Operations)
- Maurice Johnson (Virginia Operations)

Additional management staff who may assume duties as EC's noted on the Operating Facility/Terminal Location Summary list.

Follow-up Notification | Technical Assistance

- Stephen Lefon (All States North America)

4.0 Emergency Notifications Summary

A current summary of emergency notifications contact information that shall be used in case of an emergency are detailed within *Emergency Notification Summary* (Attachment 2).

5.0 Duties and Responsibilities of Vehicle Operator

Whenever there is an imminent or actual emergency, the Vehicle Operator will immediately:

A. Identify the character (universal or hazardous) of waste, exact source, amount and extent of emitted or discharged materials (by observation or review of records) and determine if **human health or the environment are threatened**; and, if so, the Vehicle Operator will immediately make the notifications as required in Section 2.0 on page 4.

B. As can be accomplished without risk of personal injury - don appropriate personal protective equipment and take all measures necessary to stop the release or prevent the emission, discharge or spread to other/additional materials. These measures shall include, where applicable, stopping operations, collecting and containing released materials and removing or isolating containers; and, containing the release utilizing the tools carried on the vehicle or on the scene.

C. The Vehicle Operator shall also immediately notify the AERC.com, Inc. facility of the incident and, if warranted, request the assistance of the AERC.com, Inc. Emergency Coordinators and/or the emergency response contractor. The clean-up will be accomplished by the driver of the vehicle or by a clean-up contractor on the scene.

With containment effected and the spill source controlled, cleanup will commence. If the spill is contained on an impervious paved surface, material should be absorbed onto a compatible material (e.g., sand, spill pads). If the spillage has reached soil, all contaminated dirt should be collected into drums or bags for disposal at an EPA approved site. If any spilled waste has reached the ground, the contaminated soil will be removed. The extent of contamination will be determined by sampling the spill area. A qualified laboratory will analyze the sample. Sampling techniques, chain-of-custody requirements, and analytical methods will follow approved procedures such as those outlined in SW-846. Any soil exhibiting contamination above the local background level will be removed to an appropriate permitted disposal site.

In addition to contaminated absorbents, dirt, or the like as noted above, damaged containers also present a disposal problem. Special "recovery drums" (oversize metal drums) will be used for containing damaged 55-gallon drums. Disposal will be at an approved site.

(continued on next page)

6.0 Reporting Requirements

The type and quantity of material released during an incident will determine the specific reporting requirements to be followed. Specific requirements have been developed under RCRA and other State agency hazardous waste regulations for releases of hazardous wastes. Reporting requirements and procedures have been developed under the Comprehensive Environmental Responsibility and Cleanup Act (CERCLA or "Superfund") for releases of reportable quantities of CERCLA Hazardous Substances. Additionally, reporting requirements and procedures have been developed under the Superfund Amendments and Reauthorization Act (SARA) for releases of reportable quantities of extremely hazardous substances (EHS).

INFOTRAC will provide the specific details for reporting each incident to the required agency. This will be dependent on the detail and location of each incident. The final incident report will be compiled and submitted to all agencies requiring this, by the National Service Manager, Regulatory and Safety Department, Facility Manager and Vehicle Operator.

The Department of Transportation, Director of Hazardous Materials Registration, Materials and Transportation Bureau, Washington, DC 20590 will be notified, in writing, of the occurrence, and nature of the incident if the following criteria are met:

1. A person is killed or requires hospitalization due to injuries.
2. Carrier or property damage exceeds $50,000.00.
3. Notification caused by continuing danger to life.

Information to be Reported Shall Include (but is not limited to):

1. Name of the person reporting the incident;
2. Company name, EPA ID Number and address/location of the transporter;
3. Phone number where the person reporting the incident can be reached;
4. Date, time and location of the incident;
5. Mode of transportation and type of transport vehicle;

Transportation Contingency Plan	Document #: UW CP-009-05	Revision Date: 08/30/16	AERC RECYCLING SOLUTIONS
00 - AERC - All Locations	Department: Regulatory Affairs	Revision #: H	Page: Page 6 of 9

6. A brief description of the incident and extent of any injuries and possible hazards to human health and the environment. Recorded information shall also include the names and statements of any witnesses.
7. A description of each waste involved in the incident:
   a. The shipping name, hazard class, UN/NA Number of the waste;
   b. The estimated quantity of material or waste released; and,
   c. The extent of contamination of land, water or air.
8. Shipping name, hazard class and the UN or NA number of any other material carried on the transport vehicle.
9. An indication of whether the substance is an extremely hazardous substance (EHS); and
10. Any known or anticipated acute or chronic health risks associated with the emergency and, where appropriate, advice regarding medical attention necessary for exposed individuals.
11. Request a copy of notification / report of the event from all agencies present. If not available at the scene, obtain the telephone number, name of agency; incident number and contact person so follow-up can be made.
12. Photographs of the accident scene as possible using the Driver's cellular phone. (Secure a disposable camera is no other equipment is available)

NOTE: If the incident occurred in Alabama or involves a shipment from Alabama, a copy will be submitted to the Alabama Department of Environmental Management, Coliseum Boulevard, Montgomery, Alabama 36110-2059.

7.0 Emergency Equipment

The **initial response** to such an emergency will be to identify, isolate, contain and treat the individual container and spilled material. The driver/operator (acting as the sole emergency responder) will act as follows to:

- As can be done in a safe manner without risk of personal injury, use available emergency supplies, including: absorbent pads, booms or other inert materials to confine, contain and clean-up the release. See Attachment 5, *Emergency Equipment List*, for a summary of available emergency supplies.
- Work instructions for the cleanup of commonly transported materials are presented in Attachment 3.
- Supplemental information regarding the potential hazards of commonly transported materials are presented in Attachment 4.
- Place all containment and clean-up supplies into appropriate DOT-approved containers for proper management.

8.0 External Communications

The driver/operator of the AERC.com, Inc. vehicle will contact additional Emergency Coordinators and other personnel and agencies listed in this Plan via the cellular telephone that is carried by the driver/vehicle operator. Additional emergency assistance will be coordinated as required.

9.0 Decontamination Procedures

AERC.com, Inc. only transports Hazardous and Universal Waste in approved containers in box trailers. AERC.com, Inc. only transports mercury bearing wastes and does not transport incompatible materials.

The cargo portion of each transport vehicle will be inspected and decontaminated (if necessary) to prevent any spread of contaminates. If there are contaminants present, the cargo area of the transport vehicle will be cleaned. All hazardous waste and universal waste decontaminants will

be contained within USDOT-approved containers and returned to the AERC.com, Inc. facility following the cleanup of any releases. If any hazardous waste decontaminants are encountered, such materials will be removed and transported to a permitted TSD facility for proper treatment or disposal.

Mercury decontamination products, such as HgX, will be used to decontaminate any mercury contamination that occurs from a spill or release. If decontamination requirements are beyond AERC.com, Inc.'s capability, a spill clean-up contractor will perform those duties.

Additional work instructions will be developed for individual hazardous materials as deemed necessary and appropriate. See referenced attachments to this Plan for these instructions and supporting technical information. In addition, the current addition of the *Emergency Response Guidebook* is used as an additional general reference source for emergency response information.

10.0 Employee Training Program

The AERC.com, Inc. hazardous waste transportation training program includes the following elements:

1. 24 hour HAZWOPER training (29CFR1910.120)
2. HM126 Requirements
3. Refresher training on C.D.L. Study Manual
4. Instruction as to the nature of the universal waste (e.g. batteries, thermostats, etc.) being transported and the nature of universal/hazardous waste characterization;
5. The safety and health hazards associated with the materials being transported (e.g. mercury, acid, alkali, etc.);
6. Practices for preventing spills;
7. Procedures for responding properly and rapidly to spills;
8. Emergency procedures (e.g. use of the Contingency Plan); and,

9. Use of the emergency equipment that is carried aboard the AERC.com, Inc. transport vehicle.

The AERC.com, Inc. universal and hazardous waste transportation training programs are provided annually to all AERC.com, Inc. transport vehicle operators.

13.0 Distribution

13.1 Electronic Copy – Regulatory Affairs Dept., Mt Arlington, NJ

13.2 Hard Copies –

13.2.1 Operating Locations - Copy to Facility Management and Driver(s)

13.2.2 VP Operations

13.2.3 Corporate EHS

Attachment 1 Transportation Contingency Plan	Document #: Attachment 1	Revision Date: 08/30/16	AERC RECYCLING SOLUTIONS

Attachment 1

Form UW HS-002-F2 - *Injury-Illness Report*

Form UW HS-002-F4 - Vehicle *Accident Report Form*

Attachment 2 Transportation Contingency Plan	Document #: Attachment 2	Revision Date: 08/30/16	AERC RECYCLING SOLUTIONS

Attachment 2

| Emergency Coordinator List

| Emergency Notification Summary

Attachment 2 Transportation Contingency Plan	Document #: Attachment 2	Revision Date: 08/30/16	AERC RECYCLING SOLUTIONS

Emergency Notification Summary

AERC.com, Inc.

The following list details Emergency Coordinators who will be given the responsibility for coordinating all emergency response measures and who have the authority to commit the resources necessary to carry out this Transportation Contingency Plan. Listed in order of precedence, each Coordinator will be thoroughly familiar with all aspects of this Contingency Plan as well as associated AERC operations, activities and facility documentation.

This list will be maintained and amended as necessary.

TRANSPORTATION EMERGENCY COORDINATORS

PRIMARY EMERGENCY COORDINATOR

JEREMY COLLIER – Transportation Coordinator

Cell Phone: (610) 442-7374 | Work: (610) 797-7608 | Home: (484) 281-3413

SUPPLEMENTAL EMERGENCY COORDINATORS

		Home Phone	Cell Number	
SECONDARY:	Bret Dillon (CA)	(925) 914-0203	(510) 427-8258	
	Christian San Martin (FL | GA)		(321) 917-1421	(484) 661-7301
	Mark Larsen (FL | GA)		(321) 890-4432	(321) 213-2049
	Fred Weisenberger (PA)		(610) 297-6955	(610) 297-6955
	Maurice Johnson (VA)	(804) 360-3784	(804) 551-4492	
TERTIARY:	Mark Kasper (All Facilities)		(484) 951-6702	(484) 951-6702

IF THE SPILL/RELEASE OCCURS AT OR NEAR AN AERC FACILITY LOCATION – CHECK THE FACILITY CONTINGENCY PLAN FOR ADDITIONAL, AREA-SPECIFIC NOTIFICATIONS.

AERC 24-HOUR EMERGENCY NUMBER [INFOTRAC] (800) 535-5053

[NOTE: Identify AERC as registered entity.]

Attachment 2 Transportation Contingency Plan	Document #: Attachment 2	Revision Date: 08/30/16	AERC RECYCLING SOLUTIONS

Emergency Notification Summary

AERC.com, Inc.

AGENCY | OUTSIDE AUTHORITY	DESCRIPTION | AFFILIATION	TELEPHONE NUMBER
LOCAL AUTHORITIES	Local EMS | Police | Fire	**911**
National Response Center	Reportable Release	**(800) 424-8802**
Veolia North America **[Emergency Response]**	3rd Party Response Provider 24/7	**(800) 688-4005** (262) 236-8130
	Veolia Environmental Services (CA)	(510) 440-7300
XL Insurance [Emergency Response]	Company Insurance Provider | Initiate Claim Reporting – Secure Additional Response Resources	(800) 823-7351
CHEM-TREC		(800) 424-9300
INFOTRAC		(800) 525-5053
Poison Control Center		(800) 552-6337
AERC.com, Inc.	Allentown Offices	(610) 797-7608

RESIDENT STATE CONTACT INFORMATION		TELEPHONE NUMBER
CA Office of Emergency Services	(24 Hrs)	**(800) 852-7550**
FL Division of Emergency Management	Central District Office	**(800) 320-0519**
	After Hours	**(850) 413-9911**
	Brevard County Emergency Operations Center (24 Hrs)	**(321) 633-1770**
GA DNR Environmental Protection Division	State Operations Center	**(800) 241-4113**
	Atlanta Area Office	**(404) 656-4300**
PA Dept of Environmental Protection	Statewide (24 Hrs)	**(717) 787-4343**
New Jersey	Department of Environmental Protection	**(877) 927-6337**
TX Commission on Environmental Quality	State of Texas	**(800) 832-8224**
	Region 12 | Houston Office	**(800) 832-8224**
VA Dept of Environmental Quality	Piedmont Regional Office	**(804) 527-5064**
	Central Office	**(804) 698-4000**

Attachment 2 Transportation Contingency Plan	Document #: Attachment 2	Revision Date: 08/30/16	AERC RECYCLING SOLUTIONS

Emergency Notification Summary

AERC.com, Inc.

INTERSTATE CONTACT INFORMATION		TELEPHONE NUMBER
Alabama	Department of Public Safety	**(334) 242-4378**
	Department of Environmental Management	**(334) 260-2700**
	Emergency Management Agency (EMA)	**(800) 356-9596**
	EMA Hazardous Materials/Waste Incidents	**(800) 843-0699**
Connecticut	State Police	**(800) 203-0004**
	Chemical Spill Reporting Emergency Line	**(860) 424-3338**
Delaware	Department of Natural Resources & Environmental Control	**(800) 662-8802** or **(302) 739-9401**
Massachusetts	Department of Environmental Protection	**(888) 304-1133** or **(617) 556-1133**
New Hampshire	Department of Environmental Services (8 AM – 4 PM)	**(603) 271-3899**
	State Police (ALL OTHER HOURS)	**(603) 271-3636**
New York	Department of Environmental Conservation	**(800) 457-7362**
Rhode Island	Department of Environmental Management (24 Hrs)	**(800) 498-1326**
	Office of Waste Management	**(877) 927-6337**

THE ABOVE LISTING IS NOT COMPLETE. IF YOU ARE LOCATED WITHIN 0A STATE FOR WHICH YOU DO NOT HAVE STATE SPECIFIC INFORMATION:

- **FIRST CONTACT THE NATIONAL RESPONSE CENTER**
- **SECOND CONTACT AERC.com CORPORATE TRANSPORTATION AND EHS COMPLIANCE STAFF LISTED ABOVE**

Attachment 3 Transportation Contingency Plan	Document #: Attachment 3	Revision Date: 08/30/16	AERC RECYCLING SOLUTIONS

Attachment 3

Spill Cleanup Procedures

Work Instructions

Attachment 3 Transportation Contingency Plan	Document #: Attachment 3	Revision Date: 08/30/16	AERC RECYCLING SOLUTIONS

Clean-up Procedures

(How to Clean Up Spills of Common Materials Handled At AERC)

Clean up Procedure

The Emergency Coordinator will direct cleanup any resultant spills or contamination from the Event. The Coordinator will work with all appropriate agencies to ensure that work is performed to their satisfaction.

Before reopening the facility, the coordinator will ensure that all affected areas have been cleaned, remediated, or decontaminated as appropriate. The coordinator will ensure that all emergency equipment has been decontaminated or replaced. The coordinator will notify local authorities that this has occurred and that the facility is to reopen.

General Guidelines - All Employees

- Keep calm, think, avoid panic and confusion.
- Know all exit locations. Be sure you know the safest and quickest way out of the facility.
- The emergency coordinator and the emergency support personnel must have visual access to all areas to ensure that the facility is clear of personnel.
- Do not delay evacuation of the facility and adjacent areas for any reason. Do not stop or divert your route to secure personal belongings.
- Do not assist in fire control unless properly trained and qualified.

When evacuating the facility, WALK to the nearest safe exit. Report to the safe area away from the facility and wait for instructions from the Emergency Coordinator or a company official.

Keep out of the way, stay clear of the facility and DO NOT interfere with emergency operations.

DO NOT reenter the facility until instructed to do so by the Emergency Coordinator or a company official.

Be a “buddy.” As you leave the facility, take a quick look around to ensure that everyone heard the instructions to evacuate.

Attachment 3 Transportation Contingency Plan	Document #: Attachment 3	Revision Date: 08/30/16	AERC RECYCLING SOLUTIONS

Emergency Procedure – RELEASE OF MERCURY VAPORS

Fluorescent Lamps: *(Based on EPA Guidance, modified for AERC.)*

Fluorescent light bulbs contain a very small amount of mercury sealed within the glass tubing.

Before Clean-up: Air Out the Space

- Evacuate the trailer or loading dock, the immediate area (at least 25 feet away).
- Avoid walking through the area containing the broken lamps (if possible).

Clean-Up Steps for Hard Surfaces

- Carefully scoop up glass pieces and powder using stiff paper or cardboard and place into a sealed plastic bag.
- Use sticky tape, such as duct tape, to pick up any remaining small glass fragments and powder.
- Wipe the area clean with damp paper towels or disposable wet wipes. Place towels in the glass jar or plastic bag.
- Do not use a vacuum or broom to clean up the broken bulb on hard surfaces.

Disposal of Clean-up Materials

- Immediately place all clean-up materials in a closed top drum.
- Label the material as “Broken universal waste fluorescent lamps – Spill Cleanup.”
- Wash your hands after disposing of the jars or plastic bags containing clean-up materials.

Attachment 3 Transportation Contingency Plan	Document #: Attachment 3	Revision Date: 08/30/16	AERC RECYCLING SOLUTIONS

Emergency Procedure – CRT GENERAL SAFE WORK PRACTICES

Inspect packaging materials for shipping integrity prior to moving the pallet
Repack or apply more shrink wrap if required
Follow all safe lifting practices, such as use of legs rather than the back
Inspect all units to look out for broken glass or sharp protrusions

CRT Clean up

CRT's are to be packaged in a manner to prevent breakage. Additionally, during disassembly, AERC has a strict process to minimize breakage of the CRT. Should breakage occur, it must be contained immediately to prevent contamination and minimize employee exposure. The CRT glass must be placed in a sift proof, leak proof container with a lid, such as a cubic yard box with a liner, or a drum with a lid. The small glass pieces must be swept and if required, utilized tape to pick up small shards. DO NOT use a hose to wash broken materials into drain. The container must be marked as Universal Waste CRT Glass, and the earliest received date of the CRT. The material will be shipped off-site for proper recycling. Proper PPE to be worn includes: Dust mask, leather or similar gloves and safety glasses at a minimum. DO NOT sweep up small pieces with your hand. Use a small broom and dustpan.

Basic equipment for spill clean up includes:

- Hand brooms,
- Dust pans
- Particulate face mask
- Leather or comparable gloves
- Containers with lids

Procedure:

- Assess the amount of material spilled
- Don proper PPE, minimum dust mask, gloves and safety glasses
- Use hand broom and dustpan to collect the spilled material
- Place the collected material into a container with a lid
- Mark the container as appropriate – "Broken CRT Glass – Spill Cleanup."

Attachment 3 Transportation Contingency Plan	Document #: Attachment 3	Revision Date: 08/30/16	AERC RECYCLING SOLUTIONS

Emergency Procedure – BALLAST, TRANSFORMERS, CAPACITORS, PROJECTION TV MINERAL OIL

The response to a leaking PCB ballast (or related electrical device leak) will be to identify, isolate, contain and treat the individual item/container and spilled material. The Emergency Coordinator will direct personnel to:

- Use available emergency supplies, including: absorbent pads, booms or other inert materials to confine, contain and clean-up the release.
- Use proper personal protective equipment to clean up a PCB ballast leak. The PPE shall include:
  - AERC work uniform.
  - Tyvek® coveralls.[1]
  - Neoprene outer-gloves over Nitrile® inner-gloves.

Place all containment and clean-up supplies into appropriate DOT-approved containers for proper management.

Cleanup residual PCB oil that may be on the floor/concrete after ballasts have been picked up and repacked:

- Use a small plastic scraper to remove as much visible oil and/or potting paste as possible.
- Place the scraped material into a plastic bag with the leaking ballast (s).
- Double wash/rinse all contaminated surfaces using a mixture of 5% solution of trisodium phosphate and water. Wipe down all potentially contaminated surfaces as necessary – placing the collected liquids and wipers containing PCBs into a plastic bag within the collection container.
- Place any contaminated PPE or cleanup supplies into the collection container. Use as small of a DOT-approved container as possible to adequately contain the ballast(s) and cleanup residuals.

Ensure complete decontamination by conducting the collection of smooth surface wipe samples to detect the presence of residual PCB contamination. Sampling will be conducted in agreement with the minimum, U.S. EPA wipe-testing protocol (as follows):

- A standard-size template (10-cm square) should be used to present the area to be cleaned.

[1] If the release is of a minor nature in that some leaking ballasts fell out of the drum and there is no free flowing PCB oil – standard issue Tyvek® coveralls may be worn. If there are a large number of leaking ballasts out of the drum or there is free flowing oil on the ground – Saranex-coated Tyvek® SHALL BE WORN.

- Use a gauze or steel wool pad saturated with hexane. NOTE: Hexane is a volatile solvent. Proper PPE must be worn. The wipe sample must be collected quickly to limit evaporation of hexane from the saturated pad.
- The area, including a one-foot buffer surrounding the area of visible contamination, must be cleaned and sampled. If the area that is contaminated is outside the confines of the building, i.e., soil, the area must be excavated and filled with clean soil.
- EPA guidance shall be referenced for additional information with regard to the completion of post cleanup sampling.
- Once sampling is complete – any potentially contaminated sampling materials shall be placed into the collection container(s).

See Handling Small Scale Spills for additional guidance when dealing with any leaking ballast, transformer, capacitor or other device containing mineral oil or dielectric fluid. Such materials must be placed into a removable head UN authorized drum.

Attachment 3 Transportation Contingency Plan	Document #: Attachment 3	Revision Date: 08/30/16	AERC RECYCLING SOLUTIONS

Emergency Procedure – LEAD ACID BATTERIES

Safety Equipment:

- Soda Ash
- Plastic shovels/scoops/dust pans
- Safety glasses with face shield
- Nitrile gloves, 2 pair

Immediate Action:

- Tend to any medical emergencies
- Don protective material. DO NOT touch any spilled material with unprotected hands or approach with unprotected eyes.
- Stop the lead if it is safe to do so (i.e. upright battery, overpack battery etc.
- Absorb all spilled material with bentonite or other inert, inorganic absorbent
- Neutralize the floor by wiping the floor with rags with a soda ash solution on them.
- Sweep and remove all soda ash and place in the drum with the leaking battery.

Emergency Procedure – HANDLING SMALL SCALE CHEMICAL SPILLS | OTHER BATTERY TYPES

If hazardous material spill is less than one liter and has a hazard rating below 2 in all hazard categories, the following procedures should be followed (i.e. mineral oil):

When a small scale chemical spill occurs:

- Restrict access to area.
- Immediately notify the Operations Supervisor and others in the area of the spill.
- Mark the area to prevent others from coming in contact with the spilled material.
- Contact the EC or secondary EC. Inform them of:
- Name of chemical
- Quantity spilled
- Location of spill
- Obtain an MSDS for material. Refer to the chemical's MSDS for spill clean-up instructions. It is required that a MSDS be kept available for each chemical used.
- MSDS Section on Precautions for safe handling and use
- Use recommended Personal Protective Equipment. A minimum of nitrile gloves and safety glasses is required.
- Follow other precautions listed in MSDS.

General Procedures:

Simple acid and base spills should be neutralized with an appropriate neutralizing agent:

1. Acid spills, e.g., sulfuric acid
   - Sodium bicarbonate, sodium sesqicarbonate or other derivatives are acceptable.
2. For basic spills (Potassium hydroxide)
   - Citric acid or an acidic cleaner would be a suitable neutralizing agent.
3. Allow the spill time to neutralize (i.e., wait until the bubbling reaction stops.)
4. When using a neutralizing spill kit, these kits are buffered and will not have a bubbling action. Be careful not to over-neutralize.
5. Test the pH of the floor after the neutralization reaction has stopped with pH paper. Once a pH of between 6 and 9 has been achieved, the material can be transferred into an appropriate secondary container for disposal.
6. The container will then be marked with the "Hazardous Waste" label appropriately identifying what material was cleaned up.

Attachment 3 Transportation Contingency Plan	Document #: Attachment 3	Revision Date: 08/30/16	AERC RECYCLING SOLUTIONS

Mercury Spills:

1. Mercury spills require special clean up procedures. Utilize the special Mercury Spill Kit when dealing with mercury spills. Instructions for clean up are located on the Mercury Spill Kit container. See attached.
2. For broken mercury thermometers, clean up spilled mercury as described above and collect mercury and broken thermometer in a sealable plastic bag and place into pail for disposal.

Attachment 4

Hazardous Material Supplemental Information

Attachment 4 **Transportation Contingency Plan**	**Document #:** Attachment 4	**Revision Date:** 08/30/16	AERC RECYCLING SOLUTIONS

Hazardous Material Supplemental Information

The information contained within this attachment presents additional safety data for the safe handling and response to releases of each of the general hazardous materials detailed in Section 5.1. Information presented here-in is separated as detailed within the following contents summary.

Attachment Contents

Common DOT Descriptions & Applicable ERG Guidance

UN3090 – ERG #138 | Substances – Water Reactive
UN2794 | UN2795 | UN3028 – ERG #154 | Substances – Toxic and/or Corrosive
UN2315 - ERG #171 | Substances (Low to Moderate Hazard)
UN2809 – ERG #172 | Gallium and Mercury

Mercury

Mercury Lamp MSDS
Mercury Hazard Data Sheet

Sulfuric Acid

Lead-Acid Battery MSDS
Sulfuric Acid Hazard Data Sheet
Lead Hazard Data Sheet

Other Materials

PCBs Hazard Data Sheet
Low-Pressure Sodium Lamp MSDS
Sodium Hazard Data Sheet
Lithium-ion Battery MSDS
Lithium Hazard Data Sheet
Nickel Cadmium Battery MSDS
Nickel Hazard Data Sheet
Cadmium Hazard Data Sheet

NOTE:

Representative MSDS' are provided as examples of common materials. Actual materials found within active material inventories, i.e., in transit, may vary.

Attachment 5

Emergency Equipment List

Attachment 5 Transportation Contingency Plan	Document #: Attachment 5	Revision Date: 8/30/16	AERC RECYCLING SOLUTIONS

Emergency Equipment List

Paperwork

Transportation Contingency Plan (Current revision)	North American Emergency Response Guidebook (Current revision)
Universal waste used battery labels | US DOT Labels	Universal waste used lamps labels Shipping and Packaging Guidelines for all AERC.com, Inc. acceptable materials.
Bills of lading	Uniform Non-hazardous Waste Manifest
Hazardous Waste Manifests	Hazardous waste labels (as applicable)
Hazardous waste transporter licenses (as applicable)	

D.O.T Required Safety Equipment

Emergency reflectors	First aid kit
Fire extinguisher (ABC)	Flashlight
Eyewash bottle	Cellular telephone (carried by Operator)
Spare Auto Fuses	

Operators P.P.E. Gear Bag

Nitrile gloves	Spare Work Uniform
Leather work gloves	Safety Glasses
Nitrile coated Aramid Gloves	23-P coated Tyvek® suit
Full-face A.P.R.	Hg & Multi-purpose cartridges

Tool Box Contents

Duct tape	Utility knife
Bung wrench (Spark Resistant)	Crescent wrench (Spark Resistant)
Speed wrench with 9/16” + 13/16” sockets (Spark Resistant)	Dead Blow Hammer

Spill Response Equipment

Plastic sheeting	Acid and Base Neutralizing Material
Plastic Bags	pH paper
Absorbent booms	>15-gallon plastic drum with lid
Spill pads and pillows	Towels
Broom	Dust pan and brush
Shovel	20# Bag of Vermiculite
	Mercury Spill Kit

ATTACHMENT 9
ITEM D.7
Worker Health and Safety Plan

AERC Employee Training Program	**Document #:**	**Revision Date:** 04/21/16	AERC RECYCLING SOLUTIONS
14 – AERC – Melbourne, FL	**Department:** Regulatory Affairs	**Revision #:** A	Page 1 of 7

+D. 7.

AERC Employee Training Program

Training is AERC's most productive tool to ensure health and safety and good industrial hygiene and environmental controls. Production workers undergo comprehensive and ongoing training.

All operation workers must receive general orientation and hazardous communication training prior to actual participation in production work. AERC considers training an ongoing process closely associated with employee development. Refresher training is performed periodically with good industrial hygiene and environmental controls being reinforced repeatedly.

All new operations employees must complete a 24 hour OSHA HAZWOPER Training, and each employee must also complete a minimum of 8 hour annual refresher courses. (per OSHA, CFR 29 § 1910.120)

This section contains:

1. The Table of Contents and outline of the training syllabus used by the company, from which the 24 hour courses are taken. The entire document is available for agency review upon request.

2. Sample Position Descriptions for various process operations at the AERC West Melbourne facility. These records are maintained on file at the facility and are available to the agency upon request.

3. Outline for Hazardous Waste Management Practices / Hazardous Waste Permit Training. This training is conducted for every new employee as well as annually.

AERC Employee Training Program	**Document #:**	**Revision Date:** 04/21/16	AERC RECYCLING SOLUTIONS
14 – AERC – Melbourne, FL	**Department:** Regulatory Affairs	**Revision #:** A	Page 2 of 7

TABLE OF CONTENTS

Training Program

AERC Employee Training Program	**Document #:**	**Revision Date:** 04/21/16	AERC RECYCLING SOLUTIONS
14 – AERC – Melbourne, FL	**Department:** Regulatory Affairs	**Revision #:** A	Page 3 of 7

EMPLOYEE TRAINING AND EDUCATION

Purpose

AERC provides training regarding the safe handling of hazardous wastes for all employees assigned to work with, or near, potentially hazardous materials or activities. The formal training program is structured to insure that all employees receive timely training programs which are salient to job responsibilities.

Responsibility

It is the responsibility of the Manager of Facilities, Safety and Industrial Hygiene to prepare, organize and disseminate training materials.

Training Programs

The formal training programs are broken down into three general categories:

1. Initial training program - See excerpted table of contents
2. Annual Refresher
3. Monthly Safety Training

Each of these three programs is outlined below:

Initial Training Requirements

Orientation Training Program: Phase I

The AERC Orientation Training Program qualifies individuals conducting hazardous waste activities at RCRA facilities.

The initial training program exceeds the 24-hour training requirement under 29 CFR 1910.120 for routine RCRA activities, so that personnel can be properly trained for respirator usage and emergencies. All facility personnel are required to attend AERC Orientation Training Programs regardless of past experience. Upon completion of this program, new employees enter their new position as trainees for a period of approximately 8 weeks. During this period, they work under the direct supervision of an experienced supervisor with periodic progress reviews conducted by the employee's department manager. An outline of topics for the training

program appears below. Upon completion of this program, the employee is given a certificate of course completion.

HAZWOPER Training Overview

This is a detailed overview of all of the components to our safety-training program.

A. 24- hour initial training program agenda. This training meets the requirements of 29CFR1910.120 (p) (7) (i) HAZWOPER.

I Introduction

Discuss the corporate history and structure, including an overview of how materials are passed through the facility. In addition, a discussion regarding employee health benefits and medical surveillance requirements are discussed.

II Hazard Communication / Awareness

The purpose of this training is two-fold; (1) to meet the requirements of the Hazard Communication standard regarding working with hazardous materials, and (2) to increase the trainee's awareness of the non-chemical hazards associated with their job.

III Toxicology

This course provides a review of toxicological terms and concepts and reinforces the use of a systematic approach to preventing chemical exposure. Types of toxins, routes of exposure, toxic effects, host factors and exposure limits are all examined. Material Safety Data Sheets for fluorescent lamps and mercury are reviewed.

IV Personal Protective Equipment

A discussion and demonstration on the proper use of personal protective equipment such as gloves, hearing protection, chemical protective coveralls, etc. is performed. A detailed explanation of the proper use of selection guides for determining the appropriate gloves, protective clothing and respirator is held.

V Site Control & Work Zones

This section details the importance of site control and work zones (hot, warm, cold) to prevent cross contamination. A diagram of the AERC facility is used as a model to illustrate

the site specific work zones. The bootie policy and the rules regarding their use and travel through the transition area.

VI Air Monitoring

Employees are provided with a demonstration of an air monitoring survey being conducted at the AERC facility. In addition, the AERC Air Monitoring policy (SHP007) is explained in detail. Survey points, documentation, action level and frequency of monitoring are all discussed. An explanation of the operation and use of the Jerome 431X mercury vapor analyzer is conducted.

VII Control of Hazardous Energy

The importance of control (Lockout) of hazardous energy are stressed and illustrated with the use of a video giving an overview of the components to a typical lockout operation. The AERC Hazardous Energy Control Plan along with specific lockout procedures are explained in great detail.

VIII Confined Space Recognition

The recognition of permit required confined spaces and the hazard associated with them are highlighted through lecture and video. In addition, the AERC.com, Inc. confined space policy (SHP018) is explained.

IX Respiratory Protection

The proper use, maintenance and inspection of the 3M series 6000 air-purifying respirator are reviewed and demonstrated. Each operations employee is issued both a full face and half face respirator. Each employee is properly fit tested with both respirators. Each employee must demonstrate competency in the inspection and use of each piece of respiratory equipment issued. Included in this section is an explanation of the circumstances and situations that require the use of respiratory protection equipment at the AERC facility.

X Fire Extinguisher / Fire Safety

In this section, we discuss the basic principles and procedures for fire safety. The fire tetrahedrons as well as the four classes of fire are explained. The various types of fire extinguishers in the plant are explained. Employees also view a video (Fighting fires with portable extinguishers) produced by the National Fire Protection Association.

XI D.O.T. HM-126 Module 1

An overview of the HM-126 requirements including hazard classes, 172.101 table, labeling, placarding, shipping papers, emergency response guidebook and packaging requirements

XII Material Handling

Trainees are walked through the handling of materials from receipt of shipment, processing, and all details pertaining to plant operations, lamp procedures and general work practices reviewed. Employees will be assigned to "hands on" instructor to guide them step by step through their specific job functions.

XIII Contingency Plan / P.P.C Plan

All aspects of the facility contingency plan and P.P.C. plan are reviewed. Emergency coordinators, location of emergency equipment, spill procedures, fire procedures, first aid incidents, evacuation routes, meeting / accountability locations and shutdown procedures are reviewed in detail.

XIV Forklift Safety and Use

Employees who are required to operate a forklift will receive training on the safe use, inspection and operation of the forklift. Trainees must pass a competency test (written and practical) before being authorized to operate a forklift in the plant.

XV Corporate Safety Policies & Procedures

A detailed review of the AERC.com, Inc. corporate safety policy and procedure plan is performed. All safety policies which effect the daily activity of the new employees are explained.

XVI Safety Awareness

A lecture on the importance of following safety policies and work practices is performed.

XVII Hazardous Waste Business Practices

An overview of Hazardous Waste Management Practices including labeling, storage requirements, container requirements, and inspections is conducted. In addition, students

watch a video (Hazardous Waste Employee Training- Cradle to Grave Responsibility) on management practices.

Orientation Training Program: Phase II

Following completion of the Orientation Program the trainee participates in On-the-Job Training for approximately 8 weeks. The major thrust of the second phase is to draw on the employee's recent training and to re-emphasize basic aspects of hazardous materials safety.

In accordance with 29 CFR, Part 1910.120, the program provides the training required for employees to participate in hazardous waste operations and emergency response.

4.3.2 Annual Refresher

The Company believes that frequent reinforcement and review of basic safety principles is paramount in providing a safe work environment. All Facility employees participate in the annual "refresher" training.

The 8-hour refresher training is comprised of topics from the initial 24-Hour Training Program. The following list covers the topics that are covered during the refresher.

4.3.3 Monthly Safety Training:

The Company believes that frequent reinforcement and review of basic safety principles is paramount in providing a safe work environment. In order to maintain safety awareness all Facility employees participate in the Monthly Safety Training. Each monthly training session lasts approximately 1.0 hour.

ATTACHMENT 9

EXHIBIT D.7.1

Corporate Safety and Health Procedures

Health & Safety Plan	Document #: UW CP-010	Revision Date: 04/10/14	AERC RECYCLING SOLUTIONS
00 - AERC – All Locations	Department: Regulatory Affairs	Revision #: A	Universal Waste Page 1 of 3

1.0 Purpose

1.1 Summarize information regarding safety policies and procedures at AERC.Com, Inc. to establish and organize good safety practices.

1.2 Provide a place of employment free from hazards which may cause illness, injury, or death to our employees.

1.3 Establish an effective and continuous safety program incorporating educational and monitoring procedures maintained to teach safety, correct deficiencies, and provide a safe, clean working environment.

2.0 Scope

2.1 AERC.com, Inc. will comply with appropriate safety and health laws and regulations such as those established by:

- 2.1.1 The California Occupational Safety and Health Act (Cal/OSHA)
- 2.1.2 The Occupational Safety and Health Act (OSHA)
- 2.1.3 The EPA (Environmental Protection Agency)
- 2.1.4 The DOT (Department of Transportation)

2.2 All other applicable federal, state and local safety and health regulations.

2.3 The Safety Policies and Procedures apply to all operations.

3.0 Definitions

3.1 **Cal/OSHA** - California Occupational Safety and Health Act

3.2 **OSHA** - Occupational Safety and Health Act

3.3 **EPA** - Environmental Protection Agency

3.4 **DOT** - Department of Transportation

4.0 Responsibilities

4.1 The **Regulatory Affairs Department** has overall responsibility for the review of applicable regulations and the associated development of health and safety policies.

4.2 The **management of each operating facility**, under the charge of the Facility and/or Operations Manager is responsible for implementing the requirements noted here-in.

4.3 All **supervisors, managers, directors, and officers** are responsible for the enforcement of safety policies and practices. They must ensure that:

- 4.3.1 Their staff members are trained in appropriate safety procedures, including chemical-specific training as required.

4.3.2 They notify the Health & Safety Coordinator and complete the necessary forms if an accident or work-related health problem occurs in their department.

4.3.3 Equipment and property within their area of responsibility is maintained is a safe, hazard-free condition.

4.3.4 Training is completed and records kept and forwarded to the Health & Safety Coordinator.

4.4 All **employees** have a responsibility to themselves and to AERC.Com, Inc. for their safety and the safety of the coworkers. All employees are required to:

4.4.1 Comply with all federal, state, local and AERC.Com, Inc. rules and regulations relevant to their work.

4.4.2 Observe all company rules and regulations related to the efficient and safe performance of their work.

4.4.3 Integrate safety into each job function and live by this philosophy in the performance of job duties.

4.4.4 Report or correct unsafe equipment and practices.

4.4.5 Report any accidents that occur while on the job.

4.5 The **Health & Safety Coordinator** is responsible for managing individual training files for all employees

5.0 Prerequisite Tools and Information

None

6.0 Procedure Instructions or Details

6.1 We believe that the safety of our employees is of utmost importance, along with quality, production, and cost-control. Maintenance of safe operating procedures at all times is of both monetary and human value, with the human value being far greater to AERC.Com, Inc. our employees, and the community. The following principles support this philosophy:

6.1.1 All injuries and accidents are preventable through the establishment and compliance with safe work practices and procedures.

6.1.2 The prevention of bodily injury and safeguarding of health are the first considerations in all workplace actions and are the responsibility of every employee at every level.

6.1.3 Written safety plans describing the safe work practices and procedures to be practiced in all workplace actions are an essential element of the overall

workplace safety program. All employees at every level are responsible for knowing and following the safety practices described in our written safety plans.

6.1.4 Off the job, all employees should be similarly safe and demonstrate awareness of potential hazards.

6.2 Types of Written Safety Plans In Place

6.2.1 Because we care about our employees and strive to provide a safe work place, we have put into place a number of written safety plans. These written plans provide guidance and direction for the safety issues they cover. The topics covered in written safety plans at AERC.Com, Inc. include the following:

- Hazard Communication
- HAZWOPER
- Accident Reporting & Investigation
- Emergency Preparedness & Evacuation
- Hearing Conservation
- Powered Industrial Equipment
- Lock out/Tag out
- Personal Protective Equipment
- Blood borne Pathogens
- Fire Prevention
- Medical Surveillance
- Respiratory Protection

6.3 Disciplinary Policy

6.3.1 All safety rules, procedures, and plans in effect at AERC.Com, Inc. are intended to be followed. Upon violation of any company safety rule, the violating employee will be penalized. The severity of the penalty will be in direct correlation to the severity of the safety violation.

7.0 Employee Training

7.1 Training is provided to all employees based on job role, work assignments, and facility.

ATTACHMENT 9

EXHIBIT D.7.2

UW-HS-001 - Hazard Communication Procedure

Hazard Communication	Document #: UW HS-001	Revision Date: 6/16/15	AERC RECYCLING SOLUTIONS
00 – AERC – All Locations	Department: Regulatory Affairs	Revision #: B	Universal Waste Page 1 of 6

1.0 Purpose

1.1 To protect the health and safety of employees that may be exposed to chemicals at AERC.com, Inc. (AERC) and to train employees in the proper use, storage, labeling and disposal of chemicals found in the workplace.

1.2 To establish compliance program elements in agreement with the applicable federal and state regulations as set forth by the Occupational Safety and Health Administration's (OSHA), including:

1.2.1 29 CFR 1910 1200 - Federal *Hazard Communication Standard,* and

1.2.2 Title 8 CCR 5194 – CAL OSHA *Hazard Communication Regulation*.

2.0 Scope

2.1 This program applies to all personnel including employees and contractors working at AERC facilities.

2.2 The program is based upon applicable requirements (as noted above) with regard to the broad scope of hazardous substances that have the potential to be found within AERC operating facilities. Furthermore, it details additional activities as may be required by associated regulatory standards for individual hazardous substances to which employees may be exposed. Most notably, CAL OSHA requirements set forth in Title 8 CCR 5198 (l) [lead]; CCR 5207 (m) [cadmium]; and 5214 (m) [arsenic].

3.0 Definitions

3.1 **"*Hazardous and/or toxic substances*"** are defined as those chemicals present in the workplace which are capable of causing harm. In this definition, the term *chemicals,* includes dusts; mixtures; and common materials such as paints, fuels, and solvents. OSHA currently regulates exposure to approximately 400 substances.

NOTE: Other regulating authorities, e.g., Cal/OSHA, may broaden the scope of the definition by also including other materials or more strictly classify the hazards of certain chemicals. Specifically, Proposition 65 requires employers in California to notify employees and provide a clear and reasonable warning of the hazards from those chemicals that may be found in the workplace which cause cancer, birth defects and/or reproductive harm.

3.2 **HAZCOM** – Hazardous Communications

3.3 **OSHA** – Occupational Safety and Health Administration

3.4 **MSDS** – Material Safety Data Sheet

3.5 **PPE** – Personal & Protective Equipment

4.0 Responsibilities

Hazard Communication	Document #: UW HS-001	Revision Date: 6/16/15	AERC RECYCLING SOLUTIONS
00 – AERC – All Locations	Department: Regulatory Affairs	Revision #: B	Universal Waste Page 2 of 6

4.1 The Vice President of Operations is responsible for:

4.1.1 Issuing and maintaining this program and ensuring the program satisfies the requirements of all applicable federal, state and local hazard communications (HAZCOM) standards.

4.2 The Health, Safety and Environmental (HSE) Coordinator and/or HSE Services Specialist is responsible for:

4.2.1 Assisting the Vice President of Operations in maintaining this program and ensuring the program satisfies the requirements of all applicable federal, state and local HAZCOM standards.

4.2.2 Providing initial training and retraining (through supervisors assistance) to all employees as per OSHA guidelines detailed here-in.

4.2.3 Acting as a consultant to supervisors on any interpretation of the HAZCOM standards.

4.2.4 Reviewing the safe use of new chemicals in our benches which are introduced at AERC and at customer sites.

4.2.5 Maintaining and updating the SDS Master File and Index at AERC Regulatory Affairs Department offices in Allentown PA.

4.3 The Facility Managers or Designee is responsible for:

4.3.1 Ensuring all employees authorized to work in the facility receive initial and annual training on appropriate HAZCOM procedures. Initial training must be completed before an employee works on equipment with chemicals.

4.3.2 Immediately responding to any employee concerns and requests for information.

4.3.3 Ensuring SDS files are updated periodically and are consistent with current chemicals used in the workplace.

4.4 Employees are responsible for:

4.4.1 Consulting an applicable SDS, supervisor or the Health, Safety & Environmental Coordinator if they have a question regarding chemical handling/labeling.

4.4.2 Knowing the locations of SDS books in the workplace.

4.4.3 Using PPE as required; and

4.4.4 Knowing how to interpret and understand an SDS.

5.0 Prerequisite Tools and Information

5.1 None

6.0 Procedure Instructions or Details

Hazard Communication	Document #: UW HS-001	Revision Date: 6/16/15	AERC RECYCLING SOLUTIONS
00 – AERC – All Locations	Department: Regulatory Affairs	Revision #: B	Universal Waste Page 3 of 6

6.1 Container labeling

6.1.1 All chemical containers and material shipments will be properly labeled from the manufacturer to include at a minimum: identity of the product hazard warnings and the name and address of the manufacturer or other responsible party. All labels will be written in English. If an employee discovers an unlabeled container, notify supervisor and the HSE Coordinator immediately.

6.1.2 There is no uniformly accepted system for labeling containers at this time, however several systems and standards for labeling hazards exist. Common labeling systems used by AERC of chemical manufacturers/suppliers and customers include: Department of Transportation (DOT) Hazard Labeling System; Hazardous Materials Information System (HMIS); and National Fire Protection Association (NFPA) 704.

6.1.3 The Department of Transportation (DOT) Hazard Labeling System uses a color-coded diamond in which there is a symbol and a term describing the major hazard of the material. DOT hazard classes include explosives, gases (flammable, non-flammable, corrosive and poison), flammable liquids, flammable solids, oxidizers, poisons, radioactive materials and corrosives. Most chemicals are rated by what the DOT considers to be the single major hazard, but many chemicals have subsidiary hazard categories as well. The DOT system is used for the transportation of hazardous materials.

6.1.4 The National Fire Protection Association (NFPA) has developed a color-coded system called NFPA 704. The system uses a color coded diamond with four quadrants in which numbers are used in the upper three quadrants to signal the degree of emergency for health hazard (**blue**), fire hazard (**red**), and reactivity hazard (**yellow**). The bottom quadrant (**white**) is used to indicate water reactivity, radioactivity, biohazards or other special hazards. The NFPA 704 System is used primarily by emergency response personnel and for emergency planning and as such does not adequately signal occupational hazards or precautionary information. The NFPA system is good for alerting personnel to the degree of hazard of the chemical and helpful in drawing attention to storage needs and emergency equipment

6.2 Safety Data Sheets (SDS)

6.2.1 Chemical manufacturers and importers must develop or obtain SDS for each hazardous chemical they produce or import. Each SDS will be written in English and will contain at least the following:

6.2.2 The identity of the chemical used on the label; If the hazardous chemical is a single substance, its chemical and common name(s); If the hazardous chemical is a mixture, which has been tested as a whole to

determine its hazards, the chemical and common name(s) of the ingredients which contribute to any known hazards and the common name(s) of the mixture itself; and If the hazardous chemical is a mixture which has not been tested as a whole:

6.2.3 The chemical and common name(s) of all ingredients which have been determined to be health hazards, which comprise 1 percent or greater of the composition, except that chemicals identified as carcinogens shall be listed if the concentration is 0.1 percent or greater;

6.2.4 The chemical and common name(s) of all ingredients which have been determined to be health hazards which comprise less than 1 percent (0.1 percent for carcinogens) of the mixture, if there is evidence that the ingredient(s) could be released from the mixture in concentrations which would exceed the OSHA PEL or ACGIH TLV or could present a health risk to employees;

6.2.5 The chemical and common name(s) of all ingredients which have been determined to present a physical hazard when present in the mixture.

6.2.6 The physical and chemical characteristics of the hazardous chemical (i.e. flashpoint, vapor pressure, etc.);

6.2.7 The physical hazards of the hazardous chemical, including the potential for fire, explosion and reactivity;

6.2.8 The health hazards of the hazardous chemical, including signs and symptoms of exposure and any medical conditions which are generally recognized as being aggravated by exposure to the chemical;

6.2.9 The hazardous chemical primary route of entry (i.e. inhalation, ingestion, absorption) and the OSHA PEL or ACGIH TLV;

6.2.10 Whether the hazardous chemical is listed in the National Toxicology Program (NTP) annual report on carcinogens (latest edition) or has been found to be a potential carcinogen in the International Agency for Research on Cancer (IARC) monographs (latest edition) or by OSHA;

6.2.11 Precautions for safe handling and use including hygienic practices, protective measures during repair and maintenance of contaminated equipment and procedures for cleanup of spills and leaks;

6.2.12 Chemical exposure control measures including engineering controls, administrative controls and PPE requirements;

6.2.13 The date of preparation of the SDS or the latest revision;

6.2.14 The name, address and telephone number of the chemical manufacturer, importer or other responsible party preparing the SDS, who can provide additional information on the hazardous chemical and emergency procedures, if necessary, and

6.2.15 If no relevant information is found for any given category on the SDS, the chemical manufacturer or importer preparing the SDS, the SDS shall be marked to indicate that no applicable information is found.

6.2.16 Notification must be made to the Regulatory Affairs Department for the use of any new chemicals. The HSE Coordinator shall be given a copy of SDS or chemical data sheet and provide for an update to the SDS Master File.

6.3 Inventory of Materials

6.3.1 An SDS book will be developed and maintained at each location where chemicals are either used or stored.

6.3.2 Due to the nature of AERC's waste management activities, SDS are not received prior to receipt of each individual universal or hazardous waste. As such, representative data sheets shall be maintained for the types of materials commonly received, e.g., fluorescent lamps or lead-acid batteries.

6.3.3 Those chemicals for which an SDS is not required, a chemical component of a manufactured universal waste article, a summary data sheet will be secured and placed into the facility SDS book.

6.4 Hazards of Non-Routine tasks

6.4.1 Presently, we do not have non-routine tasks involving the potential to expose workers to hazardous chemicals. If a non-routine task should arise, the Health, Safety and Environmental Coordinator and the Facility/Operations Manager will review the non-routine task and train accordingly.

6.5 Outside Contractors

6.5.1 Outside contractors performing work on company property will be notified of the hazardous chemicals that are present on site and the locations of SDS books throughout the facility. Outside contractors will be required to provide SDS's for the hazardous chemicals they intend to bring into our facilities.

6.6 Program Review

6.6.1 The HSE Coordinator shall review this Plan at least annually for necessary changes. Adjustments shall be reviewed with the Vice President of Operations as well as Facility Management prior to implementation. Retraining on the Plan will be done as necessary (as noted above).

7.0 Employee Training

7.1 All AERC employees will receive initial and annual Hazard Communication (HAZCOM) training in their corresponding training courses.

7.2 Training will be updated when a new process is introduced or the employee shows a deficiency in the area of HAZCOM.

7.3 Employee training will consist of:

7.3.1 Chemicals and gasses found in the workplace;

7.3.2 Physical and health hazards of the chemicals in the work area;
7.3.3 Measures employees are to take to protect themselves;
7.3.4 How to read and interpret an SDS;
7.3.5 How to read and interpret the different labeling systems in use; and
7.3.6 Locations of SDS books and files.
7.3.7 Emergency procedures for working with chemicals.

ATTACHMENT 9
EXHIBIT D.7.3
Mercury SDS

MERCURY

Safety Data Sheet

according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

Date of issue: 11/19/2013

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Trade name : MERCURY

CAS No : 7439-97-6

Other means of identification : Colloidal Mercury, Quick Silver, Liquid Silver, NCI-C60399, Hydrargyrum

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Variety of industrial, analytical and research applications.

1.3. Details of the supplier of the safety data sheet

Bethlehem Apparatus Company

809 Front Street
Hellertown, Pa 18055

Phone: 610-838-7034

1.4. Emergency telephone number

Emergency number : 1-800-424-9300

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Acute Tox. 1 (Inhalation:dust,mist)	H330
Repr. 1B	H360
STOT RE 1	H372
Aquatic Acute 1	H400
Aquatic Chronic 1	H410

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US) :

GHS06 GHS08 GHS09 GHS05

Signal word (GHS-US) : Danger

Hazard statements (GHS-US) :
H330 - Fatal if inhaled
H360 - May damage fertility or the unborn child
H372 - Causes damage to organs through prolonged or repeated exposure
H400 - Very toxic to aquatic life
H410 - Very toxic to aquatic life with long lasting effects

Precautionary statements (GHS-US) :
P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P260 - Do not breathe vapors, gas
P264 - Wash skin, hands thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P271 - Use only outdoors or in a well-ventilated area
P273 - Avoid release to the environment
P280 - Wear eye protection, protective clothing, protective gloves, Face mask
P284 - [In case of inadequate ventilation] wear respiratory protection
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
P308+P313 - IF exposed or concerned: Get medical advice/attention
P310 - Immediately call a POISON CENTER/doctor/...
P314 - Get medical advice and attention if you feel unwell
P320 - Specific treatment is urgent (see First aid measures on this label)
P391 - Collect spillage
P403+P233 - Store in a well-ventilated place. Keep container tightly closed
P405 - Store locked up
P501 - Dispose of contents/container to comply with applicable local, national and international regulation.

2.3. Other hazards

other hazards which do not result in classification : When inhaled, Mercury will be rapidly distributed throughout the body. During this time, Mercury will cross the blood-brain barrier, and become oxidized to the Hg (II) oxidation state. The oxidized species of Mercury cannot cross the blood-brain barrier and thus accumulates in the

brain. Mercury in other organs is removed slowly from the body via the kidneys. The average half-time for clearance of Mercury for different parts of the human body is as follows: lung: 1.7 days; head: 21 days; kidney region: 64 days; chest: 43 days; whole body: 58 days. Mercury can be irritating to contaminated skin and eye. Prolonged contact may lead to ulceration of the skin. Allergic reactions (i.e. rashes, welts) may occur in sensitive individuals. Mercury can be irritating to contaminated skin and eyes. Short-term over-exposures to high concentrations of mercury vapors can lead to breathing difficulty, coughing, acute, and potentially fatal lung disorders. Depending on the concentration of inhalation over-exposure, heart problems, damage to the kidney, liver or nerves and effects on the brain may occur.

2.4. Unknown acute toxicity (GHS-US)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

Full text of H-phrases: see section 16

3.2. Mixture

Name	Product identifier	%	GHS-US classification
Mercury	(CAS No) 7439-97-6	100	Acute Tox. 2 (Inhalation), H330 Repr. 1B, H360 STOT RE 1, H372 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. If exposed or concerned: Get medical advice/attention.

First-aid measures after inhalation : Remove to fresh air and keep at rest in a position comfortable for breathing. Assure fresh air breathing. Allow the victim to rest. Immediately call a POISON CENTER or doctor/physician. In case of irregular breathing or respiratory arrest provide artificial respiration.

First-aid measures after skin contact : Wash immediately with lots of water (15 minutes)/shower. Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Seek immediate medical advice.

First-aid measures after eye contact : Rinse immediately and thoroughly, pulling the eyelids well away from the eye (15 minutes minimum). Keep eye wide open while rinsing. Seek medical attention immediately.

First-aid measures after ingestion : Immediately call a POISON CENTER or doctor/physician. Rinse mouth. If conscious, give large amounts of water and induce vomiting. Give water or milk if the person is fully conscious. Obtain emergency medical attention.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation : Short-term over-exposures to high concentrations of mercury vapors can lead to breathing difficulty, coughing, acute, chemical pneumonia, and pulmonary edema (a potentially fatal accumulation of fluid in the lungs) . Depending on the concentration of over-exposure, cardiac abnormalities, damage to the kidney, liver or nerves and effects on the brain may occur. Long-term inhalation over-exposures can lead to the development of a wide variety of symptoms, including the following: excessive salivation, gingivitis, anorexia, chills, fever, cardiac abnormalities, anemia, digestive problems, abdominal pains, frequent urination, an inability to urinate, diarrhea, peripheral neuropathy (numbness, weakness, or burning sensations in the hands or feet), tremors (especially in the hands, fingers, eyelids, lips, cheeks, tongue, or legs), alteration of tendon reflexes, slurred speech, visual disturbances, and deafness. Allergic reactions (i.e. breathing difficulty) may also occur in sensitive individuals.

Symptoms/injuries after skin contact : Symptoms of skin exposure can include redness, dry skin, and pain. Prolonged contact may lead to ulceration of the skin. Allergic reactions (i.e. rashes, welts) may occur in sensitive individuals. Dermatitis (redness and inflammation of the skin) may occur after repeated skin exposures.

Symptoms/injuries after eye contact : Symptoms of eye exposure can include redness, pain, and watery eyes. A symptom of Mercury exposure is discoloration of the lens of the eyes.

Symptoms/injuries after ingestion : If Mercury is swallowed, symptoms of such over-exposure can include metallic taste in mouth, nausea, vomiting, central nervous system effects, and damage to the kidneys. Metallic mercury is not usually absorbed sufficiently from the gastrointestinal tract to induce an acute, toxic response. Damage to the tissues of the mouth, throat, esophagus, and other tissues of the digestive system may occur. Ingestion may be fatal, due to effects on gastrointestinal system and kidneys.

Chronic symptoms : Long-term over-exposure can lead to a wide range of adverse health effects. Anyone using Mercury must pay attention to personality changes, weight loss, skin or gum discolorations, stomach pains, and other signs of Mercury over-exposure. Gradually developing syndromes ("Erethism" and "Acrodynia") are indicative of potentially severe health problems. Mercury can cause the development of allergic reactions (i.e. dermatitis, rashes, breathing difficulty) upon prolonged or repeated exposures. Refer to Section 11 (Toxicology Information) for additional data.

4.3. Indication of any immediate medical attention and special treatment needed

Treatment for Mercury over-exposure must be given. The following treatment protocol for ingestion of Mercury is from Clinical Toxicology of Commercial Products (5th Edition, 1984).

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.

Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Not flammable. Mercury vapors and oxides generated during fires involving this product are toxic.

Reactivity : Stable. Reacts with (some) metals. Mercury can react with metals to form amalgams.

5.3. Advice for firefighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment. Do not allow run-off from fire fighting to enter drains or water courses.

Protective equipment for firefighters : Do not enter fire area without proper protective equipment, including respiratory protection.

Other information : Decontaminate all equipment thoroughly after the conclusion of fire-fighting activities.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Uncontrolled release should be responded to by trained personnel using pre-planned procedures. Evacuate area. Evacuate personnel to a safe area.

6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection. In the event of a release under 1 pound: the minimum level "C" Personal Protective Equipment is needed. Triple-gloves (rubber gloves and nitril gloves over latex gloves), chemical resistant suit and boots, hard-hat, and Air-Purifying Respirator with Cartridge appropriate for Mercury.
In the event of a release over 1 pound or when concentration of oxygen in atmosphere is less than 19.5% or unknown, the level "B" Personal Protective Equipments which includes Self-Contained Breathing Apparatus must be worn.

Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : For larger spills, dike area and pump into waste containers. Put into a labelled container and provide safe disposal.

Methods for cleaning up : There are a variety of methods which can be used to clean-up Mercury spills. Use a commercially available Mercury Spill Kit for small spills. A suction pump with aspirator can also be used during clean-up operations. For larger release, a Mercury vacuum can be used. Calcium polysulfide or excess sulfur can be also used for clean-up. Mercury can migrate into cracks and other difficult-to-clean areas; calcium polysulfide and sulfur can be sprinkled effectively into these areas. Decontaminate the area thoroughly. The area should be inspected visually and with colorimetric tubes for Mercury to ensure all traces have been removed prior to re-occupation by non-emergency personnel. Decontaminate all equipment used in response thoroughly. If such equipments cannot de adequately decontaminated, it must be discarded with other spill residue. Place all spill residues in an appropriate container, seal immediately, and label appropriately. Dispose of in accordance with federal, state, and local hazardous waste disposal requirements. (Refer to Section 13 of this SDS).

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Supervisors and responsible personnel must be aware of personality changes, weight loss, or other sign of Mercury over-exposure in employees using this product; These symptoms can develop gradually and are indicative of potentially severe health effects related to Mercury contamination.

Precautions for safe handling	:	As with all chemicals, avoid getting Mercury ON YOU or IN YOU. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. Report all Mercury releases promptly. Open container slowly on a stable surface. Drums, flasks and bottles of this product must be properly labeled. Empty containers may contain residual amounts of Mercury and should be handled with care.
Hygiene measures	:	Do not eat, drink or smoke when using this product. Always wash hands and face immediately after handling this product, and once again before leaving the workplace. Remove contaminated clothing immediately.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures	:	Follow practice indicated in Section 6. Make certain that application equipment is locked and tagged-out safely. Always use this product in areas where adequate ventilation is provided. Decontaminate equipment thoroughly before maintenance begins.
Storage conditions	:	Keep container tightly closed. Store drums, flasks and bottles in a cool, dry location, away from direct sunlight, source of intense heat, or where freezing is possible. Store away from incompatible materials. Material should be stored in secondary container or in a diked area, as appropriate.
Incompatible materials	:	Acetylene and acetylene derivatives, amines, ammonia, 3-bromopropyne, boron diiodophosphide, methyl azide, sodium carbide, heated sulfuric acid, methylsilane/oxygen mixtures, nitric acid/alcohol mixtures, tetracarbonylnickel/oxygen mixtures, alkyne/silver perchlorate mixtures, halogens and strong oxidizers. Mercury can attack copper alloys. Mercury can react with many metals (i.e. calcium, lithium, potassium, sodium, rubidium, aluminum) to form amalgams.
Prohibitions on mixed storage	:	Mercury can attack copper alloys. Mercury can react with many metals (i.e. calcium, lithium, potassium, sodium, rubidium, aluminum) to form amalgams.
Storage area	:	Storage area should be made of fire-resistant materials.
Special rules on packaging	:	Inspect all incoming containers before storage to ensure containers are properly labeled and not damaged.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Mercury (7439-97-6)		
USA ACGIH	ACGIH TWA (mg/m³)	0.025 mg/m³
USA OSHA	OSHA PEL (Ceiling) (mg/m³)	0.1 mg/m³

8.2. Exposure controls

Appropriate engineering controls	:	Ensure adequate ventilation. Ensure exposure is below occupational exposure limits (where available). Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.
Personal protective equipment	:	Avoid all unnecessary exposure. Gloves. Protective clothing. Safety glasses. Mist formation: aerosol mask.

Hand protection	:	Wear neoprene gloves for routine industrial use. Use triple gloves for spill response, as stated in Section 6 of this SDS.
Eye protection	:	Splash goggles or safety glasses. For operation involving the use of more than 1 pound of Mercury, or if the operation may generate a spray of Mercury, the use of a faceshield is recommended.
Skin and body protection	:	Wear suitable protective clothing.
Respiratory protection	:	Maintain airborne contaminants concentration below provided exposure limits. If respiratory protection is needed, use only protection authorized in 29 CFR 1910.134 or applicable state regulations. Use supplied air respiration protection if oxygen levels are below 19.5% or are unknown.
Other information	:	Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Colour	:	Silver white.

Odor	:	Odorless.
Odor threshold	:	Not applicable
pH	:	Not applicable
Relative evaporation rate (butylacetate=1)	:	No data available
Melting point	:	No data available
Freezing point	:	-38,87 °C (-37.97 F)
Boiling point	:	No data available
Flash point	:	Not applicable
Self ignition temperature	:	Not applicable
Decomposition temperature	:	No data available
Flammability (solid, gas)	:	No data available
Vapour pressure	:	0,002 mm Hg at 25°C
Relative vapor density at 20 °C	:	6,9 (Air = 1)
Relative density	:	No data available
Relative density of saturated gas/air mixture	:	13,6
Solubility	:	No data available
Log Pow	:	No data available
Log Kow	:	No data available
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	No data available
Explosive limits	:	Not applicable

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable. Reacts with (some) metals. Mercury can react with metals to form amalgams.

10.2. Chemical stability

Not established.

10.3. Possibility of hazardous reactions

Not established. Hazardous polymerization will not occur.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Acetylene and acetylene derivatives, amines, ammonia, 3-bromopropyne, boron diiodophosphide, methyl azide, sodium carbide, heated sulfuric acid, methylsilane/oxygen mixtures, nitric acid/alcohol mixtures, tetracarbonylnickel/oxygen mixtures, alkyne/silver perchlorate mixtures, halogens and strong oxidizers. Mercury can attack copper alloys. Mercury can react with many metals (i.e. calcium, lithium, potassium, sodium, rubidium, aluminum) to form amalgams.

10.6. Hazardous decomposition products

If this product is exposed to extremely high temperature in the presence of oxygen or air, toxic vapor of mercury and mercury oxides will be generated.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	:	Fatal if inhaled.
Skin corrosion/irritation	:	Not classified pH: Not applicable
Serious eye damage/irritation	:	Not classified pH: Not applicable
Respiratory or skin sensitisation	:	Not classified
Germ cell mutagenicity	:	Not classified Based on available data, the classification criteria are not met
Carcinogenicity	:	Not classified

MERCURY

Safety Data Sheet

according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

Mercury (7439-97-6)	
IARC group	3

Reproductive toxicity	:	May damage fertility or the unborn child. Based on available data, the classification criteria are not met
Specific target organ toxicity (single exposure)	:	Not classified
Specific target organ toxicity (repeated exposure)	:	Causes damage to organs through prolonged or repeated exposure. Based on available data, the classification criteria are not met Causes damage to organs through prolonged or repeated exposure
Aspiration hazard	:	Not classified Based on available data, the classification criteria are not met
Potential adverse human health effects and symptoms	:	Based on available data, the classification criteria are not met. Fatal if inhaled.
Symptoms/injuries after inhalation	:	Short-term over-exposures to high concentrations of mercury vapors can lead to breathing difficulty, coughing, acute,chemical pneumonia, and pulmonary edema (a potentially fatal accumulation of fluid in the lungs) . Depending on the concentration of over-exposure, cardiac abnormalities, damage to the kidney, liver or nerves and effects on the brain may occur. Long-term inhalation over-exposures can lead to the development of a wide variety of symptoms, including the following: excessive salivation, gingivitis, anorexia, chills, fever, cardiac abnormalities, anemia, digestive problems, abdominal pains, frequent urination, an inability to urinate, diarrhea, peripheral neuropathy (numbness, weakness, or burning sensations in the hands or feet), tremors (especially in the hands, fingers, eyelids, lips, cheeks, tongue, or legs), alteration of tendon reflexes, slurred speech, visual disturbances, and deafness. Allergic reactions (i.e. breathing difficulty) may also occur in sensitive individuals.
Symptoms/injuries after skin contact	:	Symptoms of skin exposure can include redness, dry skin, and pain. Prolonged contact may lead to ulceration of the skin. Allergic reactions (i.e. rashes, welts) may occur in sensitive individuals. Dermatitis (redness and inflammation of the skin) may occur after repeated skin exposures.
Symptoms/injuries after eye contact	:	Symptoms of eye exposure can include redness, pain, and watery eyes. A symptom of Mercury exposure is discoloration of the lens of the eyes.
Symptoms/injuries after ingestion	:	If Mercury is swallowed, symptoms of such over-exposure can include metallic taste in mouth, nausea, vomiting, central nervous system effects, and damage to the kidneys. Metallic mercury is not usually absorbed sufficiently from the gastrointestinal tract to induce an acute, toxic response. Damage to the tissues of the mouth, throat, esophagus, and other tissues of the digestive system may occur. Ingestion may be fatal, due to effects on gastrointestinal system and kidneys.
Chronic symptoms	:	Long-term over-exposure can lead to a wide range of adverse health effects. Anyone using Mercury must pay attention to personality changes, weight loss, skin or gum discolorations, stomach pains, and other signs of Mercury over-exposure. Gradually developing syndromes ("Erethism" and "Acrodynia") are indicative of potentially severe health problems. Mercury can cause the development of allergic reactions (i.e. dermatitis, rashes, breathing difficulty) upon prolonged or repeated exposures. Refer to Section 11 (Toxicology Information) for additional data.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - water : Very toxic to aquatic life. Toxic to aquatic life with long lasting effects.

Mercury (7439-97-6)	
LC50 fishes 1	0,5 mg/l (Exposure time: 96 h - Species: Cyprinus carpio)
EC50 Daphnia 1	5,0 µg/l (Exposure time: 96 h - Species: water flea)
LC50 fish 2	0,16 mg/l (Exposure time: 96 h - Species: Cyprinus carpio [semi-static])

12.2. Persistence and degradability

MERCURY (7439-97-6)	
Persistence and degradability	May cause long-term adverse effects in the environment.

12.3. Bioaccumulative potential

MERCURY (7439-97-6)	
Bioaccumulative potential	Not established.

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Other information : Avoid release to the environment.

MERCURY

Safety Data Sheet

according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Waste disposal must be in accordance with appropriate federal, state, and local regulations. This product, if unaltered by use, should be recycled. If altered by use, recycling may be possible. Consult Bethlehem Apparatus Company for information. If Mercury must be disposed of as hazardous waste, it must be handled at a permitted facility or as advised by your local hazardous waste regulatory authority.

Ecology - waste materials : Hazardous waste due to toxicity. Avoid release to the environment.

SECTION 14: Transport information

In accordance with DOT

14.1. UN number

UN-No.(DOT) : 2809

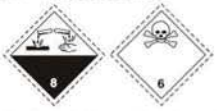
DOT NA no. UN2809

14.2. UN proper shipping name

DOT Proper Shipping Name : Mercury

Department of Transportation (DOT) Hazard Classes : 8 - Class 8 - Corrosive material 49 CFR 173.136

Hazard labels (DOT) : 8 - Corrosive substances
6.1 - Toxic substances



DOT Symbols : A - Material is regulated as a hazardous material only when transported by air, W - Material is regulated as a hazardous material only when transported by water

Packing group (DOT) : III - Minor Danger

DOT Packaging Exceptions (49 CFR 173.xxx) : 164

DOT Packaging Non Bulk (49 CFR 173.xxx) : 164

DOT Packaging Bulk (49 CFR 173.xxx) : 240

14.3. Additional information

Other information : No supplementary information available.

Overland transport

No additional information available

Transport by sea

DOT Vessel Stowage Location : B - (i) The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.

DOT Vessel Stowage Other : 40 - Stow "clear of living quarters",97 - Stow "away from" azides

Air transport

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 35 kg

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 35 kg

SECTION 15: Regulatory information

15.1. US Federal regulations

Mercury (7439-97-6)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on SARA Section 313 (Specific toxic chemical listings)	
EPA TSCA Regulatory Flag	S - S - indicates a substance that is identified in a proposed or final Significant New Uses Rule.
SARA Section 313 - Emission Reporting	1,0 %

15.2. International regulations

CANADA

MERCURY

Safety Data Sheet

according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

Mercury (7439-97-6)	
Listed on the Canadian DSL (Domestic Sustances List) inventory.	
WHMIS Classification	Class D Division 1 Subdivision A - Very toxic material causing immediate and serious toxic effects Class D Division 2 Subdivision A - Very toxic material causing other toxic effects Class E - Corrosive Material

EU-Regulations

Mercury (7439-97-6)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances) substances.

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Classification according to Directive 67/548/EEC or 1999/45/EC

Not classified

15.2.2. National regulations

Mercury (7439-97-6)
Listed on the AICS (the Australian Inventory of Chemical Substances) Listed on Inventory of Existing Chemical Substances (IECSC) Listed on the Korean ECL (Existing Chemical List) inventory. Listed on New Zealand - Inventory of Chemicals (NZIoC) Listed on Inventory of Chemicals and Chemical Substances (PICCS) Poisonous and Deleterious Substances Control Law Pollutant Release and Transfer Register Law (PRTR Law) Listed on the Canadian Ingredient Disclosure List

15.3. US State regulations

Mercury (7439-97-6)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significance risk level (NSRL)
	Yes			

SECTION 16: Other information

Other information : None.

Full text of H-phrases: see section 16:

Acute Tox. 1 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 1
Acute Tox. 2 (Inhalation)	Acute toxicity (inhalation) Category 2
Aquatic Acute 1	Hazardous to the aquatic environment — AcuteHazard, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment — Chronic Hazard, Category 1
Repr. 1B	Reproductive toxicity Category 1B
STOT RE 1	Specific target organ toxicity (repeated exposure) Category 1
H330	Fatal if inhaled
H360	May damage fertility or the unborn child
H372	Causes damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

NFPA health hazard : 3 - Short exposure could cause serious temporary or residual injury even though prompt medical attention was given.

NFPA fire hazard : 0 - Materials that will not burn.

NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.

Attachment 9

EXHIBIT D.7.4

UW HS-010-F3 - Daily Air Monitoring Procedure

Daily Air Monitoring Procedure	**Document #:** UW HS-010-F3	**Revision Date:** 07/15/14	AERC RECYCLING SOLUTIONS
00 – AERC – All Sites	**Department:** Regulatory Affairs	**Revision #:** A	**Universal Waste** Page 1 of 3

Facility Health and Safety Program Documentation Prepared in Agreement with NIOSH Pocket Guide to Chemical Hazards & OSHA Guide for Mercury Vapor

1. Purpose

1.1. The purpose of this plan is to protect all personnel at AERC sites and their families, from exposure to mercury vapor.

2. Scope

2.1. This plan applies to all AERC locations that process mercury containing devices or materials.
2.2. Tools/Equipment Required
2.3. Jerome Mercury Vapor Analyzer
2.4. Daily Air Sampling Log
2.5. Writing Utensil

3. Definitions

3.1. Air Monitoring Points – Designated locations throughout the facility where Air Sampling is done at a minimum of every two hours at predetermined times.
3.2. Air Sampling/Monitoring – The collection and analysis of samples of air to measure the amounts of various pollutants or other substances in the air, or the air's radioactivity.
3.3. Daily Air Sampling Log – A daily log where all mercury readings are recorded for each location as performed throughout the facility.
3.4. Jerome Mercury Vapor Analyzer – A portable, hand-held, device that detects and measures the level of toxic mercury vapor in the air.
3.5. OSHA PEL – Permissible Exposure Limit as per an 8 hour work shift as designated by OSHA.
3.6. NIOSH TWA – Time Weighted Average per an 8 hour work shift that is allowable for employees to be exposed to each day of their working life without irreversible health affects as designated by the National Institute of Occupational Safety and Health.

4. Responsibility

4.1. **The Director of Regulatory Affairs** is responsible for:
4.1.1. Providing support of efforts by AERC staff in the effective implementation of all safety and health programs within AERC.com, Inc. and its operating facilities.

4.2. **The Health, Safety and Environmental Coordinator** is responsible for:
4.2.1. Managing this program to ensure it satisfies the requirements of all applicable federal, state, and local requirements.
4.2.2. Overseeing the calibrations of the Jerome Meters including follow up with supervisors to ensure completion and maintaining documentation.
4.2.3. Ensuring employees receive training on this procedure.

4.3. **Operations Managers or Supervisors** is responsible for:
4.3.1. Supporting and enforcing this procedure.
4.3.2. Ensuring the Jerome Meter is calibrated per the manufacturer on an annual basis and providing proof of calibration to the HSE Coordinator.

4.3.3. Ensuring employees within their department have received proper training and are familiar with these procedures.

4.4. **All Employees** are responsible for:

4.4.1. Following the proper instructions when completing Air Monitoring Samples in order to achieve accurate results.

5. General Information

5.1. OSHA PEL for mercury is 0.1 mg/m3 as total mercury (TWA).

5.2. NIOSH TWA for mercury is 0.05 mg/m3 [skin].

5.3. California's Division of Occupational Safety and Health (DOSH or Cal/OSHA) has a Permissible Exposure Limit of 0.05 mg/m3 as total mercury (TWA). In addition Cal/OSHA has a ceiling limit of 0.1 mg/m3. This must never be exceeded for any period of time.

5.4. AERC's Action level is ½ of NIOSH's and DOSH's Level and ¼ OSHA's PEL for all AERC locations.

5.5. Additional action levels may be needed for certain personnel as indicated by medical needs such as pregnancy or illness. In the case of pregnancy, the action level is ½ of AERC's determined action level and women should not be exposed to mercury vapor concentrations of 0.012mg/m3 or greater.

5.6. Air Sampling will be conducted every two hours in established locations throughout the facility called "Air Monitoring Points".

5.7. Supplemental information regarding the operation for the Jerome Meter can be found in the Operation Manual by Arizona Instrument LLC.

6. Mercury Vapor Air Sampling Procedure

6.1. **Step 1** – Daily Operations of Jerome Meter

6.1.1. Follow these steps each day prior to use.

6.1.2. Press the power button to ON.

6.1.3. The digital meter displays 000.

6.1.4. Disregard initial reading.

6.1.5. Recharge or replace battery pack if LO BAT indicator REMAINS ON. Refer to manual for battery changing instructions.

6.1.6. Allow 1 minute before beginning the next step. This will ensure the instruments electronics have stabilized.

6.1.7. Use the Zero Air Filter to equilibrate the instrument to ambient air temperature.

6.1.8. Install the Zero Air Filter in the instrument's intake.

6.1.9. Sample continuously until the readings stabilize.

6.1.10. Perform Sensor Regeneration.

6.1.11. Refer to page 12 of the Operating Manual.

6.1.12. Zero the instrument 30 minutes after sensor regeneration.

6.2. **Step 2** – Taking a Direct Reading

6.2.1. After completing all the steps required in the daily operations section of this procedure, press the sample button.

6.2.2. During the sample cycle the digital meter displays bars (-, --, ---) to indicate the amount of sensor saturation.

6.2.3. At the end of the sampling cycle, read the digital meter.

6.2.4. The number shown on the digital meter is the Mercury Vapor concentration in mg/m3.
6.2.5. The value remains on the digital meter until the next sample is taken.
6.2.6. The digital meter automatically zeros at the start of each sample.

6.3. **Step 3** - Annotation of Direct Reading onto Sampling Log
6.3.1. Follow the instructions on the Daily Air Monitoring Log, to annotate the value of air samples taken at all locations listed on the log.

6.4. **Step 4** – Responding to High Readings
6.4.1. Actions need to be taken as follows if a sample taken with the Jerome Meter is equal or greater than 0.025 mg/m3 in any area of the facility, or equal to or greater than 0.012 mg/m3 in the working area of an employee that is either ill or pregnant, requiring action at a lower reading:
6.4.1.1. Place a * in the same block as the reading to indicate a reference to the explanation and remediation protocol. The explanation and remediation protocol should be "spelled out" in the comments section of the Daily Air Monitoring Log.
6.4.1.2. All personnel in the affected area(s) need to be notified and provided with a course of action. If employees need to be removed from the area, they must be given procedures as to their ability to return.
6.4.1.3. The facility manager must be notified of the reading and the determined course of action to remedy the situation.
6.4.1.4. Employees designated to remedy the situation will be briefed on the action plan and provided with the equipment necessary to perform the remediation.
6.4.1.5. Upon remediating the high reading, affected employees with be notified to return to their regular work status.
6.4.1.6. Annotation of remediation should be noted on the Daily Air Monitoring Log.

6.5. **Step 5** – Storage of Completed Sampling Logs
6.5.1. Completed Sampling Logs are managed by the operations or facility manager.
6.5.2. The logs shall be stored in the operations area, but shall be accessible to management, the Regulatory Affairs Department and external regulatory agencies.

7. Employee Training

7.1. Employees designated as operators of the mercury vapor analyzer must be trained on this procedure and the use of the sampling log. Demonstration of understanding is required prior to use.

8. Annual Review of Document

8.1. This procedure will be reviewed on an annual basis to ensure that the information stated complies with both the equipment used on site and with the manufacturer's operation manual.

Attachment 9

EXHIBIT D.7.5

UW HS-010 – Respiratory Protection Procedure

Respiratory Protection Procedure	**Document #:** UW HS-010	**Revision Date:** 01/26/15	AERC RECYCLING SOLUTIONS
00 – AERC – All Sites	**Department:** Sustainability	**Revision #:** B	**Universal Waste** Page 1 of 10

1. Purpose

1.1. To establish protocol for identifying hazards and wearing respiratory protection at AERC.com, Inc. facilities. To establish compliance program elements in agreement with the applicable federal and state regulations as set forth by the Occupational Safety and Health Administration's (OSHA), including:

1.1.1.29 **CFR 1910.134** - Federal Hazard Communication Standard, and

1.1.2.Applicable State Plan requirements, i.e., Title 8 CCR 5144 – CAL OSHA Respiratory Protection Regulation.

2. Scope

2.1. This program applies to all personnel including employees, contractors and visitors, who may wear a respirator during the course of working at AERC.

2.2. This program is a supplement to general safety rules and provides necessary details of the program as it relates to other safety and health program elements such as Emergency Action Program, Fire Prevention Program and Hazard Communication Standard Program.

3. Tools/Equipment Required

3.1. Tools and equipment needed vary depending upon the hazard and concentration of the hazard at hand. If unsure of the respiratory protection needed for any situation, please consult your immediate Supervisor and the HSE Coordinator prior to wearing a respirator.

4. Definitions

4.1. Air-Purifying Respirator: A type of respirator that purifies existing air via cartridges or filters.

4.2. Fit-Testing: The process of ensuring that an employee's respirator fits properly and will provide necessary protection without any leakage.

4.3. Hazardous Atmosphere: An atmosphere that may expose employees to the risk of death, incapacitation or impairment. The presence of one or more of the following conditions would classify the atmosphere as hazardous:

4.3.1. Airborne combustible dust at a concentration that meets or exceeds its lower flammable limit (LFL);

4.3.2. Atmospheric concentration of any substance that could result in an employee exposure in excess of the contaminants' permissible exposure limit (PEL);

4.3.3. Atmospheric oxygen concentration below 19.5 percent or above 23.5 percent;

4.3.4. Flammable gas, vapor or mist in excess of 10 percent of the lower explosive limit (LEL).

4.4. Job Hazard Analysis (JHA): Step-by-step evaluation of each task in the work place to determine every possible hazard to the employee.

4.5. NIOSH: National Institute for Occupational Safety and Health; an agency that establishes minimum performance standards for respirators and tests and approves respirators for various.

4.6. Permissible Exposure Limit: (PEL); an 8-hour exposure limit that is published and enforced by the Occupational Safety and Health Administration as the legal standard.

4.7. Program Administrator: The person(s) designated by AERC in accordance with OSHA requirements set forth in 29 CFR 1910.134(c)(3) who is qualified by appropriate training or experience to oversee the respiratory protection program and conduct the required evaluations of program effectiveness.

4.8. Recommended Exposure Limit: (REL); an 8-hour exposure limit determined by the National Institute for Occupational Safety and Health (NIOSH).

4.9. Threshold Limit Value: (TLV); recommended chemical exposure limit for an 8 hour time weighted average for each day of a 40 hour work week. The American Conference of Governmental Industrial Hygienists (ACGIH) determines the limit values.

5. Responsibility

5.1. The Director of Regulatory Affairs & Compliance is responsible for:

5.1.1. Overall determination of the applicability of the respiratory protection standard;

5.1.2. Providing support of efforts by AERC staff in the effective implementation of all safety and health programs within AERC.com, Inc. and its operating facilities.

5.1.3. Providing technical assistance as required and requested to assist the facility in determining the need for respirators, selection of approved/certified respirators, and scheduling of training and qualitative fit testing.

5.1.4. Supporting or acting as the Program Administrator. The Program Administrator has the authority to halt any operation or activity within the AERC facilities where there is danger of serious personal injury or illness.

5.2. The Health, Safety and Environmental Coordinator is responsible for:

5.2.1. Managing this program to ensure it satisfies the requirements of all applicable federal, state, and local respiratory protection requirements.

5.2.2. Acting as the Program Administrator. The Program Administrator has the authority to halt any operation or activity within the AERC facilities where there is danger of serious personal injury or illness.

5.2.3. Providing support to all locations for the completion of initial and annual training and fit-testing of employees on the use of air purifying respirators. This may include performing the training and fit-testing, providing training materials for personnel trained and designated to complete this training or working with a vendor to complete the training and fit-testing.

5.2.4. Working with Operations Managers to perform job hazard analysis (JHA) to determine chemical exposures.

5.2.5. Assisting Managers and Supervisors in the selection of appropriate respiratory protection for use in their departments.

5.2.6. Auditing this program to ensure its continual effectiveness.

5.2.7. Ensuring employees have received medical clearance prior to wearing a respirator (in coordination with or assistant of the individual Facility Managers and Supervisors).

5.2.8. Analyzing daily air sampling logs to ensure the proper level of respiratory protection is in use.

5.3. Facility Managers and Supervisors are responsible for:

5.3.1. Ensuring that all employees who are required to wear respirators in their department have received annual training and fit testing on the respiratory protection devices they wear for their job.

5.3.2. Ensuring that respirators are available as needed and that personnel assigned to or visiting their areas of responsibility wear respirators as required.

5.3.3. Scheduling the inspection of respirators on a regular basis, and for providing the Regulatory Affairs & Compliance Department with a list of personnel who require initial, semi-annual, and annual training or fitting.

5.3.4. Assuring that employees who desire to use respirators for their individual comfort or convenience at times when and in places where respirators are not required contact the Program Administrator and comply with Appendix D to 29 CFR 1910.134, (Non-Mandatory) Information for Employees Using Respirators When Not Required Under the Standard.

5.3.5. Working with the HSE Coordinator to complete job hazard analysis (JHA) to determine chemical exposures.

5.3.6. Enforcing the use of respiratory protection where required.

5.3.7. Ensuring employees are knowledgeable in respiratory requirements for required areas.

5.4. Employees are responsible for:

5.4.1. Complying with AERC's Respiratory Protection Program.

5.4.2. Using their respirator in accordance with instructions and training, for cleaning, disinfecting, inspecting, and storage.

5.4.3. Reporting any respirator malfunction to their supervisor or the HSE Coordinator.

5.4.4. All employees who wear a respirator at AERC will be required to report to work clean shaven; to ensure the proper fit of the respirator. A moustache that doesn't affect the seal of the respirator may be permitted if approved by facility manager. If an employee chooses to wear a moustache it cannot extend more than 1/4" below the lips. Any employee who is deemed not clean shaven will not be allowed to work at AERC facilities and may be subject to disciplinary action.

5.4.5. Each individual choosing to use a respirator for personal comfort or convenience at times when and in places where respirators are not required must so inform her or his immediate supervisor and must contact the Program Administrator and comply with Appendix D to 29 CFR 1910.134, (Non- Mandatory) Information for Employees Using Respirators When Not Required Under the Standard.

6. Selection and Use of Respirators

6.1. It is the policy of AERC that work requiring any type of respirator above the level of a negative pressure full face Air Purifying Respirator (APR) will NOT be performed without approval of the Director of Regulatory Affairs and Compliance.

6.2. All respirators must be used and maintained in accordance with the manufacturer's recommendations.

6.3. Respirator cartridges shall be selected to protect employees from airborne contaminants known to be present.

6.4. Employees must meet all of the following conditions to wear an APR.

6.4.1. The atmosphere in which the APR will be used is known to at all times have oxygen (O2) concentration of ≥ 20.8% (the established "normal" condition for ambient air with relative humidity of ~40 to 60%).

6.4.1.1. Atmospheres that measure less than this value shall be considered suspect and must be monitored on a regular basis during completion of work.

6.4.1.2. Atmospheres approaching 19.5% are to be considered oxygendeficient and immediately dangerous to life or health. An APR shall not be used in atmosphere ≤ 19.5%.

6.4.2. The contaminant identity and OSHA PEL must be known to determine:

6.4.2.1. Respirator type or cartridge which will provide adequate protection;

6.4.2.2. Adverse effects from breathing the contaminant; and

6.4.2.3. Other hazards the contaminant may present (i.e., eye irritation) – which may be used as indicators or signs/symptoms of over exposure.

6.5. Employees must be able to determine the shelf life of the respirator canister or filter. Most filters and cartridges have a shelf life of 5 years or indefinite, in their unopened packaging, as indicated on packaging. A respirator cartridge or filter that is removed from or its packaging is opened, is subjected to a 1 year shelf life or less, depending on the atmosphere they are exposed to.

6.6. Employees must meet all the respiratory training requirements and fit-testing requirements on an annual basis. Employees must also be medically cleared by a physician in order to wear a respirator.

7. Types of Respirators Used at AERC.com, Inc.

7.1. Air Purifying Respirators

7.1.1. An APR is a respirator that uses mechanical filters to remove dusts, mists, and fumes from the breathing air. These respirators can also be fitted with chemical cartridges (or canisters) to remove specific gasses and vapors. Filters and cartridges can be combined to protect from multiple respiratory hazards.

7.1.2. There are various types of air purifying respirators, depending upon the protection that you need. There are half-face, full-face and powered air purifying respirators. At AERC we only use the half and full-face APR's.

7.1.3. AERC will provide 3M 6000 series full and/or half-face respirators to all employees requiring respiratory protection for their job. If the 3M respirators do not fit the employee, other manufacturers will be tried until a good fit test is achieved. Employees are not allowed to bring in other types of respirators to use at work.

7.1.4. The 3M 6000 series full and half-face respirators meet National Institute of Occupational Safety (NIOSH) standards as required by OSHA.

7.1.5. APR respirators are inspected before and after each use by the wearer.

7.2. Filters/Cartridges

7.2.1. Filters and cartridges are color coded to help match the right respirator, filter and/or cartridge for the hazards present in the work area.

7.2.2. Never interchange manufacturer's filters, cartridges and other parts.

7.2.3. Because of the specified operations at AERC Recycling Solution facilities, there are two main types of cartridges in use.

7.2.4. Mercury cartridges are used in all areas where there is a potential for exposure to mercury in any form.

7.2.5. Sulfuric Acid (Multi - Gas) cartridges are used in all areas that either process batteries or have the potential of acid exposures relating to general processing operations.

7.2.6. Both Mercury and Multi-Gas cartridges are used in conjunction with a P-95 filter.

7.2.7. APR Filter and Cartridge Change-Out Schedules

7.2.7.1. Typically, respirator filters and cartridges are changed out when the wearer detects the following conditions in the order mentioned: The expiration date on the cartridge is exceeded. The end-of service life indicator is reached. (Only in mercury cartridges) The wearer detects resistance when breathing through the respirator. The wearer tastes or smells the contaminate.

7.2.7.2. In addition to the typical change out protocol, AERC has initiated a “rule of thumb” change out procedure. While the manufacturer indicates an expiration date, as indicated above, AERC’s “rule of thumb” change out schedule is a one month of use expiration date. AERC’s one month expiration date is set by the employee at the time the cartridge is opened. All cartridges are to be changed out prior to this expiration date regardless of the status of the end of life indicator.

7.2.7.3. In other words, the cartridge must be changed out if any of the above conditions are met.

8. Respirator Inspection, Care and Maintenance

8.1. In accordance with OSHA guidelines, all respirators in daily use will be routinely inspected for defects and cleanliness, before and after each use. Respirators issued to individual employees will be maintained by that employee in accordance with practices set forth in HS-010-F2 Mandatory Respirator Cleaning Procedure & 3M Technical Data Bulletin; Inspection, Cleaning and Storage Procedures for 3M Reusable Respirators.

8.2. Respirators with signs of excessive wear or decay shall be removed from service until repaired or replaced.

8.3. Respirators are to be stored and maintained in an area away from the area of contamination in a sealed plastic bag. The storage area should be cool and dry and should NOT deform the face piece.

9. Training

9.1. Each employee who wears a respirator shall be annually fit-tested and trained in its proper use and limitations by either their trained supervisor or by the HSE Coordinator.

9.2. Employees will receive their initial respiratory training in conjunction with their annual fit testing.

9.3. Both the initial and the annual training will include the following topics:

9.3.1. Determination of respiratory hazards and guidelines of misuse of respirators;

9.3.2. Engineering and administrative control measures being used and why respirators are required to provide additional protection;

9.3.3. Selection of appropriate respirators to filter specific hazards;

9.3.4. Function, capabilities and limitations (warning properties of overexposure) of each respirator type;

9.3.5. Methods of putting on, fitting, wearing, adjusting, and checking the face-to-face piece seal of each applicable respirator type, including a hands-on demonstration and practice;

9.3.6. Sanitation, maintenance and proper storage;

9.3.7. Handling and wearing the respirator in a safe atmosphere to familiarize each employee with the operational characteristics of each respirator;

9.3.8. Emergency situations requiring respiratory protection;

9.3.9. An initial Medical Evaluation Questionnaire and Medical Clearance;

9.3.10. Requirements for maintaining an airtight seal and conditions that will interfere with the seal, including facial hair, dentures, glasses and our policy prohibiting the use of contact lenses while wearing respirators.

9.3.11. Proper use of respiratory eyewear provided to each employee that utilized corrective lenses; and

9.3.12. Filter and cartridge change out schedule.

9.4. AERC shall use general respiratory program training materials as well as materials and guidance that may be made available through the equipment supplier. Specifically, AERC shall use materials that may be published, included handouts and web-based video training, specific to the 3M equipment commonly in use at our facilities. Examples of such information is presented in Attachment 3 | 3M™ Occupational Health and Environmental Safety Guidance and Technical Bulletins.

10. Fit-Testing

10.1. Before an employee may be required to use any type of tight-fitting face piece, the employee must first be medically cleared.

10.2. The employee must be fit-tested with the same make, model, style and size of respirator that will be used by the employee in their job.

10.3. AERC will ensure that all employees using a tight-fitting face piece respirator passes the appropriate Qualitative Fit Test (QFT) with Bitrex Solution as per 29 CFR 1910.134 Appendix A of the OSHA Standard.

10.4. AERC will conduct the fit testing for each employee using a tight-fitting face piece respirator under the following conditions:

10.4.1. Fit-tested prior to initial use of the respirator;

10.4.2. Whenever a different respirator face piece (size, style, make, model) is used;

10.4.3. Whenever there is a physical change in the employee, for example, dental surgery, weight gain or loss;

10.4.4. And at least annually thereafter.

10.5. AERC will not permit respirator use for any employee that:

10.5.1. Has facial hair that comes between the sealing surface of the face piece and the face or that interferes with the valve function.

10.5.2. Any condition that interferes with the face-to-face piece seal or valve function.

10.5.3. If an employee wears corrective glasses or goggles or other personal protective equipment, AERC will ensure that the equipment does not interfere with the wear of the respirator.

10.5.4. AERC issues custom mounted spectacles frames for each type of respirator for those employees that wear eyeglasses. After an employee is issued the frames, they are responsible for going to their optometrist to get the frames filled with their eyeglasses prescription. We suggest that they bring them to their annual fit testing.

10.6. Performing the Fit Test:

10.6.1. The HSE Coordinator, designated trained personnel or a vendor will follow the instructions for the Bitrex test as stated in OSHA's 29 CFR 1910.134 App A, Fit- Testing Procedures.

10.6.2. Personnel cannot be fit-tested if they have any facial hair that is touching the seal of the respirator. Additionally, the employees must NOT wear any PPE that may interfere with the seal of the respirator during the fit testing, including the eyeglasses.

10.6.3. Once the sensitivity test is completed, each employee will don a respirator; all employees will perform a user seal check to ensure that an adequate seal is achieved each time that the respirator is put on. Employees should perform a positive and negative pressure checks in accordance with 29 CFR 1910.1134 User Fit Check Procedures, each time that they put on the respirator.

10.6.4. Once the employee has properly donned the respirator, employees will wear a respirator for a minimum of 5 minutes prior to being fit-tested. After the 5 minutes, the HSE Coordinator, designated trained personnel or a vendor will perform the Bitrex Aerosol Fit-Test procedure in accordance with 29 CFR 1910.134 Appendix A Section 4, the Bitrex (Denatonium Benzoate) Solution Aerosol Qualitative Fit Test Protocol.

10.6.5. The HSE Coordinator, designated trained personnel or a vendor UW HS-010-F1 Respiratory Protection Fit-Testing Procedure. While aspirating in the taste threshold amount of the solution into the enclosure the employee will complete the following sequence allowing one minute per exercise:

- **10.6.5.1.** Normal Breathing – 1 minute
- **10.6.5.2.** Deep Breathing – 1 minute
- **10.6.5.3.** Head Side to Side – 1 minute
- **10.6.5.4.** Head Up and Down – 1 minute
- **10.6.5.5.** Fully read the Rainbow passage (29 CFR 1910.134 Appendix A Section 14.
- **10.6.5.6.** Bending over or jogging in place – 1 minute
- **10.6.5.7.** Normal breathing – 1 minute

10.6.6. Upon completion of the fit-test, each employee will fill out UW HS-010-F1 Respiratory Training and Fit Testing Form.

10.6.7. Documentation of all annual fit testing and training records for each employee will be maintained by the Regulatory Affairs Department. Documentation of all medical clearance records will be filed in each employee's personnel record by Human Resources.

10.6.8. Should quantitative fit tests be necessary, the program administer will assist in locating and contracting with an appropriate facility.

10.6.9. All persons should remember that it is not the employee that passes or fails a fit test, it is the respirator. Employees should be recognizant that fudging to pass the fit tests puts the employee at risk as the respirator that does not fit properly provides a protection factor of 0.

11. Respirator Medical Clearance

11.1. Employees will be screened to ensure they are physically capable of wearing respiratory protection, when required to perform their work.

11.2. The following procedures are required for proper medical evaluation of employees:

11.2.1. No employee shall be permitted to use a respirator or to perform a function which requires respiratory protection unless it has been determined that the person is physically able to perform under such guidelines. This includes fit-testing.

11.2.2. Each employee must complete a medical evaluation questionnaire prior to medical examination.

11.2.3. Employees shall be given the name, phone number and address of the occupational clinic in case they have further questions regarding their ability to wear a respirator.

11.2.4. A physician shall evaluate the employee if there is a question whether an employee is capable of performing tasks while using a respirator. This evaluation needs to only be performed once for the employee unless the employee's health changes.

11.2.5. The examining physician shall determine whether the employee is physically able to perform the work and has the ability to use different types of respiratory protection. If needed, the physician may request that they see the employee for further evaluation. The medical evaluation shall be performed in accordance with OSHA guidelines.

11.2.6. A certificate of medical suitability shall be signed by the examining physician, and be included in the employee's personnel record filed by Human Resources.

11.2.7. New respirator evaluations will be required of all respirator users:

11.2.7.1. At intervals not to exceed four years;

11.2.7.2. Whenever an employee reports medical signs or symptoms that are related to the ability to use a respirator:

11.2.7.3. Whenever the physician, program administrator, or immediate supervisor informs the employee that a re-evaluation is necessary;

11.2.7.4. Whenever information from the respiratory protection program indicates a need for reevaluation; OR

11.2.7.5. Whenever a change occurs in the workplace conditions that may result in a substantial increase in the psychological burden placed on the employee.

12. Respirator Use When Not Required Under the OSHA Standard

12.1. It is recognized that there may be certain situations during performance of specific jobs that the Employee may wish to wear a respirator although an exposure assessment may determine that conditions are within OSHA acceptable exposure guidelines. Specifically, with regard to use of a particulate filter mask for nuisance dust.

12.2. UW-HS-009 allows for use of respirator when not required by the OSHA standard when the following conditions are met:

12.2.1. All personnel read, understand and follow all instructions as provided by the manufacturer on use, maintenance, cleaning and care, and warning regarding the respirators limitations.

12.2.2. The respirator being worn is certified to be used to protect against the contaminant of concern. Certification from NIOSH, the National Institute for Occupational Safety and

Health should appear on the respirator or packaging with a label or statement of certification.

12.2.3. The respirator is not worn into atmospheres containing contaminants in which it is not designed to protect against. For example, a respirator designed to filter dust particulates will not protect against fumes, gases, vapors or very small particles of smoke.

12.2.4. The respirator is kept track of by the employee to ensure no one else uses it and to ensure they do not mistake someone else's as their own.

12.3. In addition to the information provided inUW HS-009 , all AERC employees wishing to wear a respirator for voluntary use must receive approval and the respirator from their supervisor.

12.3.1. It is the supervisor's responsibility to ensure the employee understands the limitations of the respirator.

12.3.2. It is the employee's responsibility to ensure they meet the conditions as stated in 12.2.1 through 12.2.4 and seek additional support from their supervisor or the HSE Coordinator as needed to ensure their non-required respirator is properly used.

13.Documentation and Recordkeeping

13.1. Training records are maintained by Operations Managers and copies are to be send to the Regulatory Affairs Department.

13.2. Medical clearance records and Fit-Testing Records are reviewed by the Regulatory Affairs Department and then permanently maintained in the employee's HR file.

13.3. The Employee's Medical clearance and copies of all medical records will be maintained by our Occupational Clinic. The Occupational clinic will only maintain the physician's written recommendation regarding each employee's ability to wear a respirator.

14.Periodic Evaluation of Program

14.1. Periodic evaluation of the Respiratory Protection Program will be conducted to ensure AERC provides adequate respiratory protection for employees. The HSE Coordinator shall conduct at a minimum, an annual review of the program to correct any deficiencies.

15.Annual Review of Document

15.1. This document is to be reviewed on an annual basis for accuracy by the HSE Coordinator and managed though our SharePoint System. Changes will be noted through SharePoints Version History.

Respiratory Protection Procedure	**Document #:** UW HS-010	**Revision Date:** 01/26/15	AERC RECYCLING SOLUTIONS
00 – AERC – All Sites	**Department:** Sustainability	**Revision #:** B	**Universal Waste** Page 10 of 10

Attachment 9

EXHIBIT D.7.6

UW HS-010-F1 – Respiratory Fit Test Procedure

Respirator Fit Testing	**Document #:** UW HS-010-F1	**Revision Date:** 04/15/14	AERC RECYCLING SOLUTIONS
00 – AERC – All Sites	**Department:** Sustainability	**Revision #:** A	**Universal Waste** Page 1 of 2

Developed IAW OSHA 29 CFR 1910.134

Each test exercise shall be performed for one minute. The test subject shall be questioned by the test conductor regarding the comfort of the respirator upon completion of the protocol. If it has become unacceptable, another model of respirator shall be tried. The respirator shall not be adjusted once the fit test exercises begin. Any adjustment voids the test, and the fit test must be repeated. Employers must ensure that employees perform the test exercises in the appropriate test environment in the following manner:

1. **Normal breathing**. In a normal standing position, without talking, the subject shall breathe normally.
2. **Deep breathing**. In a normal standing position, the subject shall breathe slowly and deeply, taking caution so as not to hyperventilate.
3. **Turning head side to side**. Standing in place, the subject shall slowly turn his/her head from side to side between the extreme positions on each side. The head shall be held at each extreme momentarily so the subject can inhale at each side.
4. **Moving head up and down**. Standing in place, the subject shall slowly move his/her head up and down. The subject shall be instructed to inhale in the up position (i.e., when looking toward the ceiling).
5. **Talking.** The subject shall talk out loud slowly and loud enough so as to be heard clearly by the test conductor. The subject can read from a prepared text such as the Rainbow Passage, count backward from 100, or recite a memorized poem or song.
6. **Bending over.** The test subject shall bend at the waist as if he/she were to touch his/her toes.
7. **Normal breathing**. Same as exercise 1.

Rainbow Passage

When the sunlight strikes raindrops in the air, they act like a prism and form a rainbow. The rainbow is a division of white light into many beautiful colors. These take the shape of a long round arch, with its path high above, and its two ends apparently beyond the horizon. There is, according to legend, a boiling pot of gold at one end. People look, but no one ever finds it. When a man looks for something beyond reach, his friends say he is looking for the pot of gold at the end of the rainbow.

Respirator Fit Testing	**Document #:** UW HS-010-F1	**Revision Date:** 04/15/14	AERC RECYCLING SOLUTIONS
00 – AERC – All Sites	**Department:** Sustainability	**Revision #:** A	**Universal Waste** Page 2 of 2

Respiratory Fit-Test Record

Employee Name:_____ Date: _____

Job Title: _____

Job Location:_____

Supervisor: _____

Check any of your current conditions that may affect your respirator fit:	
☐ Clean Shaven	☐ Facial Scar
☐ 1-2 Days Beard Growth	☐ Dentures Absent
☐ 2+ Days Beard Growth	☐ Glasses (Not including Reading Only)
☐ Moustache	☐ None

Respirator Manufacturer and Size Selected:		
☐ 3M (Full Face Respirator)	☐ Medium (6800)	☐ Large (6900)
☐ 3M (1/2 Face Respirator)	☐ Medium (6200)	☐ Large (6300)
If other please indicate Size and Model #:		

Fit Checks:			
Positive Pressure:	☐ Pass	☐ Fail	☐ Not Done
Negative Pressure:	☐ Pass	☐ Fail	☐ Not Done
Qualitative Fit-Testing:			
Bitrex Sensitivity:	☐ Pass	☐ Fail	
Bitrex Fit Test:	☐ Pass	☐ Fail	

Employee Signature: _____

Test Conducted by (Print Name): _____

Test Conducted by (Signature): _____

Disclaimer

The above respirator fit-test was performed on and by the persons listed above. The results indicate the performance of the listed reparatory protective device as fitted in the employee named on this record under controlled conditions. Fit-testing as performed measures the ability of the respiratory device to provide protection to the individual tested. AERC or the test conductor implies no guarantee that this or an identical respiratory protective device will provide adequate protection under conditions other than those present when the test was performed. Improper use, maintenance or application of this or any other respiratory device will reduce or eliminate protection.

*If test is conducted by a non-AERC facility, indicate facility contact information on this form.

Attachment 9
EXHIBIT D.7.7
UW HS-011 – Medical Monitoring

Medical Monitoring

Document #: UW HS-011

Facility Health and Safety Program Documentation
Prepared in Agreement with
29 CFR 1910.1020

Revision #: A | Revision Date: 05/24/16

Prepared By: Regulatory Affairs Department
AERC.com, Inc.
2591 Mitchell Ave, Allentown, PA 18103
(610) 797-7608 | Fax: (610) 797-7696

Medical Monitoring	Document #: UW HS-011	Revision Date: 04/26/16	AERC RECYCLING SOLUTIONS
00 – AERC – All Sites	Department: Regulatory Affairs	Revision #: E	Page: Page 1 of 6

1.0 Purpose

1.1 To medically assess and monitor the health and fitness of all employees working at hazardous waste facilities in order to ensure they are not being exposed to hazardous materials.

2.0 Scope

2.1 This procedure applies to all employees working at a permitted AERC hazardous waste recycling facility, including operations currently in California, Florida and Pennsylvania.

3.0 Definitions

3.1 **Biological Monitoring** is the measurement of a chemical agents in the blood, urine, or other body tissue of exposed individuals to determine how much of the chemical has been absorbed into the body. It serves as a back-up to environmental exposure measurements, since air measurements cannot assess skin exposure or the effects of protective equipment and work practices. Since it measures the amount of an agent actually absorbed into the body, it is usually a better estimate of risk for adverse health effect than air monitoring.

3.2 **Creatine** is a nitrogenous organic acid that occurs naturally and helps to supply energy to all cells in the body, primarily muscle by increasing the formation of Adenosine triphosphate (ATP). Creatine is naturally produced in the human body from amino acids primarily in the kidney and liver.

3.3 **Mercury/Creatine Ratio** - Mercury levels in urine are often used as a general indicator of how much exposure to mercury has occurred. As a result, urine mercury levels rather than airborne levels are provided in some of the reports which compare mercury exposures to specific health effects. Urine mercury levels are reported in micrograms/gram of creatinine (a component of the urine as defined above). The relationship between airborne mercury levels and urine mercury levels is complicated and depends on many factors, including other sources of mercury exposure and between individual differences.

3.4 **Mercury in Blood** - The concentration of mercury in blood reflects exposure to organic mercury as well as metallic and inorganic mercury; thus it can be influenced by the consumption of fish containing methylmercury.

4.0 Responsibilities

4.1 **Director of Regulatory Affairs & Compliance** is responsible for:

Medical Monitoring	Document #: UW HS-011	Revision Date: 3-2-11	AERC RECYCLING SOLUTIONS
00 – AERC – All Sites	Department: Regulatory Affairs	Revision #: D	Page: Page 2 of 6

4.1.1 Overall determination of the applicability of the medical monitoring standard;

4.1.2 Providing support of efforts by AERC staff in the effective implementation of all safety and health programs within AERC.com, Inc. and its operating facilities.

4.1.3 Supporting or acting as the Program Administrator. The Program Administrator has the authority to halt any operation or activity within the AERC facilities where there is danger of serious personal injury or illness.

4.2 The **EHS Services Specialist**, or designee, is responsible for:

4.2.1 Managing this program to ensure it satisfies the requirements of all applicable federal, state, and local respiratory protection requirements.

4.2.2 Acting as the Program Administrator. The Program Administrator has the authority to halt any operation or activity within the AERC facilities where there is danger of serious personal injury or illness.

4.2.3 Providing support to all locations for the completion of training of all affected employees on this program.

4.2.4 Analyzing elevated levels of urine/blood mercury levels to ensure all personnel understand their results.

4.2.5 Assisting Managers and Supervisors with temporary job assignments made in conjunction with elevated urine/blood mercury levels.

4.2.6 Auditing this program to ensure its continual effectiveness.

4.3 **Facility Managers and Supervisors** are responsible for:

4.3.1 Ensuring that all employees required to participate in the Medical Monitoring Program are trained on and understand the program.

4.3.2 Managing the scheduling for all baseline, annual and quarterly medical monitoring exams for all participating employees at their site(s).

4.3.3 Enforcing the attendance of personnel at their scheduled exams where required.

4.4 **Employees** are responsible for:

4.4.1 Complying with AERC's Medical Monitoring Program.

4.4.2 Attending all scheduled appointments.

4.4.3 Reporting any change in their physical health that may require further medical monitoring.

Medical Monitoring	Document #: UW HS-011	Revision Date: 3-2-11	AERC RECYCLING SOLUTIONS
00 – AERC – All Sites	Department: Regulatory Affairs	Revision #: D	Page: Page 3 of 6

4.5 **Human Resources** is responsible for:

4.5.1 Maintaining medical monitoring records as noted in Section 10.0 of this document.

4.5.2 Assisting supervisors and the EHS Services Specialist or designee with developing a temporary job assignment as needed based on medical monitoring results.

4.5.3 Supporting the enforcement of this procedure.

5.0 Employee Participation

5.1 All employees working at AERC hazardous waste facilities are required to participate in the medical monitoring program. The level of participation depends on the employee's position. Employees with a higher potential for mercury exposure – plant operations personnel – will undergo medical screening and biological monitoring at greater frequency than office or administration personnel. The primary methods used for determining the potential exposure to mercury for each individual employee is through biological monitoring of inorganic mercury within the urine and blood. The following approach is employed for AERC Recycling Solutions facilities conducting on-site recycling and/or hazardous waste management activities:

5.1.1 All personnel are to be medically cleared through a baseline physical examination prior to working at an AERC hazardous waste recycling facility.

5.1.2 Operations personnel or those designated as plant employees are required complete annual physicals, participate in quarterly urine and 6 month blood mercury monitoring.

5.1.3 Administrative or sales personnel are required to participate in urine sampling on a 6 month basis.

5.1.4 Drivers are required to meet the monitoring requirements as listed in section 5.1.2 as well as specific monitoring as per DOT regulations.

5.1.5 AERC shall offer employees the option to receive an exit physical. AERC strongly encourages the employee to receive this examination.

6.0 The Examining Physician

6.1 The following information is provided to the examining physician:

6.1.1 A copy of the OSHA standard and its appendices as it pertains to the employees job function.

6.1.2 A description of the employee's duties relating to his/her exposure.

6.1.3 The exposure level or anticipated exposure level of the employee based on their position.

6.1.4 A description of any personal protective equipment required based on the employees job description.

6.1.5 Any information from previous medical examinations.

7.0 Medical Examinations

7.1 Examinations are provided to employees at no cost to the employee, without loss of pay and at a reasonable time and place.

7.2 The scope of the medical examination, as well as frequency of periodic medical monitoring, is based upon the likelihood of overexposure as it relates to job function. The scope of the each medical examination type (baseline, annual and exit exam) is detailed within *Employee Medical Scheduling Sheet* form provided to AERC by All One Health (i.e., company medical provider) – see Attachment 1.

7.2 AERC's medical examinations are performed under the supervision of our Medical Director, Dr. Fred Kohanna, licensed physician. Dr. Kohonna, and/or his designee, through the services of All One Health acts in the capacity of "Company Doctor".

7.3 AERC.com, Inc. and All One Health, Inc. will provide the examining doctor with a medical and work history. The work history emphasizes symptoms related to the handling of hazardous substances; conditions of the worksite and the required fitness levels to wear all required personal protective equipment.

7.4 Following the completion of the medical exam both the employee and AERC.com, Inc. will receive a written opinion from the medical director with regard to the employee's fitness for their job. The results include any detected medical conditions that would place the employee at an increased risk from exposure, any recommended limitations on the employee or upon the use of personal protective equipment, and a statement that the employee has been informed by the physician of the results of the medical examination.

7.4.1 To ensure privacy and security of personal information – specific details are only communicated to the employee and All One Health staff. The potential for the employee being at risk or unfit for duty is only communicated to Regulatory Affairs and Facility Management when applicable.

8.0 Communication of Monitoring Results – Blood and Urine Mercury

8.1 Medical monitoring is completed for subject employees based on their potential for exposure to inorganic mercury. These employees go through the same set of basic periodic medical evaluations, i.e., a baseline physical. However, as detailed in Section 5.0, sampling is conducted every 3 to 6 months (based on your specific exposure potential). The results of this testing are reviewed by the Company Doctor

who examines your ability to continue the same job (and potential exposure to mercury). The following biological exposure indices are used[1]:

8.1.1 Urine Test: A mercury level of ≥ 35 µg/g of creatinine.

8.1.2 Blood Test: A mercury level of ≥ 15 µg/L of blood.

8.2 The report received by the employee (and Human Resources) is of the format as presented in Attachment 2 – *Surveillance Examination Report.*

8.3 Once received, All One Health shall communicate the overall status of the employee and any instructions provided by the Company Doctor with regard to job function to Regulatory Affairs and associated facility management. The actual test results from the blood or urine mercury monitoring shall not be communicated to Regulatory Affairs personnel unless a request for retesting has been made or a work restriction, i.e., removal from working with mercury, is required.

8.4 Based on the results of the examination, the EHS Services Specialist or designee will work with the employee's supervisor to ensure proper return of the employee to their designated work site.

8.4.1 If at any time an employee is recommended to be removed from working with mercury (or other specified contaminate), the supervisor will work with the Human Resources and the EHS Services Specialist to develop a temporary job assignment.

8.4.2 Additional information, including the Temporary Job Assignment Form UW HS-002-F3, can be found in UW HS-002, The Accident Reporting and Investigation Procedure.

9.0 Occupational Exposure Physical

9.1 Employees exhibiting signs or symptoms of an occupational exposure, or that have been exposed to an occupational contaminant above the permissible exposure limit (PEL) without the use of necessary and adequate personal protective equipment (PPE) will be sent for an occupational exposure physical.

9.1.1 Employees or their supervisors should report the actual or potential occupational exposure to the EHS Services Specialist or designee.

9.1.2 The EHS Services Specialist or designee will work with the employee's supervisor and All One Health to ensure the occupational clinic completing the evaluation of exposure has been provided with specific information on the identification of the hazardous exposure.

1 - These two tests are able to detect inorganic mercury at varying levels of certainty. The urine test is best suited for inorganic mercury and is considered the key indicator for workplace exposure. The blood test is also used, however, a high blood test result alone does not immediately indicate overexposure because this number is influenced by food consumption and may also represent exposure to methyl mercury (an organic form of mercury found in seafood/fish).

- This information should include the cause of the exposure, the route of entry, signs or symptoms of the exposure, etc.

9.1.3 The results of the examination will be forwarded to the medical director for further evaluation.

9.1.4 Following the review from the medical director, the EHS Services Specialist or designee will be contacted and the employee will be provided a copy of the results of their examination.

9.1.5 Actions taken based on the results of the examination shall be as noted in Section 8.4 with regard to the specific contaminant of concern.

10.0 Recordkeeping

10.1 Records are kept in accordance with OSHA and Cal/OSHA rules governing access to employee exposure and medical records, 29 CFR 1910.20 and GISO Title 8 CCR 3204.

10.2 Medical monitoring records are maintained by the Human Resources department at the corporate headquarters. These records include:

10.2.1 The name and social security number of the employee.

10.2.2 Any physician's written opinions, recommended limitations, and results of examinations and tests.

10.2.3 Any employee medical complaints related to exposure to hazardous substances.

10.2.4 A copy of the information provided to the examining physician by the employer, with the exception of the standard and its appendices.

10.3 The original signed copy of this procedure is kept in the EHS Services Specialist or designee's office. All Facility Managers are sent the most recent version in pdf form upon release. Employees wishing to review this procedure can contact their supervisor or the EHS Services Specialist or designee for a copy.

10.4 Training records are maintained in the Regulatory Affairs Department Files.

11.0 Employee Training

11.1 Each employee who participates in the medical monitoring program shall be trained on the information provided in this procedure, including the purpose and limitations of the program as well as the interpretation of monitoring results.

12.0 Periodic Evaluation of Program

12.1 Periodic evaluation of the Medical Monitoring Program will be conducted to ensure AERC provides adequate monitoring for employees. The EHS Services Specialist or designee shall conduct at a minimum, an annual review of the program to correct any deficiencies.

ATTACHMENT 9
EXHIBIT D.7.8
Job Descriptions

EXHIBIT TABLE OF CONTENTS

AERC RECYCLING SOLUTIONS

Schedule A

Job Title :	**Recycling Technician**		
Department/Group:	20 – Production Lamps	**Job Category:**	Non-Exempt/ Hourly
Location:	All Locations	**Position Type:**	Full Time
Supervisor:	Shift Supervisor / Facility Manager		

General Summary:

Perform basic plant operations including material handling, hazardous waste handling, and equipment operation, working within company safety/environmental policies and procedures.

Essential Functions: Essential functions of position include, but are not limited to:

1. Handling hazardous waste, including identification, labeling, storage, and management in accordance with all regulations and internal safety requirements.
2. Handling waste batteries for recycling, including identification, labeling, sorting, and storage.
3. Unload trucks, unpack lamps and stage lamps for processing
4. Operate lamp recycling equipment in accordance with proper operating procedures
5. Document appropriate operation in logs
6. Operate fork truck, lifting mechanisms, drum dumpers, drum and pallet jacks
7. Perform regular equipment maintenance and instrument monitoring.
8. Reliable, regular attendance/punctuality is required to meet business need
9. Assure compliance with all applicable environmental, health, and safety regulations
10. Perform work safely, in accordance with all company policies and procedures to prevent injury

NON-ESSENTIAL FUNCTIONS:

1. Maintain cleanliness of equipment and overall housekeeping in and around the facility.
2. Inventory incoming material and assist with customer deliveries/pickups
3. Perform other functions that may be assigned.

AERC
RECYCLING SOLUTIONS

Schedule A

Working Conditions:

- Medium to heavy working conditions, possible exposure to mercury and/or phosphor powder.
- Lifting 50 pounds minimum on regular basis
- Work with various materials with varying safety requirements
- Tasks will rotate within different areas of the warehouse according to business needs.
- Use personal protective equipment: hardhat, goggles, respirator
- Climb stairs and stand for 8 hours/day

Background Requirements:

- HS diploma or equivalent required.
- Good mechanical ability required.
- Must be able to read/write and understand English
- Ability to climb stairs, stands 8 hours/day, lift 60 pounds, move 55-gallon drums required.
- Ability to use personal protective equipment such as tyveks, goggles, hardhat, respirator
- Ability to work overtime hours as required by business conditions

Training:

- Must complete 24-hour Orientation
- Specific on-the-job training towards meeting established production standards
- Must complete training on Hazardous Waste Management practices.

Reviewed By:		Date:	
Approved By:		Date:	
Last Updated By:	Corey Dehmey	Date:	January 2014

Approvals: Management retains the discretion to add or change job duties at any time.

AERC RECYCLING SOLUTIONS

SCHEDULE A

Job Title :	**Battery Technician**		
Department/Group:	37 – Batteries	**Job Category:**	Non- Exempt/ Hourly
Location:	All Locations	**Position Type:**	Full Time
Supervisor:	Shift Supervisor		

General Summary:

Under direction of Shift Supervisor or Warehouse Supervisor Operations, consolidate batteries and computer scrap materials for shipment to recycling facilities. Additional duties include material handling, hazardous waste handling, and equipment operation, working within company safety/environmental policies and procedures.

Essential Functions: Essential functions of position include, but are not limited to:

1. Train to conduct chemical compatibility checks on materials for consolidation.
2. Assist with QC'ing of all incoming batteries.
3. Unpack and weigh incoming materials.
4. Sort and segregate batteries from incoming shipments into appropriate categories
5. Track inbound and outbound materials, maintain accurate inventory of materials waiting processing and shipment.
6. Learn Enviroware system to properly scan material.
7. Prepare outgoing battery shipments.
8. Place hazardous waste into appropriate containers and close.
9. Place dates on hazardous waste containers once container is full.
10. Complete and affix hazardous waste labels to appropriate hazardous waste storage containers.
11. Move hazardous waste containers within the facility using proper equipment.
12. Place hazardous waste containers into designated storage areas.
13. Document appropriate operation in logs.
14. Cross train with lamp technician and fill in when company needs assistance in department.
15. Reliable, regular attendance/punctuality required to meet business needs.

NON-ESSENTIAL FUNCTIONS:

1. Maintain production area in a neat, organized and orderly appearance.
2. Perform other functions that may be assigned

Working Conditions:

- Medium to heavy working conditions, with possible exposure to various weather conditions
- Ability to lift 50 pounds minimum on regular basis
- Ability to use personal protective equipment, including, but not limited to: hardhat, goggles, and respirator
- Ability to climb stairs and stand for 8 hours/day
- Ability to work overtime hours.

AERC RECYCLING SOLUTIONS

SCHEDULE A

Background Requirements:
• High School Diploma or equivalent. • Forklift experience required • Good verbal and written communication skills • Ability to follow verbal and written instructions • Chemical compatibility experience a plus
Training:
• Must complete 24-hour Orientation • Specific on-the-job training towards meeting established production goals

Reviewed By:		Date:	
Approved By:	Nancy Vanderhoof	Date:	7/7/15
Last Updated By:	Fred Weisenberger	Date/Time:	7/7/15

Approvals: Management retains the discretion to add or change job duties at any time.

AERC RECYCLING SOLUTIONS

Schedule A

Job Title :	**Shift Supervisor – All Shifts**		
Department/Group:	20 – Production	**Job Category:**	Non- Exempt/ Hourly
Location:	All Locations	**Position Type:**	Full Time
Supervisor:	Operations Manager		

General Summary:

Maintain responsibility for overall shift operations, production performance, equipment maintenance and cleanliness, regulatory compliance, and hazardous waste practices.

Essential Functions: Essential functions of position include, but are not limited to:

1. First line responsibility for all activities on the operations floor during the shift.
2. Supervise operations personnel in accordance with operations plan, health and safety plan, work rules, monitoring and testing requirements.
3. Assign tasks and direct workers
4. Ensure legal compliance of all activities and storage of materials.
5. Oversee work practices for employee safety and environmental protection
6. Communicate with other supervisors and managers all pertinent information in a timely manner
7. Ensure maintenance and safety of all equipment operation to prevent damage to equipment or facility
8. Ensure all operating rules are followed by shift employees.
9. Perform/maintain daily and weekly inspection reports, associated records.
10. Ensure hazardous waste containers are stored so they may be inspected for integrity and markings.
11. Ensure hazardous waste is stored correctly (lids closed, labeled, and stored in proper location).
12. Manage and schedule manpower to assure timely production and reduction of unnecessary overtime
13. Assist in training and development of operations personnel.
14. Maintain operational/safety supply inventory.
15. Communicate to management: facility needs, difficulties, changes in operations.
16. Reliable, regular attendance/punctuality required to meet business need.
17. Assure compliance with all applicable regulations related to storage (i.e., drum count, aisle space, labels, etc.)
18. Learn the Enviroware system to properly scan materials
19. Keep warehouse in compliance and maintain facility hygiene.

NON-ESSENTIAL FUNCTIONS:

1. Maintain cleanliness of equipment and overall housekeeping in and around the facility.
2. Perform other functions that may be assigned.

AERC RECYCLING SOLUTIONS

Schedule A

Working Conditions:
• Fast-paced environment; busy telephones. • Sitting, speaking on phone for extended periods of time.
Background Requirements:
• Must have retort knowledge • Attendance record and work history will be given strong consideration • Flexibility required – may have to extend work hours or cover other shifts • May be called in during off hours • HS diploma or equivalent required • Min. 6 months production experience and plant health and safety awareness/knowledge required • Strong written and verbal communications skills • Good mechanical ability a plus • Must meet all Recycling Technician criteria
Training:
• All recycling tech training • Permit Training • HM-126 – Full training

Reviewed By:			
Approved By:	Nancy Vanderhoof		7/7/15
Last Updated By:			

Approvals: Management retains the discretion to add or change job duties at any time.

AERC RECYCLING SOLUTIONS

SCHEDULE A

Job Title :	**Driver/Field Service Representative**		
Department/Group:	25 - Transportation	**Job Category:**	Non-Exempt/ Hourly
Location:	All Locations	**Position Type:**	Full Time
Supervisor:	Regional Service Coordinator		

General Summary:

Under direction of the Regional Service Coordinator, provide packaging guidance and waste transportation services for local customers.

Essential Functions: Essential functions of position include, but are not limited to:

1. Provide direct communication with customers, when conducting waste pickups, regarding company services and requirements
2. At customer sites, assure safe packaging of lamps, batteries, e-scrap and other wastes for shipment
3. Transport lamps/waste to AERC facility or approved AERC facilities
4. Unload shipments at facility
5. Assist in waste processing in the plant as needed
6. Assume responsibility for coordination and distribution of packaging supplies
7. Assist in scheduling of customer waste pickups
8. Deliver recyclable co-products to recycling facilities or approved AERC facilities
9. Assist with pickup of parts and supplies as needed
10. Coordinate completion of preventive maintenance on vehicle(s)
11. Assist in assuring proper permitting, registration, vehicle inspections, completed reports as required by DOT
12. Assume responsibility for cleanup of any spills, and coordination of emergency response activities during transit of wastes
13. Assist with QC and completion of BOL's manifests, labeling and any other compliance paperwork required by AERC, state and federal agencies (EPA or local regulators)
14. Reliable, regular attendance and punctuality required to meet customer/ business needs.

ESSENTIAL WAREHOUSING FUNCTIONS: include, but are not limited to:

1. Coordinate all shipping and receiving activity at this location
2. Complete receiving tickets for all incoming material, initiating the tracking process
3. Inspect all materials for conformance to approval codes. Note any discrepancies and segregate off-spec material until authorization has been given to either process or reject
4. Assign and move materials to appropriate storage area, assuring compliance with all applicable regulations related to storage (i.e., drum count, aisle space, labels, etc.)
5. Assure storage of end products in their appropriate areas.
6. Coordinate the shipment of products, end products, boxes, drums, plant scraps, etc. Complete associated paperwork and label each container or pallet

AERC RECYCLING SOLUTIONS

SCHEDULE A

Working Conditions:

- Medium to heavy working conditions with exposure to various weather conditions
- Possibility of exposure to mercury and/or chemicals
- Must be able to climb stand for 8 hours/day
- Must be able to work overtime as needed
- Some overnight travel may be required
- Must be able to lift 50-60 pound containers and be able to use personal protective equipment (tyveks, respirator, safety glasses, etc.) on a regular basis
- Pallet Jack – must be able to maneuver a pallet weighing 1,000 lbs.
- Drum Truck – must be able to maneuver a drum weighing 800 lbs.

Background Requirements:

- High school diploma, GED, or equivalent work experience required
- Good mechanical ability
- Valid driver's license Non-CDL or Class B, A (CDL)
- Familiarity with storage, packaging, transportation laws and guidelines a plus
- Must be forklift certified and familiar with plant safety procedures
- Previous shipping/receiving experience will be given preference
- Good verbal communication skills, English fluency required for communication with external and internal customers, and for completion of associated paperwork

Training:

- Must complete 24-hour Orientation
- Specific on-the-job training to meet established production standards
- Must complete training on Hazardous Waste Management practices and basic permit compliance
- Driver qualifications requirements under CFR 49 Part 391
- Be familiar with AERC Driver and Facility Security
- A valid Medical Examiner's Certificate Card required

Reviewed By:		Date:	
Approved By:	Nancy C. Vanderhoof	06-2015	Human Resources Director
Last Updated By:	Mark Kasper	Date	COO

Approvals: Management retains the discretion to add or change job duties at any time.

ATTACHMENT 10
ITEM D.8
Quality Control Plan

Quality Control Plan – Melbourne, FL	**Document #:**	**Revision Date:** 04/21/16	AERC RECYCLING SOLUTIONS
04 – AERC – Melbourne, FL	**Department:** Regulatory Affairs	**Revision #:** A	Page 1 of 19

D. 8. Quality Control Plan

1. Applicability and Intent

a. This plan is intended to conform to 62-737.800(e) F.A.C. It begins with an overview of the Quality Assurance Plan. Total Quality Management includes more than the process efficiencies and materials testing covered in the Quality Assurance Plan. In order to demonstrate how the recovery and reclamation, and health and safety, emergency control and hygiene objectives are met, the plan is further separated into the following categories:

- Operations and Hygiene, Including Security, Preparedness and Hazard Prevention
- Container Management System
- Plant Configuration
- Air Monitoring

Quality Assurance

All materials will be received according to appropriate state or federal policy or regulation. There are differences between states' and federal policies and regulations with respect to the designation of some wastes as hazardous or non-hazardous, transportation and manifest requirements, etc. Some materials may arrive at the facility on a Hazardous Waste Manifest (Manifest) and some on a standard Bill of Lading (BOL) due to differences in policy interpretation and regulation. Some material may arrive on a BOL, and be shipped out on a Manifest due to other states' requirements. Other Quality Assurance Program elements include the use of control measures, operating checks, monitoring procedures, and record keeping to insure systems are performing as intended and that performance criteria are met. A summary of these items is provided in D.12, the Inspection Plan.

2. Description of Facility

AERC operates an integrated waste recycling facility located in West Melbourne Florida. The facility uses patented and proprietary processes to recover mercury lamp components and mercury containing devices, to remove for recycling metallic mercury from components and wastes, and to clean, purify and separate the hazardous and non-hazardous coproducts, and return the base materials to a usable form. The goal is to recover as many of the waste components as possible. Mercury-containing wastes created through the facility's recovery processes are shipped off-site for reclamation to a permitted TSDR facility (such as the permitted AERC facility located in Allentown, PA).

2. A. Quality Assurance- Process and Coproduct Testing

The West Melbourne facility and AERC's other U.S. facilities continue to perform and accumulate sampling data for mercury concentrations on processed lamp components. The sampling data is maintained at the West Melbourne facility and can be reviewed upon

request. Testing is done by independent laboratories using state (per 62-160.500) and federal (SW 846) approved sampling and testing methods for these materials. These data are consistent with the results achieved by the company at all its locations in the U.S.

2. A. Quality Assurance- Process and Coproduct Testing (cont.)

The company's history of operating these type of recycling systems will mean that not only will the Florida performance standards be met, but all other State's and federal treatment requirements for this type of waste are achieved. We are informed by the commercial testing laboratories we use that the analyses performed on waste and process materials will meet the Quality Assurance requirements of Rule 62-160 F.A.C. The facility maintains records of operations and test data for a period of at least three (3) years in accordance with 62-160.600. This is proprietary and confidential information but can be made available to regulatory agencies if needed.

AERC will operate as a 90-day generator for any hazardous wastes and coproducts. The company will follow all generator requirements in 40 CFR 262, including training, manifesting, and record keeping, and reporting requirements.

(CONTINUED ON NEXT PAGE)

Quality Control Plan – Melbourne, FL	**Document #:**	**Revision Date:** 04/21/16	AERC RECYCLING SOLUTIONS
04 – AERC – Melbourne, FL	**Department:** Regulatory Affairs	**Revision #:** A	Page 3 of 19

Categories of material

Table 2.A. outlines the expected levels of mercury in the materials processed at the facility, the types of testing and criteria used for hazardous/non-hazardous determination on wastes and process materials generated by AERC and their treatment, disposal or recycling options.

Table 2.A.
Materials and Process Recovery Rates

Categories of Materials Introduced into Processes	Components in Materials and Composition	Range of Mercury Concentration and Quantitative Limits	Effective Recovery Rate and Final Destination
1. Fluorescent and Mercury Lighting Devices	Whole Lamps	Mercury ranges from 10 ppm to over 250 ppm in standard fluorescent lamps, and up to several grams per lamp for many HID lamps. In fluorescent lamps mercury is mixed with powder and in HID lamps it is contained in separate capsules. Test methods do not make it possible to determine exact concentration, (mg/kg) without first removing these capsules.	Materials are processed into separate components as described below.
	Aluminum end-caps, metal filaments, harnesses and other metal parts	Processed end products range from non-detect to a few ppm. AERC maintains analytical data on coproduct testing at each of its facilities, available for agency review upon request.	Post processing tests to determine <0.2 mg/1 TCLP for Hg and ≤1ppm for 12 week ave. and ≤3ppm for weekly composite. Recycling or Disposal
	Glass	Glass cullet ranges from non-detect to a few ppm. AERC maintains analytical data on coproduct testing at each of its facilities, available for agency review upon request.	Post processing tests to determine < 0.2 mg/1 TCLP for Hg and ≤1ppm for 12 week ave. and ≤3ppm for weekly composite Recycling or Disposal

Quality Control Plan – Melbourne, FL	**Document #:**	**Revision Date:** 04/21/16	AERC RECYCLING SOLUTIONS
04 – AERC – Melbourne, FL	**Department:** Regulatory Affairs	**Revision #:** A	Page 4 of 19

Table 2.A. (cont.)
Materials and Process Recovery Rates

	Phosphor Powder	Untreated powder contains varying amounts of Mercury depending on manufacturer, age of lamp, and the fact that dosing lamps at manufacture is imprecise. AERC maintains analytical data on coproduct testing at each of its facilities, available for agency review upon request.	Powder containing mercury is shipped off-site to an authorized retort facility for mercury reclamation. Post processing tests are conducted by the retort facility to determine < 0.2 mg/1 TCLP for Hg and 99% Hg recovery.
2. Mercury-Containing Devices	Whole Devices	Untreated devices contain a wide range of mercury, from a few ppm in some to several ounces or even pounds in others. There is no way of determining exact concentration before the device is disassembled.	Devices are mechanically or manually taken apart, non-mercury portions removed and mercury components are shipped off-site to an authorized retort facility for further processing and reclamation. Processed materials are tested by the retort facility to determine < 0.2 mg/1 TCLP for Hg and 99% Hg recovery.
	Processed devices and component materials, such as casings, piping, non-metal parts, etc.	End Products range from non-detect to a few ppm. AERC maintains analytical data on coproduct testing at each of its facilities, available for agency review upon request.	Processed materials are tested to determine < 0.2 mg/1 TCLP for Hg and 99% Hg recovery. Recycling, Retort or RCRA Off-Site Treatment
3. Non-Specific Mercury Bearing Wastes, including process and pollution abatement materials generated from internal processes.	Activated Carbon or other spent filter media	Pre-treated filter media collects mercury from air in varying concentrations, from a few ppm to several thousand ppm.	Material tested to determine < 0.2 mg/1 TCLP for Hg RCRA Off-Site Treatment: Retort, Recycling, Disposal.

Quality Control Plan – Melbourne, FL	**Document #:**	**Revision Date:** 04/21/16	AERC RECYCLING SOLUTIONS
04 – AERC – Melbourne, FL	**Department:** Regulatory Affairs	**Revision #:** A	Page 5 of 19

Table 2.A. (cont.)
Materials and Process Recovery Rates

	Plant Scraps; Gloves, Tyveks, Booties, etc.	Pre-treated materials can range from non-detect to a few ppm. AERC maintains analytical data on coproduct testing at each of its facilities, available for agency review upon request.	RCRA Off-Site Treatment at an authorized RCRA TSD Facility, Retort Facility or Recycler.
	Cardboard boxes	Containers are visually inspected and any phosphor powder is swept or vacuumed.	Recycling
	Process and cleaning liquids	Pre-treated materials can range from a few ppm to >260 ppm.	Authorized RCRA Off-Site Treatment, Retort Facility or Recycler.
Metallic Mercury	Elemental mercury received from generators	Mercury, contaminated with various impurities. May also be commodity grade, which is approximately 99% pure.	Resell commodity grade Hg or ship off-site to an authorized Retort Facility or Recycler.

AERC can send hazardous plant scraps and other mercury-containing wastes to commercial licensed facilities, including AERC in Allentown, PA for mercury reclamation. AERC's goal is to recycle all hazardous waste material generated. Non-hazardous process materials are recycled locally or through the company's affiliation with manufacturing firms nationally. AERC has also instituted an office recycling program, which includes mixed ledger, beverage containers, newspapers, and corrugated cardboard.

2. B. Processes Defined for West Melbourne Facility

The Facility receives materials from numerous private and public sources. Generators include institutions, hospitals, schools laboratories, manufacturing operations, electrical maintenance companies; both large and small businesses. Materials received are solid materials such as fluorescent lamps, other mercury containing lighting devices, regulators, switches, thermometers, process wastes and coproducts, wash waters, soil and debris containing mercury.

The facility is integrated so that materials entering any one process are separated into various coproducts, which can then be processed and reclaimed using one or more of the other processes at the facility, or at another facility operated by the company. Process capacities for all categories are found in Section D.3. Of this document and the operating parameters are found in Section D.5. A general process overview follows:

Category 1 Mercury containing lighting devices (lamps) recycling:

This process involves the physical demanufacturing (crushing or separation) of mercury-containing lighting devices. In this process lamps are separated into their components of glass, metals, phosphor powders and mercury, which is contained in the powders. The glass and metal components are segregated from the others, rendered non-hazardous for the mercury characteristic, recovered and resold or recycled as product. The mercury-contaminated phosphor powder is accumulated in 55-gallon steel drums and shipped off-site to an authorized Retort facility for reclamation of the mercury. The retort facility performs testing to ensure that the retorted powder has TCLP values <0.2 mg/l and 99% Hg recovery.

Category 2 High Intensity Discharge Lamps:

HID lamps are manually disassembled under a hooded area with excess airflow to an air filtration system. Operators segregate various lamp parts based on recyclability. Inner lamp capsules containing mercury are also separated from the rest of the HID lamp. Capsules are accumulated in 55-gallon steel drums and shipped off-site to an authorized Retort facility for reclamation of the mercury. The retort facility performs testing to ensure that the retorted powder has TCLP values <0.2 mg/l and 99% Hg recovery.

Category 3. Mercury Containing Devices:

Mercury containing devices, such as electronic switches, thermometers, regulators, barometers, arc tubes, and various other objects which have mercury associated with them, are prepared for off-site mercury retorting in several different ways. Some objects are repackaged or disassembled; some have rubber and plastic components removed. Others are manually broken into smaller pieces, or separated into batches for processing. In all cases this processing is done in an area with air collection and filtration systems.

2. C. Sampling to Determine Effectiveness- Grab and Composite Sample Analyses from the West Melbourne Facility

Incoming materials all have some level of mercury in them. This is discussed in Table 2.A. and analytical data from random testing thousands of samples at several locations in the U.S. and from information provided by generators is available at the company facilities. Exact concentration of mercury intrinsic in incoming materials is not routinely tested, as it would be an impractical exercise, unnecessary expense and the data would not affect the quality of the

material processed, the system used, or the end results. Processed materials are tested using both the TCLP and Total Mercury analyses. The methods used are as follows:

A. Chain of Custody Record
B. Sampling Equipment
C. Sample Containers
D. Sampling Equipment and Container Decontamination (Cleaning)
E. Sampling Methodology

The general sampling methods are:

Recovery of processed glass, end-caps, devices and metallic components-

A separate minimum 8 oz. sample is taken daily from point of generation for each waste stream. The sample is taken using stainless steel collection tool or equivalent device. This sample is stored in a container and is combined with other daily samples to make a weekly composite. Weekly, a measured sample is taken from the weekly composite sample, and sent to a commercial laboratory for total mercury analysis. A standard chain of custody form is used by all parties handling and testing the samples.

Sampling logs are maintained at the facility, with appropriate signatures, times and locations indicated.

Samples from recent processing activity at the facility were sent to different commercial laboratories for testing. For easier understanding of the sampling data, the following abbreviations are used:

CGS- Processed glass sample.
ECS- End-cap sample.
HB- HID base sample.

Records of actual processed material sample analyses are maintained at the facility and are available to the DEP upon request.

TESTING LABORATORIES UTILIZED BY THE COMPANY-
Each of these laboratories has been approved by the company and copies of the individual QA/QC plans can be made available upon request.

West Melbourne, FL: Lab Central Inc./US Bio Systems
2752 Cypress Head Trail
Oviedo, FL 32765
407-977-3998
ComQAP 980126

Accutest Laboratories Southeast, Inc.
405 Vineland Road, Suite C-15
Orlando, FL 32811
407-425-6700
CompQAP 940304G/5

2.D. QA Plan for Each Category and Process

Performance Standards

The State of Florida imposes specific performance criteria on recovery activities. The criteria are found in Florida Administrative Code Rule §62-737.800 *et seq*. Specifically, for mercury recovery operations the residual mercury levels are established at 3 ppm for weekly composite testing and 1 ppm of average mercury during each consecutive 12 week period (§62-737.840). .

The company will continue to test all processed materials and components of lamps devices etc. to determine that anything recovered is free from hazardous levels of mercury, and that any hazardous materials are shipped either to a licensed treatment facility, disposal facility, or retort facility, or directly to another party who can use the material directly.

Operations and Hygiene

The following is a description of the Technical Operational, and Industrial Hygiene procedures employed by AERC to recover the various components of fluorescent and mercury lamps and devices to protect our employees, the community and the environment.

RECEIVING PROCEDURES

All incoming loads are subject to strict quality control (QC) procedures to ensure the load meets the AERC waste acceptance plan. Prior to shipment, customers inform AERC operational staff as to the nature and volume of the shipment. The load is then issued an AERC order / authorization number, which acts to track the load through the AERC recycling system.

Once the shipment arrives at the AERC facility, the incoming material is inspected for the following:

- Proper packaging
- Leaks or discharge
- Quantity discrepancies
- Paperwork completion and accuracy

All incoming material is unloaded and a piece count is made and notes, along with date is made on the AERC receiving ticket(s). AERC also applies barcode tracking labels to non-lamp containers. Fluorescent lamps are moved to the work platform for processing. Contaminated cardboard is segregated and containerized for decontamination and recycling by end of shift. HID lamps are moved to the airflow system for disassembly. MCDs are moved to the designated storage area for segregation and / or repackaging / disassembly.

AERC also offers a RecycleKits option which is our Pre-Paid Recycling Program (PPRP). These kits are sent to AERC via Fed Ex or other common carriers. Once received the PPRP Kits are inspected, labeled with barcode tracking label, added to inventory and stored for processing.

LAMP PROCESSING PROCEDURES

Pallets of intact lamps are immediately fed into the processing equipment by process technicians. Based on their job assignment, the technicians wear appropriate personal protective equipment (PPE), which could include: cotton work uniform, steel-toed boots, Tyvek coveralls, face shield and safety glasses, hearing protection, nitrile and cotton/leather gloves.

Lamp components are separated in the process equipment. Process technicians monitor glass, end caps, and powder flow, and perform visual spot checks on these materials to ensure equipment is functioning properly.

Samples of each coproduct are collected and consolidated. A grab sample of both glass and end caps is collected every shift of production and made into a composite sample. Composites are sent to a certified off-site laboratory every week. Samples are numbered and documented in an analytical log prior to being sent off-site. Analysis includes total mercury and TCLP for mercury. Production co-products are stored on-site until sufficient volumes are accumulated for shipment to recyclers and until analytical results are obtained. No coproducts have failed TCLP at AERC's Florida facility.

At the end of each day's production, the equipment and the floor is cleaned. Both hazardous and non-hazardous wastes are generated on site as a result of daily operating procedures and recycling processes. Hazardous waste is shipped off-site on a hazardous waste manifest for treatment or retorting at an authorized RCRA TSD treatment facility of retort facility.

VACUUM / AIR CLEANSING SYSTEM

This system provides the airflow and filtration needed by the crushing and separation systems to remove and isolate small size particulates and mercury from the other lamp components and provide the negative pressure to assure there are no dust of mercury emissions into the workplace. The system operates with high flow air movement and a series of various size particulate filters along with treated carbon for mercury removal.

HEALTH AND SAFETY

AERC considers the health and physical well-being of its employees to be the most important factor in its approach to production. All employees received pre-employment physicals to both verify ability to perform job function and establish base lines to which future testing can be compared. Any person leaving AERC employment receives an exit physical. Operations personnel receive annual physicals and quarterly blood and urine heavy metals screening, which is conducted by independent labs. The frequency of testing

is designed to catch any potential exposures before they can become a long-term health hazard.

Production workers are required to wear the proper PPE and disciplinary action is taken against any employee violating AERC's health and safety policy. Visitors are also required to follow AERC's safety policy, and to wear safety glasses, and shoe covers when touring the process area.

SECURITY

The AERC facility can be operated up to 24 hours per day. During operating hours, there are several employees working in the office/administrative area, and in the process/operations areas. AERC will prevent the unknowing entry and minimize the possibility for the unauthorized entry into the active portion of the facility. The offices and facility are located on Fortune Place, with normal first shift operating hours from 7:00 a.m. to 3:30 p.m. Second shift operates between 3:00 p.m. and 7:30 a.m. Sunday night through Friday night. Normal office operating hours are 8:30 a.m. to 5:00 p.m., Monday through Friday.

The building is not open to the public, and any visits by customers, regulators, or other persons must be accompanied by company employees. Because all activities are conducted inside a single building, there is no unauthorized entry by anyone that would go unchallenged by company employees. Entrances to the facility are locked after hours and may only be accessed by AERC personnel.

Inside the process operations areas there are doors and walls, which separate the active portion of the facility from other areas. In some locations there are "clean-room/dirty-room" areas for employees and visitors to don and doff protective clothing and personal hygiene.

The facility is posted with signs as follows:

- At access doors to the process area- "Danger-Unauthorized Personnel Keep Out"
- Inside the storage and process areas- "Danger-Hazardous Materials Storage Area," and "Caution-Hazardous Waste Storage Area- Unauthorized Personnel Keep Out".

  The legend of the warning signs is printed in English and is legible from a distance of at least twenty-five (25) feet.

PREPAREDNESS AND PREVENTION

(The AERC Contingency Plan is included in Section D. 6.)

The facility has been designed and constructed to minimize the possibility of fire, explosion, or any unplanned release of hazardous materials or hazardous materials

constituents that could threaten human health or the environment. Internal communications such as a telephone and walkie-talkies have been installed for the purpose of alerting personnel in the event of an incident. There is also an intercom system to supplement the existing emergency communication devices.

Emergency response phone numbers are placed near telephones at the facility in the event the local police, fire, or state departments have to be notified. Portable fire extinguishers are located in designated areas. Additional emergency response equipment such as spill kits and assorted hand held tools (i.e. shovels, brooms) are located in the storage area.

PREPAREDNESS AND PREVENTION (cont.)

The emergency equipment is inspected on a monthly basis by the AERC personnel and is documented on the Monthly Inspection Log. This report is used to indicate that supplies are adequate and equipment has been determined to be in working order. The types of materials and equipment inspected for this report include the following:

- Fire protection equipment
- Personnel protective apparel
- Spill clean-up materiel (vermiculite, pads, booms, lime)
- General housekeeping

- Presently, AERC has the appropriate arrangements with the local authorities as outlined in the facility Contingency Plan, including the police and fire departments. These arrangements are kept on file at the Fortune Place facility.
- The local fire department will be requested to participate in drills and inspect the facility on an annual basis. In the event these arrangements cannot be made, AERC will document the refusal or declination of the respective departments.

HAZARD PREVENTION

In order to insure worker safety and compliance with OSHA regulations, AERC has periodic safety meetings. These meetings can cover any safety or health related topic affecting the operations and employees and the group works with facility management to insure that corrections and improvements are implemented. AERC also performs daily monitoring of mercury vapor. Material handling is not exposed to weather conditions. Hazardous containers are kept indoors in the processing area in covered boxes. Non-hazardous material may be stored outside in covered containers.

Personnel are required to wear their supplied work uniforms while on duty. Personnel are required to shower at the end of each day. The uniforms are then collected and sent off site to be laundered. In addition to the uniforms, all material handlers are trained in the use of personal protective clothing, respiratory protection, and air monitoring requirements in order to reduce exposure to hazardous waste.

AERC employs a "non-smoking" policy throughout the company. Personnel, visitors, or contractor are not permitted to smoke in the building.

Containers are stored and managed at the facility to prevent the following hazards or releases from occurring.

- Generation of extreme heat or pressure, fire or explosion, or reaction
- Production of toxic dust in quantities that may threaten human health or the environment
- Production of flammable vapors or gasses in quantities that pose a risk of fire or explosion
- Damage to the structural integrity of the containers
- Threat to human health or the environment

4. Container Management System

AERC receives and uses containers of many types, ranging from small to large boxes, and poly and metal drums of up to 55 gallons. In some cases the containers may be packed in 85-110 gallon over pack-type drums. These containers are shipped by the waste generators, and some of the materials received in containers are not regulated by USDOT. Examples include lamps or objects with low levels of mercury that are shipped in cardboard or wooden boxes. The containers used for regulated quantities of hazardous materials meet the USDOT requirements for the material they contain. (AERC incorporates the requirements found in 40 CFR §173, 178 and 179 pertaining to the specifications of containers.) While this is not a complete listing, additional examples include:

1) Cardboard Boxes
2) Wooden Boxes/Crates (15-A type)
3) Steel Drums (17-H, 17-C, 17-E)
4) Poly or Plastic Drums/Buckets (21-C, 6-D)
5) Fiber Drums and Boxes (21-C, 12-A, 12-B)

All containers meet USDOT requirements or are UN approved and tested meeting the approved specifications for wastes contained therein. Since many wastes received are lab-packs, all non-bulk, DOT, UN approved specification containers may be received from sizes ranging from 1-gallon capacity through 55 gallon to pallet-sized boxes. All DOT non-bulk specification container numbers are acceptable.

Materials of Construction

The containers used for solids materials storage and processing are made of materials, which are compatible with and will not react with the wastes they contain. In no case is the container's ability to contain the waste impaired.

Container Management Practices

In order to ensure container integrity and to protect human health and the environment, the following container management procedures will be employed:

AERC and its customers use both Certified Hazardous Waste Transporters and common carriers for lamps and non-regulated Mercury Containing Devices. AERC also utilizes its own transportation vehicle within the state to transport universal waste lamps, devices, batteries and electronic scrap. Materials from other transporters will be subject to the same quality control procedures performed by the company as outlined herein.

At the generator's site, each container is inspected by the generator, making certain there are no leaks, ruptures, or other defects, which detract from the ability of the container to hold its contents. The containers will be further checked to ensure proper closure and compatibility of container construction materials with the waste. If a container holding hazardous waste is not in good condition or if it begins to leak, it will be transferred from the defective container to a container that is in good condition, over pack the defective container, or manage the waste in some other way that complies with the regulations.

4. Container Management System (cont.)

At the facility-

AERC receives and temporarily stores lamps and all other materials in several types of boxes and containers. During processing, various lamp components, process materials and coproducts are contained and stored in any one of the containers discussed herein. Upon arrival at the AERC facility, each container will again be inspected to ensure container integrity. This inspection will be performed by site personnel, who will also check to ensure the containers have been properly labeled and listed on the manifest or Bill of Lading documents. If a container is not in good condition, or if it begins to leak, facility personnel will transfer the material from the defective container to a container that is in good condition, over pack the defective container, or manage the material in some other way that complies with the regulations.

All containers holding hazardous wastes are kept closed during storage, except when it is necessary to add or remove waste or perform a corrective action. Containers are not opened or handled in such a manner which may rupture or cause a leak. Containers are properly labeled for the material which they contain.

Material handling will be performed either manually or with the use of a drum dolly, pallet jack, or forklift, depending on the container size and weight. All personnel involved with waste handling at the facility will be trained in proper waste handling procedures.

Facility personnel will inspect areas where containers are stored on a daily basis. The inspections will be recorded on the appropriate inspection form and the following noted:

--lamp breakage
--leaks or deterioration of containers caused by corrosion or other factors
--open containers

--swollen or bulged containers
--unidentified containers
--spills in containment systems
--cracks, gaps, or corrosion of containment areas

Remedial or corrective actions as well as any notifications made, if required, will also be noted. Remedial or corrective actions include, but are not limited to:

--transferring material to another like container
--over packing the leaking or corroded container into a larger container
--cleanup of spills using sweeping or vacuuming equipment, absorbents, pads, etc.
--closing the container
--properly identifying and/or labeling the container
--remediating any spilled material
--sealing cracks, gaps, or repairing corroded areas.

Container Storage Areas and Secondary Containment

AERC provides secondary containment for all liquid materials in storage or processing inside the facility.

Secondary Containment

Mercury containing lighting devices are enclosed lamps and therefore, intrinsically, they are containers of mercury and other potentially hazardous constituents. Lamps are received and stored in boxes, drums, bins, totes or other containers to hold them prior to processing. These containers could be considered "primary containment". Additionally, the concrete floor of the facility serves as secondary containment for any glass or other lamp breakage in the building. Upon arrival, lamp containers are restacked, stretch-wrapped, if necessary, and placed on pallets. Pallets and containers are stored in rows with adequate aisle space for access and cleaning. All boxes and other containers are inspected for breakage and spillage when they are unloaded and any spillage is cleaned up immediately.

Spill kits are maintained at the facility, including absorbent and neutralizer material for corrosives, and salvage drums (85 gallon over pack drums) are used to re-containerize any liquid containers which may be leaking. In the case where multiple containers are stored on one pallet, each pallet is shrink-wrapped to prevent individual containers from tipping or falling off the pallet.

Additionally, the entire plant floor is inspected throughout the course of each operating day and any breakage is swept and cleaned as soon as it is detected. The company uses specially designed filtered vacuum systems for the clean-up of any broken glass and phosphor powder throughout the facility.

As described above, the other storage areas of the facility use some form of commercially available secondary containment tray, pan, containment pallet or similar device. We have

included literature from a manufacturer of these devices, including a chemical compatibility guide, to exemplify the secondary containment throughout the facility.

No standing liquids

There are no standing liquids, run-on or run-off at the facility because everything is contained inside the building. As such there are no drainage areas, sumps or collection systems, other than the container and the secondary containment system themselves. The capacity of each containment system, e.g. floor, poly-spill pallets, or trays, is such that they will contain 100% of the volume of the largest single container, or 10% of the volume of all the containers. These are all inspected daily by facility employees. If any liquids are present they are removed immediately.

Containment Capacity

As stated above, all liquids are stored inside secondary containment devices which can contain >100% of the largest container or >10% of all the containers. This is also true for non-liquids. There is a secondary containment area walled under and around the oil heating unit located outside the rear of the building.

Container Storage Areas and Secondary Containment, Containment Capacity (cont.)

For the dry solid objects and materials, the floor and walls of the building serve as secondary containment. The usable portion of the building floor surface is approximately 10,000 square feet. Non-hazardous process materials may be stored outside the building in the truck dock and parking areas, which comprise approximately 24,000 square feet.

The capacities of the storage areas vary depending on the materials being stored. Volumes of materials in temporary storage are all stated in "drum or pallet equivalents", because of the differing size, shape and composition of the wastes. So, while each storage area has different capacity for different material, the combined storage areas can accommodate the total "drum equivalent" volume stated in Section D. 3. and D. 4.

Container storage configuration-

A floor plan of the facility, showing all container storage areas is provided as Figure D.2.-2. Aisles are generally comprised of rows of drums or drum equivalents, 2 to 4 drums wide (approx. 4ft) by the length of the storage area, by one or two drums high (less than 9 feet). There is adequate aisle space and room to inspect any container. Additionally, AERC may store recycled materials which are non-hazardous, e.g., glass and metallic parts of lamps, in enclosed containers or trailers outside the building.

Weighing or measuring facilities-

The AERC facility is not required to have weighing facilities, because all wastes are delivered by pre-arrangement only. All loads are visually inspected and volumes are compared to the manifest or other shipping documents. Lamps are recounted upon arrival at the time of processing.

5. Plant Configuration

All materials inside the facility are stored in aisles with adequate aisle space. Drums and boxes are stored on pallets, either singly or doubly stacked, so that the maximum height of 12 feet is not exceeded. Cartons, boxes or other wooden containers of lamps are stored in a similar fashion.

Separated by a concrete block and poly-curtain wall, adjacent to the plant processing area is a workshop/maintenance area where spare parts are stored, equipment is machined, repaired or welded as needed.

FIRE SAFETY: The building has automatic fire sprinklers, and has fire extinguishers mounted on the wall in seven locations in the facility. There is also adequate aisle space maintained on each side of the facility, and between all rows of stored materials. Figure D.6.-1 indicates exit doors and the locations of extinguishers. Medical, ambulance or other emergency services can be reached by dialing 911. Telephones are also located at various places in the operation; in the office, conference room, operations office, maintenance area, shipping area, laboratory, etc., and there is a Public Announcement type intercom system accessible through the telephones from the front office to the operations areas.

5. Plant Configuration (cont.)

STORAGE OF MATERIALS: The following storage procedures are followed for the temporary storage of crushed glass and hazardous waste. Similar handling and storage methods will be used on the phosphor powder containing mercury. Unprocessed phosphor powder still containing mercury is collected in sealed containers and labeled for storage prior to shipment off-site.

Storage will be in the general area but will be separate from the work area. The drums of powder are stored with their lids tightly bolted on, on pallets, single or double stacked, with adequate of aisle space.

Crushed Glass: Since the processed crushed glass and end-caps do not contain hazardous materials in excess of the TCLP limits, storage can be inside or outside the building in covered containers. Adequate precautions are taken to prevent any carryover during drum change out.

Lamp storage and treatment areas

Fluorescent lamps contain 25-150 mg of metallic mercury. They are not reactive, ignitable, or incompatible. The main exposure potential occurs when the lamps are broken in an uncontrolled manner or location. To minimize this potential exposure, AERC uses the following procedures:

Broken Lamp and Powder Clean-up Procedure-

Within 5 minutes from the time when lamps are discovered broken or powder is seen on the floor, clean-up shall be undertaken by plant operators as follows:

The operator shall collect any breakage, using a broom or dust mop and dustpan, or vacuum system, removing large pieces carefully. Large pieces of lamps should be collected and processed as soon as possible. Very small size breakage and powder residues should be vacuumed with the HEPA/Carbon filtered system in the plant. The area vacuumed should include at least 25 square feet around the area where the breakage occurred. This will vary with the type and location of the breakage.

Debris, used carbon, mop heads, and other material from the vacuum collection container should be placed in a drum for hazardous wastes, and stored in the plant for later processing or shipment to an approved disposal facility.

Powder from the lamp processing system which spills on the floor should be cleaned up by vacuuming, per the Operations Plan. Respirators with mercury filter cartridges must be used when cleaning any powder spills. Floor and flat surface areas are wiped and/or swept on a weekly basis, a mercury absorbing solution (a commercially available product such as HgX®) is used to wipe surfaces.

6. Air Monitoring

Air Emission and Process Controls-

The method used to detect any mercury emissions throughout the plant operations, including container areas where lamps are stored, equipment processing areas, or process air filtration exhaust are discussed here.

At periodic times during each operating shift measurements are taken using a Jerome Direct Reading Mercury Vapor Analyzer Model Number 431 (or equivalent). This instrument has a sensitivity of 0.001 mg/m3 (OSHA's PEL for mercury is 0.100 mg/m3). The locations sampled include administrative offices, storage areas, and predetermined locations throughout the process areas. During production, air monitoring are performed every two hours. Air sampling consists of 18 sampling points inside and outside the facility. 6 sampling locations are in the office areas, 2 outside the facility, with the rest in the production and warehouse area. During production, air monitoring includes additional sampling of the air filtration system to assure that is functioning properly.

Mercury concentrations are logged in the air monitoring log. The OSHA standard for indoor work place concentration of mercury is 0.100 mg/m^3. AERC has established its own action level at approximately one quarter of the OSHA PEL, or 0.025 mg/m^3. Whenever process vents or other ambient room air exceeds the action level AERC requires the use of carbon filtered, half-mask or full-face respirators by plant workers until the source of the mercury has been detected and mitigated. At this level, AERC workers upgrade their level of PPE and establish the source of mercury vapor in order to neutralize or eliminate it. AERC employees are trained to Level C protection which includes air-purifying respirators. The most common sources of elevated mercury concentration levels are boxes received with crushed lamps. If levels of mercury vapor exceed concentrations appropriate for Level C protection, operations are immediately halted and Onyx Environmental Services is called in for emergency response. Operations are not resumed until the AERC emergency coordinator determines that it is safe to do so as described in the AERC Contingency Plan.

Normal emissions from plant operations range from 0.000-0.024 mg/m^3. Our "action-level" is 0.025mg/m^3, or approximately one-quarter of the PEL. When there are any spikes, or localized mercury emissions that exceed the action level, the cause is found and appropriate remedial action is taken. Spikes tend to indicate excess lamp breakage in shipments, an equipment malfunction or system leak. Air filtration media is considered "saturated" and is replaced when mercury emissions reach one half of the PEL. Frequent testing in multiple locations, as outlined on AERC's *Air Monitoring Log* (sec. D.12), during all operations insures that any malfunctions are corrected promptly.

AERC has accumulated data, which includes equipment development and plant operations throughout the company, representing over 10,000 sampling events. A typical cross-section taken from this database indicates routine emissions are below OSHA's indoor PEL.

6. Air Monitoring (cont.)

AERC also has an extensive floor maintenance program to minimize potential contamination of the plant floor. Any areas potentially contaminated through lamp breakage are cleaned immediately upon breakage or daily. AERC also sweeps its plant floors weekly using a combination of a floor sweeping compound and mercury vapor absorbent/suppression liquid. In order to check the effectiveness of its floor maintenance program,

AERC also utilizes a Bootie policy to further minimize potential contamination. Any office staff or visitors to the facility must wear protective dust-resistant booties while inside the plant operating areas. Likewise, plant workers must don the booties when entering the office areas. All work clothing and boots remain at the facility.

In addition to monitoring personnel exposure, AERC has developed an extensive air filtration program to eliminate the potential environmental releases from its processes. The air filtration system is comprised of two sources of carbon filters and a series of monitoring locations to ensure that mercury is not released from the building. This system of checks has proven to be very successful.

Quality Control Plan – Melbourne, FL	**Document #:**	**Revision Date:** 04/21/16	AERC RECYCLING SOLUTIONS
04 – AERC – Melbourne, FL	**Department:** Regulatory Affairs	**Revision #:** A	Page 19 of 19

ATTACHMENT 10

EXHIBIT D.8.1

AERC Waste Profiles

AERC.com, Inc.
2591 Mitchell Ave
Allentown, PA 18103
610-797-7608 | Fax: 610-797-0938
www.aerc.com

AERC RECYCLING SOLUTIONS

Approval #:

(AERC Use Only)

AERC Profile for Recycling of Hazardous Waste

(Please type or print in ink)

Date Received:

Waste Name/Description:

Generator: ~~Universal Waste Batteries for Recycle~~ EPA ID #:

Shipping Address (Street, City, State, Zip):

Generator Contact: E-Mail Address:

Phone: Fax:

Billing Information (Company,Street, City, State, Zip):

Billing Contact: E-Mail Address:

Phone: Fax:

Process Generating Waste-Be Specific: ~~SPENT/OBSOLETE BATTERIES TAKEN OUT OF SERVICE | INCIDENTAL BREAKAGE~~

DOT/EPA Information

DOT Hazardous Material Basic Description: Specify the **Identification Number**, the **Proper Shipping Name**, the **Hazard Class** and the **Packing Group** | **ISHP**

RQ:	ERG#:	RCRA and/or State Waste Codes:	☐ N/A			

Physical Description of Waste:

Waste Material Characterization

Chemical Composition – Constituents: (Must Account for 100%)	Total % (Range)	TCLP (mg/L)	TCLP (mg/L)	Specific (PPM or mg/L)	Constituents
				Antimony	
				Arsenic	
				Barium	
				Beryllium	
				Cadmium	
				Chromium	
				Copper	
				Cyanide	
				Lead	
				Mercury	
				Nickel	
				Nitrates	
				Organics	
				Selenium	
				Silver	
				Sulfates	
				Sulfide	
				Thallium	
				Vanadium	

AERC Recycling Solutions | Profile for Recycling Hazardous Waste

Halogens	**Layers**	**Solids**	**Odor**	**Physical State:**
☐ «2% ☐ Cl ☐ 2-5% ☐ F ☐ 5-10% ☐ Br ☐ 10-30% ☐ I ☐ »30% ☐ Measured: _____	☐ Multilayered ☐ Bi-Layered ☐ Single Phase Color:	☐ Suspended % ☐ Settleable % ☐ Dissolved % Color:	☐ None ☐ Mild ☐ Strong Describe:	☐ Solid ☐ Flowable Powder ☐ Semisolid ☐ Pumpable ☐ Liquid **Viscosity** ☐ High (Syrup) ☐ Medium (Oil) ☐ Low Water ☐ Gas
PH	**Specific Grav.**	**Flash Point**	BTU/LB _____ % ASH _____ Water Solubility _____	
☐ «2% ☐ 2-5% ☐ 5-9 ☐ 9-12.5 ☐ »12.5 ☐ Exact _____ ☐ N/A ☐ Not Specified/Determined	☐ <.8 ☐ .8-1.0 ☐ 1.0 ☐ 1.0-1.2 ☐ >1.2 ☐ Measured: _____ ☐ Not Specified/Determined	☐ <80 ☐ 80-100 ☐ 101-140 ☐ 141-200 ☐ >200 ☐ No Flash ☐ Measured: _____ ☐ Not Specified/Determined	**Hazardous Characteristics (Potential or Known)** ☐ Reactive Material – Specify: _____ ☐ Radioactive ☐ Explosive ☐ Biohazard [Certificate of Sterilization/Disinfection **REQUIRED**]	

Container Information:

		Type	Size
Packaging:	Present Container:	_____	_____
	Shipping Container:	_____	_____
Shipping Frequency:	Units: _____		[Check One] | One Time __ | Per Day __ | Per Wk __ | Per Mth __ | Per Qtr __ | Per Yr __
	UOM: _____ [e.g., Drums, Boxes, Totes, etc..]		Other Description: _____

Additional Information:

	Yes	No
Is this waste subject to subpart CC regulations (i.e. contains >500 ppm volatile organic compounds)?	☐	☐
Are there underlying hazardous constituents, other than mercury listed in 40CFR268.48?	☐	☐
Does the waste contain >500 ppm of any 40CFR Part 261 Appendix VIII Constituents?	☐	☐

If any of the above items were answered yes, explain below:

_____

Addt'l Comments: _____

Generator Certification:

I hereby certify that I have personally examined and am familiar with the information submitted in this and all attached documents. Based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete to the best of my knowledge and ability and that all known and suspected hazards have been disclosed.

_____ _____

Signature *Date*

_____

Print Name/Title

TSDF Notification to the Generator: *If approved for management, AERC.com, Inc., dba AERC Recycling Solutions, has all the appropriate permit(s) for, and will accept, the waste that has been characterized and identified by the Generator within this profile document.*

Qtrly | Annual Reporting Information:

NAICS|SIC Code(s):	Source Code:	Form Code:	Mgmt Method Code:	Module #:

AERC.com, Inc.
2591 Mitchell Ave
Allentown, PA 18103
(800) 949-1553 | Fax: (610) 797-7696 | (610) 797-0938

Approval #: (AERC Use Only)
Date Received:

Location: ☐ Allentown | 02 ☐ West Melbourne | 04 ☐ Hayward | 05 ☐ Richmond | 17

AERC Profile for Recycling of Batteries

(Please type or print in ink)

Customer No:	
Waste Name/Description: Universal Waste Batteries for Recycle	
Generator:	EPA ID #:
Shipping Address (Street, City, State, Zip):	
Generator Contact:	E-Mail Address:
Phone:	Fax:
Billing Information (Company,Street, City, State, Zip):	
Billing Contact:	E-Mail Address:
Phone:	Fax:
Process Generating Waste-Be Specific: SPENT/OBSOLETE BATTERIES TAKEN OUT OF SERVICE |INCIDENTA	

Waste Description/Characterization & DOT Information (Describe material and designate appropriate category and type of battery(ies)):

Reference 40 CFR and 49 CFR for applicable requirements. Complete all sections as appropriate for ALL categories of batteries expected to be managed under this approval. Generator must follow applicable waste handling and transportation requirements as set forth in 40 CFR and 49 CFR. See AERC's *Guidelines for Shipping & Packaging Batteries* for specific guidance and recommended practices.

Physical Description of Waste: ☐ Intact or Incidentally Broken Batteries | Manage as Universal Waste (40 CFR Part 273)
☐ Leaking/Damaged Batteries | Manage in Agreement with Hazardous Waste Mgmt Requirements[1]
(40 CFR 261 | 262, et. Al.) Applicable EPA Waste Codes: _____

Category 1 | Lead Acid Battery	Proper DOT Shipping Description[2] — CHECK ALL THAT APPLY
☐ Lead Acid	UN2794, Batteries, wet, filled with acid, 8, III (Used lead acid batteries for recycling)(ERG #154)
☐ Sealed Lead Acid | VRLA	UN2800, Batteries, wet, non-spillable, 8, III (Used sealed lead acid batteries for recycling)(ERG #154)
Is material being managed as:	☐ Universal Waste (40 CFR Part 273) ☐ Lead Acid for Reclaim *(Exemption per 40 CFR part 266 subpart G)*

Category 2 | Corrosive Metal Battery — CHECK ALL THAT APPLY	
☐ Alkaline – Dry cell | **1.5-volt | 9-volt | Not-Mixed with other chemistries/DOT descriptions.**	Batteries, dry, sealed, n.o.s. (Used alkaline batteries for recycling)
☐ Alkaline – Wet cell	UN2795, Batteries, wet, filled with alkali, 8, III (Used alkaline batteries for recycling)(ERG #154)
☐ Zinc Carbon (non-Hg) | Zinc Air | **6-volt | Not-Mixed with other chemistries/DOT descriptions.**	Batteries, dry, sealed, n.o.s. (Used zinc carbon batteries for recycling)
☐ NiCd – Dry cell **| 9-volt | Not-Mixed with other chemistries/DOT descriptions.**	Batteries, dry, sealed, n.o.s. (Used nickel-cadmium dry-cell batteries for recycling) NOTE: NiCd batteries rated > 9-volts must meet SP 130 requirements.
☐ NiCd – Wet cell	UN2795, Batteries, wet, filled with alkali, 8, III (Used nickel-cadmium batteries for recycling)(ERG #154)
☐ Nickel Iron Batteries	UN2795, Batteries, wet, filled with alkali, 8, III (Used nickel-iron batteries for recycling)(ERG #154)
☐ Nickel Metal Hydride (NiMH)	Batteries, dry, sealed, n.o.s. (Used NiMH batteries for recycling) NOTE: NiMH batteries rated > 9-volts must meet SP 130 requirements.

Category 3 | Mercury Bearing Battery

CHECK ALL THAT APPLY

☐ Zinc Carbon (w/Hg) * ☐ Mercury | Mercuric Oxide* ☐ Silver Oxide (w/Hg) * * Containers of > ≈2 ½ Lbs these batteries meet the definition of a hazardous material (RQ Hg - 1 Lb). Use the alternative DOT Description →	Batteries, dry, sealed, n.o.s. (Used mercury-containing batteries for recycling) Batteries, dry, sealed, n.o.s. (Used silver oxide mercury-containing batteries for recycling) RQ, UN2809, Mercury contained in manufactured articles, 8, III (Used mercury batteries for recycling)(ERG #172)
☐ Silver Oxide	Non-DOT Regulated | RCRA-Regulated Universal Waste (Used silver oxide batteries for recycling)
☐ ATON	UN2795, Batteries, wet, filled with alkali, 8, III (Used ATON batteries for recycling)(ERG #154)

Category 4 | Reactive Metal Battery

CHECK ALL THAT APPLY

☐ Lithium Metal (Primary) ☐ Li-Ion | Li-Polymer ☐ Li-Thionyl Chloride | Li-Co Alternative Shipping Descriptions may be used: (As per 8/25/09 PHMSA *Notice of Approval*)	UN3090, Lithium metal batteries, 9, II (Used lithium metal batteries for recycling)(ERG #138) UN3480, Lithium ion batteries, 9, II (Used lithium ion polymer batteries for recycling)(ERG #147) UN3090, Lithium metal batteries, 9, II (Used lithium thionyl chloride for recycling)(ERG #138)
☐ Magnesium Metal	Batteries, dry, sealed, n.o.s. (Used magnesium batteries for recycling)
☐ Sodium | NaNiCl	UN3292, Batteries, containing sodium, 4.3, II (Used sodium batteries for recycling)(ERG #138)

NOTES:

(1) Materials to be managed under this approval are assumed to meet the requirements of the universal waste standard (40 CFR Part 273 & associated applicable state regulations). Management under the full hazardous waste standard **REQUIRES SUBMITTAL OF A SEPARATE HAZARDOUS WASTE PROFILE**. Shipment must be completed on a hazardous waste manifest using an alternative shipping description than noted above and may require management alternate processing/charges. Contact AERC Customer Service representative and/or Regulatory Affairs Department staff.

(2) Specified DOT Shipping Description for management of batteries that are **not** classified for management under the full hazardous waste requirements. Specify "RQ" upon reaching hazardous substance threshold(s) as detailed within 49 CFR §172.101 Appendix A, Table 1 and Table 2.

Alternative DOT Description Not Specified Above:

DOT Hazardous Material Basic Description: Specify the **Identification Number**, the **Proper Shipping Name**, the **Hazard Class** and the **Packing Group** | **ISHP**		
Reportable Quantity:	ERG#:	EPA Waste Codes if Applicable:

Estimated Quantity of Waste for Management:

☐ Event/One-Time ☐ Base/On-going (Check One)

Estimated Quantity: _____ ☐ Lbs ☐ Tons ☐ Cu Yd ☐ DM/DF ☐ Other (specify):_____ (Check One)

Shipping Frequency: _____ Units per ☐ Mth ☐ Qtr ☐ Yr ☐ Other (specify):_____ (Check One)

Annual Report Information (Codes)

SIC Code(s):			Source Code(s):	N/A (G19)		Form Code(s):	N/A (W309)	
			Mgmt Method Code(s):	N/A (H141)				

Certification

I hereby certify that I have personally examined and am familiar with the information submitted in this and all attached documents. Based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete to the best of my knowledge and ability and that all known and suspected hazards have been disclosed. As Authorized Representative for the Generator, I hereby certify that material offered for management will meet applicable waste handling and transportation requirements as set forth in 40 CFR and 49 CFR. Materials offered for shipment and management that are not prepared in accordance with the applicable requirements will be subject to rejection and/or notice of discrepancy (and surcharge). I understand that batteries will be managed by AERC according to the appropriate regulatory standards, i.e., Universal Waste Standards 40 CFR 473, unless otherwise agreed upon and authorized between the Generator and AERC.

Signature **Date**

Print Name/Title

I have received a copy of the AERC guidance for shipping & packaging of batteries. _____ *(Initial)*

ATTACHMENT 10

EXHIBIT D.8.2

Sampling Information and Historical Data Summaries

Sample Log - Lamp Glass

Sample Project Number : _____ Week of: _____

Sample Number: _____

First Shift					
Day	Date	Time	Name of Sampler	Container Type	Drum #s *
Sun.					
Mon.					
Tues.					
Wed.					
Thur.					
Fri.					
Sat.					

*** Record all drum/bag/hopper numbers for each sample as clearly as possible.**

Second Shift					
Day	Date	Time	Name of Sampler	Container Type	Drum #s *
Sun.					
Mon.					
Tues.					
Wed.					
Thur.					
Fri.					
Sat.					

*** Record all drum/bag/hopper numbers for each sample as clearly as possible.**

Third Shift					
Day	Date	Time	Name of Sampler	Container Type	Drum #s *
Sun.					
Mon.					
Tues.					
Wed.					
Thur.					
Fri.					
Sat.					

*** Record all drum/bag/hopper numbers for each sample as clearly as possible.**

Composite Sample						
Date	Time	Sampler	Container	Lab	Chain-of-Custody #	Test

Sample Log - End Caps

Sample Project Number : _____ Week of: _____

Sample Number: _____

First Shift					
Day	Date	Time	Name of Sampler	Container Type	Drum #s *
Sun.					
Mon.					
Tues.					
Wed.					
Thur.					
Fri.					
Sat.					

* Record all drum/bag/hopper numbers for each sample as clearly as possible.

Second Shift					
Day	Date	Time	Name of Sampler	Container Type	Drum #s *
Sun.					
Mon.					
Tues.					
Wed.					
Thur.					
Fri.					
Sat.					

* Record all drum/bag/hopper numbers for each sample as clearly as possible.

Third Shift					
Day	Date	Time	Name of Sampler	Container Type	Drum #s *
Sun.					
Mon.					
Tues.					
Wed.					
Thur.					
Fri.					
Sat.					

* Record all drum/bag/hopper numbers for each sample as clearly as possible.

Composite Sample						
Date	Time	Sampler	Container	Lab	Chain-of-Custody #	Test

Sample Log - HID Bases

Sample Project Number : _____ Week of: _____

Sample Number: _____

First Shift					
Day	Date	Time	Name of Sampler	Container Type	Drum #s *
Sun.					
Mon.					
Tues.					
Wed.					
Thur.					
Fri.					
Sat.					

* Record all drum/bag/hopper numbers for each sample as clearly as possible.

Second Shift					
Day	Date	Time	Name of Sampler	Container Type	Drum #s *
Sun.					
Mon.					
Tues.					
Wed.					
Thur.					
Fri					
Sat.					

* Record all drum/bag/hopper numbers for each sample as clearly as possible.

Third Shift					
Day	Date	Time	Name of Sampler	Container Type	Drum #s *
Sun.					
Mon.					
Tues.					
Wed.					
Thur.					
Fri.					
Sat.					

* Record all drum/bag/hopper numbers for each sample as clearly as possible.

Composite Sample						
Date	Time	Sampler	Container	Lab	Chain-of-Custody #	Test

Weekly Composite Sample Anaylitical / 12 Week Rolling Average

Week	Matrix	Sample #	Total HG mg/kg	12 week Rolling Average
2015 WEEK 05 MAR	HID BASE	HB150305	0 002	
2015 WEEK 01 APR	HID BASE	HB150401	0.001	0.002
2015 WEEK 02 APR	HID BASE	HB150402	0 001	0.001
2015 WEEK 03 APR	HID BASE	HB150403	0.001	0.001
2015 WEEK 04 APR	HID BASE	HB150404	0.001	0.001
2015 WEEK 01 MAY	HID BASE	HB150501	0.001	0.001
2015 WEEK 02 MAY	HID BASE	HB150502	0 001	0.001
2015 WEEK 03 MAY	HID BASE	HB150503	0.029	0.005
2015 WEEK 04 MAY	HID BASE	HB150504	0.001	0.004
2015 WEEK 01 JUN	HID BASE	HB150601	0 002	0.004
2015 WEEK 02 JUN	HID BASE	HB150602	0.001	0.004
2015 WEEK 03 JUN	HID BASE	HB150603	0.001	0.004
2015 WEEK 04 JUN	HID BASE	HB150604	0.003	0.000

Weekly Composite Sample Anaylitical / 12 Week Rolling Average

Week	Matrix	Sample #	Total HG mg/kg	12 week Rolling Average
2015 WEEK 05 MAR	END CAPS	ECS150305	0.002	
2015 WEEK 01 APR	END CAPS	ECS150401	0 001	0.002
2015 WEEK 02 APR	END CAPS	ECS150402	0.001	0.001
2015 WEEK 03 APR	END CAPS	ECS150403	0 001	0.001
2015 WEEK 04 APR	END CAPS	ECS150404	0.001	0.001
2015 WEEK 01 MAY	END CAPS	ECS150501	0.001	0.001
2015 WEEK 02 MAY	END CAPS	ECS150502	0.002	0.001
2015 WEEK 03 MAY	END CAPS	ECS150503	0 003	0.002
2015 WEEK 04 MAY	END CAPS	ECS150504	0.002	0.002
2015 WEEK 01 JUN	END CAPS	ECS150601	0 002	0.002
2015 WEEK 02 JUN	END CAPS	ECS150602	0.001	0.002
2015 WEEK 03 JUN	END CAPS	ECS150603	0.001	0.002
2015 WEEK 04 JUN	END CAPS	ECS150604	0 003	0.002

Weekly Composite Sample Anaylitical / 12 Week Rolling Average

Week	Matrix	Sample #	Total HG mg/kg	12 week Rolling Average
2015 WEEK 05 MAR	GLASS	CGS150305	0.038	
2015 WEEK 01 APR	GLASS	CGS150401	0.063	0.020
2015 WEEK 02 APR	GLASS	CGS150402	0.043	0.048
2015 WEEK 03 APR	GLASS	CGS150403	0.097	0 060
2015 WEEK 04 APR	GLASS	CGS150404	0.022	0.053
2015 WEEK 01 MAY	GLASS	CGS150501	0 027	0.048
2015 WEEK 02 MAY	GLASS	CGS150502	0.013	0.043
2015 WEEK 03 MAY	GLASS	CGS150503	0.018	0 040
2015 WEEK 04 MAY	GLASS	CGS150504	0 015	0 037
2015 WEEK 01 JUN	GLASS	CGS150601	0.020	0 036
2015 WEEK 02 JUN	GLASS	CGS150602	0.144	0 045
2015 WEEK 03 JUN	GLASS	CGS150603	0.026	0 044
2015 WEEK 04 JUN	GLASS	CGS150604	0.007	0.001

Weekly Composite Sample Anaylitical / 12 Week Rolling Average

Week	Matrix	Sample #	Total HG mg/kg		12 week Rolling Average
2015 WEEK 05 JUN	HID BASE	HB150605	0.004		
2015 WEEK 01 JUL	HID BASE	HB150701	0.002		0.003
2015 WEEK 02 JUL	HID BASE	HB150702	0.001		0.002
2015 WEEK 03 JUL	HID BASE	HB150703	0.002		0.002
2015 WEEK 04 JUL	HID BASE	HB150704	0.011		0.004
2015 WEEK 01 AUG	HID BASE	HB150801	0.003		0.004
2015 WEEK 02 AUG	HID BASE	HB150802	0.002		0.004
2015 WEEK 03 AUG	HID BASE	HB150803	0.006		0.004
2015 WEEK 04 AUG	HID BASE	HB150804	0.002		0.004
2015 WEEK 01 SEP	HID BASE	HB150901	0.033		0.007
2015 WEEK 02 SEP	HID BASE	HB150902	0.010		0.007
2015 WEEK 03 SEP	HID BASE	HB150903	0.002		0.007
2015 WEEK 04 SEP	HID BASE	HB150904	0.001		0.000

Weekly Composite Sample Anaylitical / 12 Week Rolling Average

	Matrix	Sample #	Total HG mg/kg		12 week Rolling Average
2015 WEEK 05 JUN	END CAPS	**ECS150605**	0.001		
2015 WEEK 01 JUL	END CAPS	**ECS150701**	0.001		0.001
2015 WEEK 02 JUL	END CAPS	**ECS150702**	0.001		0.001
2015 WEEK 03 JUL	END CAPS	**ECS150703**	0.001		0.001
2015 WEEK 04 JUL	END CAPS	**ECS150704**	0.001		0.001
2015 WEEK 01 AUG	END CAPS	**ECS150801**	0.001		0.001
2015 WEEK 02 AUG	END CAPS	**ECS150802**	0.001		0.001
2015 WEEK 03 AUG	END CAPS	**ECS150803**	0.001		0.001
2015 WEEK 04 AUG	END CAPS	**ECS150804**	0.001		0.001
2015 WEEK 01 SEP	END CAPS	**ECS150901**	0.001		0.001
2015 WEEK 02 SEP	END CAPS	**ECS150902**	0.002		0.001
2015 WEEK 03 SEP	END CAPS	**ECS150903**	0.001		0.001
2015 WEEK 04 SEP	END CAPS	**ECS150904**	0.002		0.001

Weekly Composite Sample Anaylitical / 12 Week Rolling Average

Week	Matrix	Sample #	Total HG mg/kg		12 week Rolling Average

2015 WEEK 05 JUN	GLASS	**CGS150605**	0.007
2015 WEEK 01 JUL	GLASS	**CGS150701**	0.012
2015 WEEK 02 JUL	GLASS	**CGS150702**	0.016
2015 WEEK 03 JUL	GLASS	**CGS150703**	0.021
2015 WEEK 04 JUL	GLASS	**CGS150704**	0.030
2015 WEEK 01 AUG	GLASS	**CGS150801**	0.059
2015 WEEK 02 AUG	GLASS	**CGS152802**	0.047
2015 WEEK 03 AUG	GLASS	**CGS152803**	0.043
2015 WEEK 04 AUG	GLASS	**CGS150804**	0.013
2015 WEEK 01 SEP	GLASS	**CGS150901**	0.019
2015 WEEK 02 SEP	GLASS	**CGS150902**	0.025
2015 WEEK 03 SEP	GLASS	**CGS150903**	0.007
2015 WEEK 04 SEP	GLASS	**CGS150904**	0.005

0.010
0.012
0.014
0.017
0.024
0.027
0.029
0.028
0.027
0.027
0.025
0.001

Weekly Composite Sample Anaylitical / 12 Week Rolling Average

Week	Matrix	Sample #	Total HG mg/kg		12 week Rolling Average
2015 WEEK 01 OCT	HID BASE	HB151001	0.004		
2015 WEEK 02 OCT	HID BASE	HB151002	0.004		0.004
2015 WEEK 03 OCT	HID BASE	HB151003	0.001		0.003
2015 WEEK 04 OCT	HID BASE	HB151004	0.001		0.003
2015 WEEK 01 NOV	HID BASE	HB151101	0.002		0.002
2015 WEEK 02 NOV	HID BASE	HB151102	0.002		0.002
2015 WEEK 03 NOV	HID BASE	HB151103	0.002		0.002
2015 WEEK 04 NOV	HID BASE	HB151104	0.002		0.002
2015 WEEK 05 NOV	HID BASE	HB151105	0.001		0.002
2015 WEEK 01 DEC	HID BASE	HB151201	0.001		0.002
2015 WEEK 02 DEC	HID BASE	HB151202	0.004		0.002
2015 WEEK 03 DEC	HID BASE	HB151203	0.004		0.002
2015 WEEK 04 DEC	HID BASE	HB151204	0.002		0.002

Weekly Composite Sample Anaylitical / 12 Week Rolling Average

	Matrix	Sample #	Total HG mg/kg		12 week Rolling Average
2015 WEEK 01 OCT	END CAPS	**ECS151001**	0.001		
2015 WEEK 02 OCT	END CAPS	**ECS151002**	0.001		0.001
2015 WEEK 03 OCT	END CAPS	**ECS151003**	0.001		0.001
2015 WEEK 04 OCT	END CAPS	**ECS151004**	0.001		0.001
2015 WEEK 01 NOV	END CAPS	**ECS151101**	0.002		0.001
2015 WEEK 02 NOV	END CAPS	**ECS151102**	0.002		0.001
2015 WEEK 03 NOV	END CAPS	**ECS151103**	0.001		0.001
2015 WEEK 04 NOV	END CAPS	**ECS151104**	0.001		0.001
2015 WEEK 05 NOV	END CAPS	**ECS151105**	0.002		0.001
2015 WEEK 01 DEC	END CAPS	**ECS151201**	0.001		0.001
2015 WEEK 02 DEC	END CAPS	**ECS151202**	0.002		0.001
2015 WEEK 03 DEC	END CAPS	**ECS151203**	0.004		0.002
2015 WEEK 04 DEC	END CAPS	**ECS151204**	0.002		0.002

Weekly Composite Sample Anaylitical / 12 Week Rolling Average

Week	Matrix	Sample #	Total HG mg/kg		12 week Rolling Average

2015 WEEK 01 OCT	GLASS	**CGS151001**	0.050	
2015 WEEK 02 OCT	GLASS	**CGS151002**	0.082	0.066
2015 WEEK 03 OCT	GLASS	**CGS151003**	0.009	0.047
2015 WEEK 04 OCT	GLASS	**CGS151004**	0.026	0.042
2015 WEEK 01 NOV	GLASS	**CGS151101**	0.074	0.048
2015 WEEK 02 NOV	GLASS	**CGS151102**	0.086	0.055
2015 WEEK 03 NOV	GLASS	**CGS151103**	0.051	0.054
2015 WEEK 04 NOV	GLASS	**CGS151104**	0.054	0.054
2015 WEEK 05 NOV	GLASS	**CGS151105**	0.035	0.052
2015 WEEK 01 DEC	GLASS	**CGS151201**	0.041	0.051
2015 WEEK 02 DEC	GLASS	**CGS151202**	0.029	0.049
2015 WEEK 03 DEC	GLASS	**CGS151203**	0.029	0.047
2015 WEEK 04 DEC	GLASS	**CGS151204**	0.020	0.001

Weekly Composite Sample Anaylitical / 12 Week Rolling Average

Week	Matrix	Sample #	Total HG mg/kg		12 week Rolling Average
2016 WEEK 01 JAN	HID BASE	HB160101	0.001		
2016 WEEK 02JAN	HID BASE	HB160102	0.002		0.002
2016 WEEK 03 JAN	HID BASE	HB160103	0.008		0.004
2016 WEEK 04 JAN	HID BASE	HB160104	0.002		0.003
2016 WEEK 01 FEB	HID BASE	HB160201	0.002		0.003
2016 WEEK 02 FEB	HID BASE	HB160202	0.002		0.003
2016 WEEK 03 FEB	HID BASE	HB160203	0.011		0.004
2016 WEEK 04 FEB	HID BASE	HB160204	0.002		0.004
2016 WEEK 01 MAR	HID BASE	HB160301	0.002		0.004
2016 WEEK 02 MAR	HID BASE	HB160302	0.001		0.003
2016 WEEK 03 MAR	HID BASE	HB160303	0.009		0.004
2016 WEEK 04 MAR	HID BASE	HB160304	0.011		0.004
					0.000

Weekly Composite Sample Anaylitical / 12 Week Rolling Average

	Matrix	Sample #	Total HG mg/kg		12 week Rolling Average
2016 WEEK 01 JAN	END CAPS	ECS160101	0.004		
2016 WEEK 02JAN	END CAPS	ECS160102	0.001		0.003
2016 WEEK 03 JAN	END CAPS	ECS160103	0.001		0.002
2016 WEEK 04 JAN	END CAPS	ECS160104	0.001		0.002
2016 WEEK 01 FEB	END CAPS	ECS160201	0.002		0.002
2016 WEEK 02 FEB	END CAPS	ECS160202	0.000		0.002
2016 WEEK 03 FEB	END CAPS	ECS160203	0.005		0.002
2016 WEEK 04 FEB	END CAPS	ECS160204	0.002		0.002
2016 WEEK 01 MAR	END CAPS	ECS160301	0.001		0.002
2016 WEEK 02 MAR	END CAPS	ECS160302	0.001		0.002
2016 WEEK 03 MAR	END CAPS	ECS160303	0.001		0.002
2016 WEEK 04 MAR	END CAPS	ECS160304	0.001		0.002
	END CAPS				0.001

Weekly Composite Sample Anaylitical / 12 Week Rolling Average

Week	Matrix	Sample #	Total HG mg/kg		12 week Rolling Average

2016 WEEK 01 JAN	GLASS	**CGS160101**	0.039
2016 WEEK 02JAN	GLASS	**CGS160102**	0.016
2016 WEEK 03 JAN	GLASS	**CGS160103**	0.017
2016 WEEK 04 JAN	GLASS	**CGS160104**	0.059
2016 WEEK 01 FEB	GLASS	**CGS160201**	0.100
2016 WEEK 02 FEB	GLASS	**CGS160202**	0.071
2016 WEEK 03 FEB	GLASS	**CGS160203**	0.071
2016 WEEK 04 FEB	GLASS	**CGS160204**	0.089
2016 WEEK 01 MAR	GLASS	**CGS160301**	0.017
2016 WEEK 02 MAR	GLASS	**CGS160302**	0.001
2016 WEEK 03 MAR	GLASS	**CGS160303**	0.030
2016 WEEK 04 MAR	GLASS	**CGS160304**	0.029

0.028
0.024
0.033
0.046
0.050
0.053
0.058
0.053
0.048
0.046
0.045
0.001

ATTACHMENT 11
ITEM D.9
Closure Plan

Florida Department of Environmental Protection

Bob Martínez Building / MS 4548
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Rick Scott
Governor

Carlos López-Cantera
Lt. Governor

Jonathan P. Steverson
Secretary

Sent Via E-Mail
CRaybeck@BoneLaw.com

January 15, 2016

Mr. Christopher Raybeck
Bone McAllester Norton, PLLC
511 Union Street # 1600
Nashville, Tennessee 37219-1703

Re: FLD 984 262 782
AERC.com, Inc.
4317-J Fortune Place
West Melbourne, Florida 32904-1509

Subject: **Financial Responsibility Compliance for 2016**

Dear Mr. Raybeck:

The Department has reviewed the documentation submitted to demonstrate financial responsibility for the above referenced facility. The first amendment to CapStar Bank letter of credit number 11152-015-00110 effective December 5, 2014 indicates an amount of **$155,000** to cover the inflation adjusted closure cost. The corresponding standby trust fund agreement was established on January 2, 2015 between AERC.com, as Grantor, and Salem Trust Company, as Trustee. In addition, the Gerrity, Baker & Williams certificate of liability insurance effective June 1, 2015 demonstrates the required coverage for general liability (policy number GEC0018694010) and pollution liability (policy number PEC0018695010).

Therefore, AERC.com is in compliance with the hazardous waste facility financial responsibility requirements of 40 CFR Part 264 Subpart H, as adopted by reference in Rule 62-737.800 of the Florida Administrative Code.

If you have any questions, please contact me at 850-245-8793.

Sincerely,

Edgar Echevarría

Edgar Echevarría
Permitting & Compliance Assistance Program
Division of Waste Management

Copy: Stewart.RobertG@EPA.gov
Tom.Lubozynski@DEP.State.FL.US
FDEP File

Closure Plan	**Document #:** UW CP-001-04	**Revision Date:** 08/25/16	AERC RECYCLING SOLUTIONS
04 – AERC – West Melbourne	**Department:** Regulatory Affairs	**Revision #:** B	Page 1 of 6

1. Purpose

1.1. Define specific procedures for ceasing operations and closing the facility.

1.2. Prepared to meet the requirements of the closure standard 62-737, F.A.C. and is modeled after the requirements in 40 CFR 263 subparts G and H.

2. Scope

2.1. AERC.Com, Inc. located at 4317 J- Fortune Place West Melbourne, FL 32904.

2.2. Processed and Un-processed materials are temporarily stored at the facility until they can be processed and or shipped to another off-site treatment, recycling, or disposal facility.

2.3. Examples of materials handled by AERC includes: fluorescent and mercury containing lighting devices, mercury containing and contaminated material objects or devices.

3. Responsibilities

3.1. **Facility Manager** – Responsible for executing this plan in the event that the facility needs to be permanently closed.

3.2. **Chief Operating Officer** – will provide specific plans and practices for decontamination if necessary and coordinate the sampling of areas to determine contamination. Responsible for making notification to the necessary regulatory agencies regarding the closure.

4. Closure Procedures

4.1. There will be no partial closure of the facility. It is anticipated that the operations of the facility will be conducted indefinitely. Minor changes may occur in the operation of equipment, but would not affect the scope of the plan. For Final Closure the following procedures will be implemented:

4.1.1. Notification to the Florida Department of Environmental Protection (FDEP) of the intent to close the facility will be made at least 30 days prior to initiation of any closure activities.

4.1.2. Cease acceptance of hazardous materials at the facility by redirecting them to an authorized hazardous waste or recycling facility.

4.1.3. Continue to process existing inventory of lamps and devices in the recycling, recovery system. For closure cost estimating however, it is assumed that all material will be shipped off-site.

4.1.4. Transport any inventory and remaining waste materials not processed by the facility, co-products, and recovered materials to appropriate outlets, customers, and authorized treatment, recycling, or disposal sites.

4.1.5. Visually inspect containment systems, concrete floor storage areas inside facility, pads, lockers, shelves and all equipment surfaces for evidence of contamination. If no visual contamination is evident, the hazardous material containment systems will be steam washed. The resulting wash water from this activity will be sampled, analyzed and disposed of in accordance with applicable regulations. Any areas that are suspected to be contaminated via visual inspection, will be decontaminated according to 6.0 Decontamination Procedure.

4.1.6. AERC will remove all permanently mounted warning signs

4.1.7. AERC will submit appropriate certification of closure to FDEP.

5. Maximum Inventory Estimate

5.1. The maximum inventory to be stored in the facility will be estimated in drum equivalents (although there may be whole lamps in boxes, broken lamps, and hazardous and non-hazardous lamp components, solid objects, parts of devices, and plant debris that is not in drums). AERC has used drum equivalents to simplify describing the maximum inventory in the facility. The regulatory storage limits based on physical space limitations have been used to estimate the drum equivalents for each type of waste of material. The volume is summarized below:

5.2. **Maximum Inventory Estimate Table**

Material	Volume Estimate(Drum Equivalents)
Total Capacity	223,200 Lamps or 968 drum equivalents
Lighting Devices Fluorescent and Mercury Lamps	400 drum equivalents
Phosphor Powers (Assume 1 months Production)	10 drums
Mercury Containing Devices (Assume 1% of plant inventory)	10 drums
Lighting Ballasts (Assume 1.5 % of plant inventory)	15 drums
Other Universal Waste and Recyclable Electronic Scrap (Assume 10% of plant inventory)	100 drums
Batteries	100 drums

Empty Drums or other containers (Used for storing devices, etc.)	50 containers
Other: Corrugated Material and other material that gets recycled at zero cost	183 Drums

1 Includes both processed and unprocessed material, assumed to be about 60% and 40%, respectively.

2 Estimate as drum equivalents.

5.3. Drum Equivalent Conversion Factors for Estimates:

5.3.1. 1 drum = 750 lbs., powdered material

5.3.2. 1 gallon = 8.3 lbs.

5.3.3. 1 lamp = 0.6 lbs. per 4ft lamp

5.3.4. 1 pallet = 900 whole lamps = 4 Drums

6. Decontamination Procedures

6.1. During Decontamination activities associated with closure, documentation, including use of field logs, will be done in accordance with Section IV, *Facility Closure* of the current revision of the FDEP *Quality Assurance Standard Operating Procedures for Sampling of Facilities Permitted under Chapter 62-737*.

6.1.1. If contamination is not observed, the storage area will be cleaned using best available method for proper decontamination. The lamp processing and storage areas will be cleaned using a combination of wiping with water and vacuuming with a treated carbon system. Walls, floors, shelves, cabinets, counter surfaces, surfaces of electrical panels, electrical conduits, light switches, electrical outlets, and tops of suspended lighting fixtures will be wiped, swept, vacuumed, water or steam washed. If needed solutions of dilute nitric acid, bleach, or degreasing compound will be used. The rinse from washing will be collected, sampled, analyzed, and disposed of in accordance with applicable regulations.

6.1.2. Process equipment from the lamp recycling systems, materials disassembly areas, and associated components will be disassembled, cleaned, using the method described above and either sold to third party for reuse, or as recycled scrap materials. Any contaminated systems or components that cannot be decontaminated or are not reused will be disassembled and shipped to an appropriate hazardous waste processing facility.

6.1.3. Wipe tests from various locations throughout the facility will be analyzed. If there are hazardous levels of Hg, a solution of water or nitric acid and mercury cleaning chemicals will be used for additional wiping and mopping. Similar procedures will be used for the other process equipment and storage areas of the facility. If there are other contaminants other than mercury present in hazardous levels, appropriate cleaning materials will be used to wash and remove them.

6.2. **Confirmation of Sampling Plan for Structures, Equipment, Buildings, and Outdoor Areas.**

6.2.1. To ensure the process and storage area has been completely decontaminated, a series of wipe tests will be performed. A complete "scope of project" for closure, which includes methods of sampling and analysis, can be submitted to Department prior to beginning the actual closure procedures, if requested.

6.2.2. The scope of project will consist of a sampling grid for 5% nitric acid wipe samples. At minimum ten (10) 100 square centimeter samples will be taken from various locations and analyzed for Hg to ensure site is not contaminated prior to final closure.

6.3. **Confirmation of Soil And surface Water Sampling**

6.3.1. Collection and analysis of the final FDEP (NPDES) water discharge sample will be done and AERC will submit report to appropriate agencies.

6.3.2. Soil sampling confirmation is not applicable since no activities or hazardous materials storage occur outside the building, there is no run-off from hazardous materials storage areas, and there are no soils within several feet of where any of the facility activities occur.

6.4. **Analytical Test Methods/Standards**

6.4.1. Analytical methods for testing or other contamination shall follow the current revision of EPA publication SW-846, *Test Method for Evaluating Solid Waste, Physical/Chemical Methods*. Wash Waters will be appropriately managed based on a comparison of sampling results to the surface water quality criteria set forth in 52-302.350, FAC. Specifically discharge to surface waters will only occur when the concentration of mercury in these waters is $\leq$ 0.2ppb (ug/l).

6.4.2. For other indoor and outdoor areas the standard of Total Hg below detectable levels or not greater than baseline will be used.

6.4.2.1. If after cleaning the facility, analysis still indicates contamination, the concrete or other storage container will be cleaned again, or removed and shipped off-site for treatment and disposal.

6.4.2.2. After Decontamination all process equipment, vehicles, drums, other containers will be removed from the building, and any waste materials, hazardous or non-hazardous will be managed in accordance with applicable regulations.

7. Closure Schedule

7.1. The total time for closure activities has been estimated at 45 days with the first 7 days primarily utilized for the removal of inventory from the site. Due to the operations of the facility, it is anticipated that the actual time needed for the removal of inventory would actually be less than the time frames established by the regulations.

8. Closure Cost Estimates

8.1. The closure cost estimate for the West Melbourne facility has been prepared based on the details within UW-CP001-04-A1 Closure Plan Cost Analysis, which is the maximum inventory estimate of 968 (55 gallon drums) and up to 50 empty containers used by the facility. The estimate is based on the scenario of having to ship the materials off-site to a third party treatment, recycling, or disposal facility.

8.2. The closure cost estimate will be adjusted annually for inflation using an inflation factor. This factor is derived to the annual implicit price deflator for Gross National Product as published by the U.S. Department of Commerce in its survey of current business.

8.3. The closure estimate will not incorporate any salvage value from the sale of hazardous waste, structures, or equipment. Materials with potential economic value are not assumed as zero costs for the closure estimate. All unprocessed materials remaining on site will be treated as hazardous and disposed of according to regulations.

8.4. The closure cost estimate may also be amended whenever there are changes in operating plans or facility design that may affect the closure plan.

8.5. The current revision of UW-CP001-04-A1 Closure Plan Cost Analysis includes updated costs from 3rd party providers for labor and materials to conduct project supporting activities for the physical decontamination of the facility and packaging of materials for off-site management.

9. Financial Mechanism

9.1. Presently, financial assurance established for the closure of the facility is an Irrevocable Standby Letter of Credit. This will be included in the section. During the life of the facility, a revised Letter of Credit will be updated in accordance with permit modifications or changes in closure cost estimates.

Closure Plan	**Document #:** UW CP-001-04	**Revision Date:** 08/25/16	AERC RECYCLING SOLUTIONS
04 – AERC – West Melbourne	**Department:** Regulatory Affairs	**Revision #:** B	Page 6 of 6

9.2. Post Closure Care will not be included in the closure cost estimate because AERC is operating a storage and recycling facility. Therefore, no waste residues or contaminated soils will remain at the facility after the closure activities are completed.

UW-CP-001-04-A1 Closure Plan Cost Analysis Melbourne, Fl 6-Sep-16
FLD984262782

Material Inventory - Management and Disposal

Item #	Type of Material	Description | Activity Details	Quantity	Unit	Unit Cost	Item Total
1	Whole Lamps	Disposal and transportation to remove inventory of whole lamps	400	DE	$ 55.00	$ 22,000.00
2	Crushed Lamps	Disposal and transportation to remove inventory crushed lamps in 55 gallon drums	150	Drum	$ 210.00	$ 31,500.00
3	Phosphor Powder	Disposal and transportation of residual powder	10	Drum	$ 480.00	$ 4,800.00
4	Mercury Devices	Disposal and transportation of mercury devices	10	Drum	$ 685.00	$ 6,850.00
5	PCB Ballasts	Disposal and transportation of pcb ballasts 600 pounds per drum	15	Drums	$ 430.00	$ 6,450.00
6	UW Batteries	Disposal and transportation of UW batteries which do not have resale values- 800 pds per drum	100	Drums	$ 250.00	$ 25,000.00
7	Miscellaneous Electronics Scrap	Disposal and transportation of miscellaneous electronic scrap	100	Drums	$ 50.00	$ 5,000.00
8	Empty Drums	Disposal and transportation of empty drums	50	Drums	$ 15.00	$ 750.00
9	Resale value material	Materials which have value to outside disposal services	148	Drums	$ -	$ -
10	Storage of corrugate materials	Materials used in processing and shipping	35	DE	$ -	$ -
		Subtotal	1,018			$ 102,350.00

Project Support Activities (Labor and Material)

Item #	Type of Material	Description | Activity Details	Quantity	Unit	Unit Cost	Item Total
9	Project Management	Field Supervision On Site	40	Hours	$ 60.00	$ 2,400.00
10	Facility Decontamination Labor	Foreman | Oversight of crew	32	Hours	$ 45.00	$ 1,440.00
11	Facility Decontamination Labor	Skilled Labor - 4 field personnel	128	Hours	$ 35.00	$ 4,480.00
12	Material Preparation Labor	Foreman | Oversight of crew	8	Hours	$ 45.00	$ 360.00
13	Material Preparation Labor	Skilled Labor - 4 field personnel	32	Hours	$ 35.00	$ 1,120.00
14	Supplies	One time use materials and supplies	1	Lot	$ 400.00	$ 400.00
15	Wash Water	Disposal and transportation of drums of waste water generated from decontamination	10	Drums	$ 500.00	$ 5,000.00
16	Equipment	Decontaminate process equipment	1	Lot	$ 1,000.00	$ 1,000.00
17	Sampling and analysis	Required field sampling and analysis to achieve clean closure, including air sampling	1	Lot	$ 5,000.00	$ 5,000.00
18	Certification	Independent professional review of clean closure	1	Lot	$ 10,000.00	$ 10,000.00
		Subtotal				$ 31,200.00
		Total of expenditures				$ 133,550.00
	Contingency Fees	Contingency fees - 10% of expenditures				$ 13,355.00
		Closure Cost Estimate				**$ 146,905.00**

ATTACHMENT 12
ITEM D.10
Certificate of Insurance

AERC6-1 OP ID: EC

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 05/24/2016

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

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

PRODUCER
Gerrity, Baker, Williams Inc.
3 Gold Mine Road
Flanders, NJ 07836
Gerrity, Baker, Williams Inc.

CONTACT NAME: Elizabeth C. Cicak, CIC CPIW
PHONE (A/C, No, Ext): 973-426-1500 FAX (A/C, No): 973-426-9545
E-MAIL ADDRESS: lcicak@gbwmail.com

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A : Greenwich Insurance Company	22322
INSURER B : XL Specialty Ins. Co.	37885
INSURER C :	
INSURER D :	
INSURER E :	
INSURER F :	

INSURED
AERC.com Inc
111 Howard Blvd., Ste 108
Mount Arlington, NJ 07856

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

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

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY							
	CLAIMS-MADE [X] OCCUR			GEC001869411	06/01/2016	06/01/2017	EACH OCCURRENCE	$ 1,000,000
	X CG 0001 0413						DAMAGE TO RENTED PREMISES (Ea occurrence)	$ 250,000
	X CG 2010 2037						MED EXP (Any one person)	$ 5,000
	GEN'L AGGREGATE LIMIT APPLIES PER:						PERSONAL & ADV INJURY	$ 1,000,000
	POLICY [X] PRO-JECT [ ] LOC						GENERAL AGGREGATE	$ 2,000,000
	OTHER						PRODUCTS - COMP/OP AGG	$ 2,000,000
								$
A	AUTOMOBILE LIABILITY						COMBINED SINGLE LIMIT (Ea accident)	$ 1,000,000
	X ANY AUTO			AEC001869211	06/01/2016	06/01/2017	BODILY INJURY (Per person)	$
	ALL OWNED AUTOS [ ] SCHEDULED AUTOS						BODILY INJURY (Per accident)	$
	X HIRED AUTOS X NON-OWNED AUTOS						PROPERTY DAMAGE (Per accident)	$
	X MSC90 X CA9948							$
B	X UMBRELLA LIAB X OCCUR			UEC001869311	06/01/2016	06/01/2017	EACH OCCURRENCE	$ 5,000,000
	EXCESS LIAB [ ] CLAIMS-MADE						AGGREGATE	$ 5,000,000
	DED X RETENTION $ 10000							$
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y/N						X PER STATUTE [ ] OTH-ER	
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? N (Mandatory In NH)	N/A		WEC002009410	02/16/2016	02/16/2017	E.L. EACH ACCIDENT	$ 1,000,000
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE	$ 1,000,000
							E.L. DISEASE - POLICY LIMIT	$ 1,000,000
A	Pollution Legal			PEC00186951	06/01/2016	06/01/2017	Per Claim	5,000,000
	on/off insd's loc.			(NO EXCESS)			Aggregate	11,000,000

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

CERTIFICATE HOLDER

AERC.FL

AERC.com, Inc.
4317-J Fortune Place
West Melbourne, FL 32904-1509

CANCELLATION

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

AUTHORIZED REPRESENTATIVE
Elizabeth C Cicak

AERC6-1 OP ID: EC

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 05/24/2016

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PRODUCER Gerrity, Baker, Williams Inc. 3 Gold Mine Road Flanders, NJ 07836 Gerrity, Baker, Williams Inc.	CONTACT NAME: Elizabeth C. Cicak, CIC CPIW PHONE (A/C, No, Ext): 973-426-1500 FAX (A/C, No): 973-426-9545 E-MAIL ADDRESS: lcicak@gbwmail.com
INSURED AERC.com Inc 111 Howard Blvd., Ste 108 Mount Arlington, NJ 07856	INSURER(S) AFFORDING COVERAGE — NAIC # INSURER A : Greenwich Insurance Company — 22322 INSURER B : XL Specialty Ins. Co. — 37885 INSURER C : INSURER D : INSURER E : INSURER F :

COVERAGES CERTIFICATE NUMBER: REVISION NUMBER:

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

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE [X] OCCUR X CG 0001 0413 X CG 2010 2037 GEN'L AGGREGATE LIMIT APPLIES PER: POLICY [X] PRO-JECT [ ] LOC OTHER:			GEC001869411	06/01/2016	06/01/2017	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$ 1,000,000 $ 250,000 $ 5,000 $ 1,000,000 $ 2,000,000 $ 2,000,000
A	AUTOMOBILE LIABILITY X ANY AUTO ALL OWNED AUTOS [ ] SCHEDULED AUTOS X HIRED AUTOS X NON-OWNED AUTOS X MSC90 X CA9948			AEC001869211	06/01/2016	06/01/2017	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$ 1,000,000 $ $ $
B	X UMBRELLA LIAB X OCCUR EXCESS LIAB CLAIMS-MADE DED X RETENTION $ 10000			UEC001869311	06/01/2016	06/01/2017	EACH OCCURRENCE AGGREGATE	$ 5,000,000 $ 5,000,000
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Y/N [N] N/A (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below			WEC002009410	02/16/2016	02/16/2017	X PER STATUTE [ ] OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	$ 1,000,000 $ 1,000,000 $ 1,000,000
A	Pollution Legal on/off insd's loc.			PEC00186951 (NO EXCESS)	06/01/2016	06/01/2017	Per Claim Aggregate	5,000,000 11,000,000

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

CERTIFICATE HOLDER AERC430

Aerc.com Inc.
4301 Woodland Park Drive
W Melbourne, FL 32904-1509

CANCELLATION

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

AUTHORIZED REPRESENTATIVE
Elizabeth C Cicak

AERC6-1 OP ID: EC

ACORD

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 05/24/2016

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PRODUCER
Gerrity, Baker, Williams Inc.
3 Gold Mine Road
Flanders, NJ 07836
Gerrity, Baker, Williams Inc.

CONTACT NAME: Elizabeth C. Cicak, CIC CPIW
PHONE (A/C, No, Ext): 973-426-1500 FAX (A/C, No): 973-426-9545
E-MAIL ADDRESS: lcicak@gbwmail.com

INSURER(S) AFFORDING COVERAGE	NAIC #
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INSURER C :	
INSURER D :	
INSURER E :	
INSURER F :	

INSURED
AERC.com Inc
111 Howard Blvd., Ste 108
Mount Arlington, NJ 07856

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

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE X OCCUR X CG 0001 0413 X CG 2010 2037 GEN'L AGGREGATE LIMIT APPLIES PER: POLICY X PRO-JECT LOC OTHER:			GEC001869411	06/01/2016	06/01/2017	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$ 1,000,000 $ 250,000 $ 5,000 $ 1,000,000 $ 2,000,000 $ 2,000,000
A	AUTOMOBILE LIABILITY X ANY AUTO ALL OWNED AUTOS SCHEDULED AUTOS X HIRED AUTOS X NON-OWNED AUTOS X MSC90 CA9948			AEC001869211	06/01/2016	06/01/2017	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$ 1,000,000 $ $ $
B	X UMBRELLA LIAB X OCCUR EXCESS LIAB CLAIMS-MADE DED X RETENTION $ 10000			UEC001869311	06/01/2016	06/01/2017	EACH OCCURRENCE AGGREGATE	$ 5,000,000 $ 5,000,000
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y/N N If yes, describe under DESCRIPTION OF OPERATIONS below	N/A		WEC002009410	02/16/2016	02/16/2017	X PER STATUTE OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	$ 1,000,000 $ 1,000,000 $ 1,000,000
A	Pollution Legal on/off insd's loc.			PEC00186951 (NO EXCESS)	06/01/2016	06/01/2017	Per Claim Aggregate	5,000,000 11,000,000

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

CERTIFICATE HOLDER

DEPTFLM

Dept of Environmental
Protection - Hazardous Waste
Mgmt. Section - MS 4555
2600 Blair Stone Road
Tallahassee, FL 32399

CANCELLATION

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

AUTHORIZED REPRESENTATIVE

Elizabeth C Cicak

Mail original completed form to: Department of Environmental Protection
2600 Blair Stone Road, Mail Station 4560
Tallahassee, Florida 32399-2400

For assistance call: 850-245-8707

STATE OF FLORIDA
CERTIFICATE OF LIABILITY INSURANCE
HAZARDOUS WASTE TRANSPORTER AND USED OIL HANDLER

1. XL SPECIALTY INSURANCE COMPANY
(Name of Insurer)

(the "Insurer"), of 505 Eagleview Blvd., Exton, PA 19341
(Address of Insurer)

hereby certifies that it has issued liability insurance covering bodily injury and property damage including environmental restoration for sudden accidental occurrences to

AERC.COM Inc.
(Name of Insured)

(the "Insured"), of 111 Howard Bouldevard, Suite 108, Mount Arlington, NJ 07856
(Physical Address of Insured)

in connection with the insured's obligation to demonstrate financial responsibility under Florida Administrative Code Rule 62-710.600(2) and 62-730.170. The coverage applies at:

EPA/DEP I.D. No.	Name	Physical Address
FLD984262782	AERC Recycling Solutions	4317-J Fortune Place, West Melbourne, FL 32904

(If coverage is for multiple facilities, identify each facility insured.)

This insurance is primary and the company shall not be liable for amounts in excess of $_____ for each accident, exclusive of legal defense costs. The coverage is provided under policy number _____, issued on _____.
(date)

The effective date of said policy is _____ and the expiration date of said policy is _____.
(date) (date)

This insurance is excess and the company shall not be liable for amounts in excess of $ 4,000,000 for each accident in excess of the underlying limit of $ 1,000,000 for each accident, exclusive of legal defense costs. The coverage is provided under policy number UEC001869311, issued on 6/1/2016. The effective date of said policy is 6/1/2016 and the expiration date of said policy is 6/1/2017.
(date) (date) (date)

DEP FORM 62-730.900(5)(a), incorporated in Rule 62-730.170(2)(b), and 62-710.600(2)(e), F.A.C., Effective Date 4-23-13

Mail original completed form to: Department of Environmental Protection
2600 Blair Stone Road, Mail Station 4560
Tallahassee, Florida 32399-2400

For assistance call: 850-245-8707

2. The Insurer further certifies the following with respect to the insurance described in Paragraph 1:

(a) Bankruptcy or insolvency of the insured shall not relieve the Insurer of its obligations under the policy.

(b) The Insurer is liable for the payment of amounts within any deductible applicable to the policy, with a right of reimbursement by the insured for any such payment made by the Insurer.

(c) Whenever requested by the Secretary (or designee) of the Florida Department of Environmental Protection (FDEP), the Insurer agrees to furnish to the Department a signed duplicate original of the policy and all endorsements.

(d) Cancellation of the insurance, whether by the Insurer or the Insured and any other termination of the insurance (e.g., expiration, non-renewal), will be effective only upon written notice and only after the expiration of thirty (30) days after a copy of such written notice is received by the Secretary of the FDEP as evidenced by certified mail return receipt.

(e) The Insurer shall not be liable for the payment of any judgment or judgments against the Insured for claims resulting from accidents which occur after the termination of the insurance described herein, but such termination shall not affect the liability of the Insurer for the payment of any such judgment or judgments resulting from accidents which occur during the time the policy is in effect.

I hereby certify that the Insurer is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one of more States including Florida.

(Signature of Authorized Representative of Insurer)

Matthew Gartner
(Typed name)

Assistant Vice President
(Title)

Authorized Representative of

XL SPECIALTY INSURANCE COMPANY
(Name of Insurer)

(Address of Representative)

Mail original completed form to: Department of Environmental Protection
2600 Blair Stone Road, Mail Station 4560
Tallahassee, Florida 32399-2400

For assistance call: 850-245-8707

STATE OF FLORIDA
CERTIFICATE OF LIABILITY INSURANCE
HAZARDOUS WASTE TRANSPORTER AND USED OIL HANDLER

1. GREENWICH INSURANCE COMPANY
(Name of Insurer)

(the "Insurer"), of 505 Eagleview Blvd., Exton, PA 19341
(Address of Insurer)

hereby certifies that it has issued liability insurance covering bodily injury and property damage including environmental restoration for sudden accidental occurrences to

AERC.COM Inc.
(Name of Insured)

(the "Insured"), of 111 Howard Bouldevard, Suite 108, Mount Arlington, NJ 07856
(Physical Address of Insured)

in connection with the insured's obligation to demonstrate financial responsibility under Florida Administrative Code Rule 62-710.600(2) and 62-730.170. The coverage applies at:

EPA/DEP I.D. No.	Name	Physical Address
FLD984262782	AERC Recycling Solutions	4317-J Fortune Place, West Melbourne, FL 32904

(If coverage is for multiple facilities, identify each facility insured.)

This insurance is primary and the company shall not be liable for amounts in excess of $ 1,000,000 for each accident, exclusive of legal defense costs. The coverage is provided under policy number AEC001869211, issued on 6/1/2016 (date).

The effective date of said policy is 6/1/2016 (date) and the expiration date of said policy is 6/1/2017 (date).

This insurance is excess and the company shall not be liable for amounts in excess of $_____ for each accident in excess of the underlying limit of $_____ for each accident, exclusive of legal defense costs. The coverage is provided under policy number_____, issued on_____ (date). The effective date of said policy is _____ (date) and the expiration date of said policy is _____ (date).

DEP FORM 62-730.900(5)(a), incorporated in Rule 62-730.170(2)(b), and 62-710.600(2)(e), F.A.C., Effective Date 4-23-13

Mail original completed form to: Department of Environmental Protection
2600 Blair Stone Road, Mail Station 4560
Tallahassee, Florida 32399-2400

For assistance call: 850-245-8707

2. The Insurer further certifies the following with respect to the insurance described in Paragraph 1:

(a) Bankruptcy or insolvency of the insured shall not relieve the Insurer of its obligations under the policy.

(b) The Insurer is liable for the payment of amounts within any deductible applicable to the policy, with a right of reimbursement by the insured for any such payment made by the Insurer.

(c) Whenever requested by the Secretary (or designee) of the Florida Department of Environmental Protection (FDEP), the Insurer agrees to furnish to the Department a signed duplicate original of the policy and all endorsements.

(d) Cancellation of the insurance, whether by the Insurer or the Insured and any other termination of the insurance (e.g., expiration, non-renewal), will be effective only upon written notice and only after the expiration of thirty (30) days after a copy of such written notice is received by the Secretary of the FDEP as evidenced by certified mail return receipt.

(e) The Insurer shall not be liable for the payment of any judgment or judgments against the Insured for claims resulting from accidents which occur after the termination of the insurance described herein, but such termination shall not affect the liability of the Insurer for the payment of any such judgment or judgments resulting from accidents which occur during the time the policy is in effect.

I hereby certify that the Insurer is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one of more States including Florida.

(Signature of Authorized Representative of Insurer)

Matthew Gartner
(Typed name)

Assistant Vice President
(Title)

Authorized Representative of

GREENWICH INSURANCE COMPANY
(Name of Insurer)

(Address of Representative)

ATTACHMENT 13
ITEM D.11
List of Destination Facilities & Uses

Downstreams	**Document #:**	**Revision Date:** 06/30/16	AERC RECYCLING SOLUTIONS
04 – AERC – Melbourne, FL	**Department:** Regulatory Affairs	**Revision #:** A	Page 1 of 2

D. 11.

Destinations and Uses of Processed Materials from the West Melbourne Facility

AERC.com, Inc. provides reclaimed glass, metallic components, mercury, mineral powder and other processed materials and containers for several different uses. As with many commodities, markets and prices for these materials change with demand and technology applications. AERC.com, Inc. continues to research new and better uses for the reclaimed materials, and testing is being conducted by manufacturing companies across the United States to integrate these materials into various products. Thus, the listing of destinations provided here is subject to change at any time:

Material	Description	Destination
Glass	Uses include fiberglass, fine grind, and powdered glass applications such as reflective paints and coatings, ceramic and porcelain manufacturing, decorative and industrial glasses.	Brevard County Central Landfill.
Glassware, Metal ware, and Mercury containing Devices	Received from outside sources. Consolidated and shipped offsite for reclamation of mercury.	AERC Allentown, PA
Mixed Metals	Uses include primary and secondary smelting and blending with similar materials.	ATM Recycling Cocoa, FL, Smart Metals Statesville, NC
Mercury	Uses include all applications for pure mercury.	AERC Allentown, PA
Phosphor Powder containing Mercury	Form the lamp recovery operation. Shipped to AERC.com's permitted TSD Facility in Allentown Pennsylvania.	AERC Allentown, PA
Lighting Ballasts - PCB	PCB containing ballasts.	Wisconsin Ballast Muskego, WI.
Lighting Ballast – Non PCB	Lighting Ballasts Non-PCB.	ATM Recycling Cocoa, FL Smart Metals Statesville, NC

Downstreams	**Document #:**	**Revision Date:** 06/30/16	AERC RECYCLING SOLUTIONS
04 – AERC – Melbourne, FL	**Department:** Regulatory Affairs	**Revision #:** A	Page 2 of 2

Universal Waste – Lead Acid Batteries	Lead Acid Batteries for smelting and material recovery.	Exide Corporation Lakeland, FL Sanders Lead Troy, AL Retriev Technologies, Lancaster, OH
Universal Waste – Lithium, Nickel Batteries	Batteries for Material Recovery.	Alpha Surplus Ontario, CA Metal Conversions Technology Cartersville, GA Retreiv Technologies Lancaster, OH
Universal Waste – Mercury Batteries	Mercury Containing Batteries.	AERC Allentown, PA
Electronic Equipment	Electronic Waste sent for recycling/refurbishment.	AERC Electronics Melbourne, FL
Cardboard	Sent for Recycling	East Coast Paper Rockledge, FL

ATTACHMENT 14
ITEM D.12
Inspection Plan

Facility Inspection Plan	**Document #:**	**Revision Date:** 05/01/16	AERC RECYCLING SOLUTIONS
04 – AERC – Melbourne	**Department:** Regulatory Affairs	**Revision #:** A	Page 1 of 1

D.12
Inspection Plan

This section includes samples of the various checklists, forms, and monitoring logs that the company uses to keep track of relevant information and insure that its employees are performing the inspections when needed. All of the forms are subject to periodic revisions, and in addition, there are process-specific forms and logs used for maintenance, quality control or equipment monitoring which are not included here. When completed, these forms are kept in the company's operating records. They can be made available to regulatory agencies on an as-needed basis.

A daily inspection of several portions of the operation are conducted by facility personnel, including the containers, materials inventory storage areas, and emergency equipment. Containers in inventory are stored indoors in designated areas to prevent exposure of the waste material to the weather. The facility inspection daily log contains the following information:

- The volume and condition of the incoming materials
- The number and condition of the containers and storage areas
- The process systems' operating characteristics, and performance standards
- Equipment and worker safety items
- Employee health related items
- Housekeeping and appearance items
- Administrative and regulatory compliance items
- Containers that may be leaking, corroded, swollen, or bulged
- Containers that may be improperly labeled
- Fire protection and control equipment
- Security check
- Initials of inspector

Remedial and corrective actions include, but are not limited to, the following:

- Transferring material to another like container
- Cleanup of spills or releases
- Repairing and/or sealing of cracks and gaps in the shipping/receiving area and processing areas

The written inspection checklist is maintained in an inspection log at the facility for a minimum of three (3) years. In addition to the daily inspections, monthly facility and safety inspections are performed by facility personnel. The safety inspections include containers, personnel protective equipment, fire extinguisher, emergency lighting, unloading equipment, and general working conditions. The monthly inspection includes available equipment, protective clothing, and general facility housekeeping. A Monthly Log is maintained at the facility.

Corporate regulatory, technical, and safety departments also perform audits of the facility on a periodic basis to ensure that operations are in compliance with applicable regulations, operating permits, and company policies.

ATTACHMENT 14

EXHIBIT D.12.1

Industrial Hygiene Monitoring Log & Sampling Location Map

AERC.com, Inc. Industrial Hygiene Monitoring Log

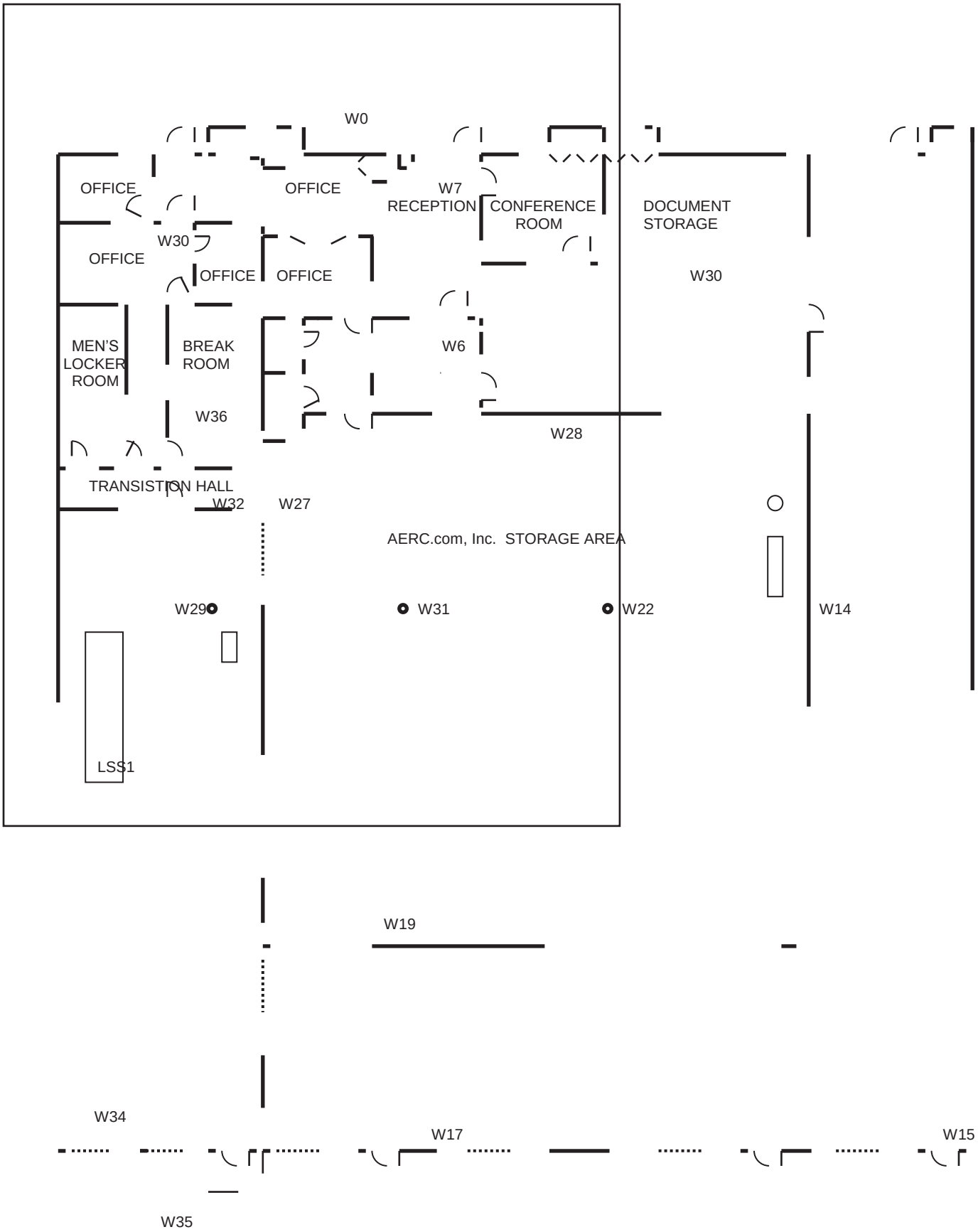
Industrial Hygeine Log

Date:___/____/_____ Initials 3rd Shift_____ Initials 1st Shift_____ Initials 2nd Shift_____
mm/dd/yyyy

Locations		12 a.m.	2 a.m.	4 a.m.	6 a.m.	8 a.m.	10 a.m.	12 p.m.	2 p.m.	4 p.m.	6 p.m.	8 p.m.	10 p.m.
W0	Outside Front Office												
W3	Office												
W6	Break Room												
W7	Reception Area												
W14	Warehouse (storage)												
W15	Loading Dock												
W17	Loading Dock												
W19	Storage Room												
W22	Storage Room												
W27	HID Processing Area												
W28	Storage Room												
W29	Processing Area												
W30	Shared Office												
W31	Storage Room												
W32	Donning/Doffing Area												
W34	West Warehouse/												
W35	Outside Warehouse												
W36	AERC Breakroom												

Note: These readings are points readings, not time weighted averages, and are measured in mg/m^3.

Please note any comments on the back of this form.


W0
OFFICE
OFFICE
W7
RECEPTION
CONFERENCE ROOM
DOCUMENT STORAGE
W30
OFFICE
OFFICE
OFFICE
W30
MEN'S LOCKER ROOM
BREAK ROOM
W6
W36
W28
TRANSITION HALL
W32
W27
AERC.com, Inc. STORAGE AREA
W29
W31
W22
W14
LSS1
W19
W34
W17
W15
W35

ATTACHMENT 14

EXHIBIT D.12.2

Air Permit Compliance Logs

Air General Permit Compliance Log

Permit #0090124-001-AC

All readings are point sample measured in mg/m^3 while specified equipment is operating.

Year: _____

Month:_____ **Month:**_____

Day	Time	Recovery Primary Discharge	HID Primary Discharge
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			
31			

Day	Time	Recovery Primary Discharge	HID Primary Discharge
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			
31			

NOTE: All Samples are point readings at the recovery system's primary discharge before the secondary air filtration system.

Air Permit Log

Permit #0090124-001-AC

All readings are point sample measured in mg/m^3 while specified equipment is operating.

Year: _____

Month:_____ **Month:**_____

Day	Time	Secondary Air Handler Port 1	Secondary Air Handler Port 2
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			
31			

Day	Time	Secondary Air Handler Port 1	Secondary Air Handler Port 2
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
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29			
30			
31			

NOTE: Secondary Air Handler Port 1 is downstream of first carbon filter
Port 2 is after all carbon filtration

ATTACHMENT 14

EXHIBIT D.12.3

Recovery Facility Permit Inspection Log

AERC Process Areas Daily Inspection Report

Facility: _____ Week Beginning Date: ____/____/____

	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
Initials of Inspector							
Time of inspections:							
1. Are containers clearly marked with accumulation dates and visible for inspection?							
2. Are hazardous waste containers in good condition?							
3. Are hazardous waste containers compatible with its contents?							
4. Are containers of hazardous waste kept closed?							
5. Are hazardous wastes managed to prevent leaks?							
6. Are hazardous wastes labeled accurately?							
7. Are containers and secondary containment systems leaking or deteriorated?							
8. Are containers of liquid hazardous waste stored in approved spill containment device?							
9. Is the storage of hazardous waste less than 9 feet in height?							
10. Are aisles and walk-ways unobstructed?							
11. Are hazardous waste stored in permitted areas?							
12. Are all employees in required PPE?							
13. Are the emergency eyewash/showers clean and unobstructed?							
14. Are spill kits (Hg and Liquid) fully stocked and accessible?							
15. Are all fire extinguishers, fire exits, and electrical panels unobstructed?							
16. Is all the safety equipment in stock and accessible?							
17. Are the tools in good working order?							
18. Are the floors and equipment clean?							
19. Are work areas and hoods properly ventilated?							
20. Are the Jerome and Bacharach Meters in proper working order?							
21. Is the building damaged (note in comments)							
22. Are non-hazardous containers properly labeled?							
23. Verify there are no un-sorted Lithium Batteries > 5 days old?							
24. Are any hazardous wastes greater than 1 year old?							
25. 90 day waste accumulations area: no material is over 90 days old?							
26. No 10 day Material over 10 days old?							
27. Total material Limits 223,200 lamps or 968 drums: Pallets of lamps: _____ x 900 = _____ Drums: _____							

Comments –Corrective Actions – Supervisor Review

Inspection Date:	Comment and Required Corrective Action:	Issue Completion Date:	Supervisor Completion Comment:	Supervisor Signature of Completion

PART II
CERTIFICATIONS

Facility Operator Certification

APPLICATION FOR A MERCURY-CONTAINING LAMP OR DEVICE MERCURY RECOVERY OR MERCURY RECLAMATION FACILITY PERMIT

Part II - CERTIFICATION

TO BE COMPLETED BY ALL APPLICANTS

Facility Name: AERC.com, Inc. EPA ID# FLD 984 262 782

1. Operator

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. Further, I agree to comply with the provisions of Chapter 403, Florida Statutes, Chapter 62-737, F.A.C., and all rules and regulations of the Department of Environmental Protection. It is understood that the permit is only transferable in accordance with Chapter 62-737, F.A.C., and, if granted a permit, the Department of Environmental Protection will be notified prior to the sale or legal transfer of the permitted facility.

Signature of the Operator or Authorized Representative*

Mark Kasper, COO
Name and Title (Please type or print)

Date: 4/20/16 Telephone :(973) 691-3200

*** If authorized representative, attach letter of authorization.**

Facility Owner Certification

2. Facility Owner

This is to certify that I understand that this application is submitted for the purpose of obtaining a permit to construct, or operate a mercury-containing lamp or device mercury recovery or mercury reclamation facility . As owner of the facility, I understand fully that the facility operator and I are jointly responsible for compliance with the provisions of Chapter 403, Florida Statutes, Chapter 62-737, F.A.C. and all rules and regulations of the Department of Environmental Protection.

Signature of the Facility Owner or Authorized Representative*

Recycling Holdings, LLC
Gregory S. Daily, President
Name and Title (Please type or print below signature)

Date: 5/16/16 Telephone: (973) 691-3200 x7146

*** If authorized representative, attach a letter of authorization**

Land Owner Certification

3. **Land Owner**

This is to certify that I, as land owner, understand that this application is submitted for the purpose of obtaining a permit to construct or operate a mercury-containing lamp or device mercury recovery or mercury reclamation facility on the property as described.

Signature of the Land Owner or Authorized Representative*

Gary R Cunningham II President

Name and Title (Please type or print)

Date: 5/18/2016 Telephone: (321) 723-3416

*** If authorized representative, attach letter of authorization.**

Professional Engineer Certification

4. Professional Engineer Registered in Florida

[Complete when not exempted by Chapter 62-737, F.A.C.]

This is to certify that the engineering features of this mercury-containing lamp or device mercury recovery or mercury reclamation facility have been designed and examined by me and found to conform to engineering principles applicable to such facilities. In my professional judgment, this facility, when properly constructed, maintained and operated, or closed, will comply with all applicable statutes of the State of Florida and rules of the Department of Environmental Protection.

Signature

John P Smith, PE

Name (please type)

Florida Registration Number: 63423

Mailing Address: 11 Lake Gatlin Road

Street or PO. Box

Orlando FL 32806

City State Zip

Date: 06/20/2016 Telephone (407) 649-5475

[PLEASE AFFIX SEAL]

PART III
APPLICATION FEE

AERC.COM

22404

VENDOR: 00005664 CHECK NO.

VOUCHER NO.	INVOICE NO.	INVOICE DATE	INVOICE AMOUNT	AMOUNT PAID	DISCOUNT TAKEN	NET CHECK AMOUNT
154765	20160610	06/10/16	2,000.00	2,000.00	.00	2,000.00
					Check Total	2,000.00

ORIGINAL DOCUMENT PRINTED ON CHEMICAL REACTIVE PAPER WITH MICROPRINTED BORDER

CHECK NO.	CHECK DATE	VENDOR NO.
22404	06/14/16	0005664

CHECK NO. 22404

AERC
RECYCLING SOLUTIONS
111 Howard Boulevard, Suite 108
Mount Arlington, NJ 07856

Bank of America
55-33/212

CHECK AMOUNT

TWO THOUSAND AND 00/100 DOLLARS $2,000.00

PAY TO THE ORDER OF
FL DEP, #0072959-HO-004/FLD984262782
2600 BLAIR STONE ROAD
RE: MERCURY RECOVERY PERMIT RENEWAL
TALLAHASSEE FL 32399-2400

Robert Szanyi

SAFEGUARD SECURE

THIS DOCUMENT CONTAINS HEAT SENSITIVE INK. TOUCH OR PRESS HERE - RED IMAGE DISAPPEARS WITH HEAT.

⑈022404⑈ ⑆021200339⑆ 0038167343 76⑈

AERC.COM

22404

VENDOR: 00005664 CHECK NO.

VOUCHER NO.	INVOICE NO.	INVOICE DATE	INVOICE AMOUNT	AMOUNT PAID	DISCOUNT TAKEN	NET CHECK AMOUNT
154765	20160610	06/10/16	2,000.00	2,000.00	.00	2,000.00
					Check Total	2,000.00