## D.2.1 Advanced Environmental Recycling Corporation (AERC)

Advanced Environmental Recycling Corporation (AERC) was develop in 1990 to answer a nation-wide 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 provides 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 four recycling facilities that can handle your company's lamp recycling needs nationwide. We have installed equipment in Allentown, Pennsylvania, Hayward, California, Ashland, Virginia and West Melbourne, Florida that recycles more than 30 million lamps annually. AERC also operates, together with its affiliate company, Com-Cycle 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 Florida Division – 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 that are received include all types of mercury-containing lamps, e.g., mercury vapor, metal halide and all configurations of fluorescent lamps. AERC also accepts all Universal Waste Mercury Containing Devices (MCDs), which include regulators, switches, thermometers, thermostats, float meters and any other mercury-containing metalware and/or glassware. These materials are more commonly referred to as "glassware/metalware" (GW/MW). Lastly, the facility accepts 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 all Universal Waste MCDs (thermometers, thermostats, regulators, float meters and other additional mercury glassware or metalware), 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 allowable through the 10-day facility, being handled for purposes of transport through the facility. Items are manifested directly to the permitted TSD or reclamation facility. AERC can consolidate shipments in the 10-day holding area of 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 acceptance of all Universal Waste MCDs, AERC performs the following activities:
  - Acceptance of batteries and PCB and non-PCB lighting ballasts for sorting and shipment to other recycling facilities,
  - The acceptance of electronic scrap for demanufacturing or remanufacturing for shipment back to market for reuse or recycling.
  - As referenced above, 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.