

**INITIAL STUDY**

*The Department of Toxic Substances Control (DTSC) has completed the following Initial Study for this project in accordance with the California Environmental Quality Act (21000 et seq., California Public Resources Code) and implementing Guidelines (15000 et seq., Title 14, California Code of Regulations).*

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**I. PROJECT INFORMATION**

Project Name:

AERC.COM, INC.

Class 2 Permit Modification to Existing Standardized Hazardous Waste Facility Permit

Site Address: 30677 Huntwood Avenue

City: Hayward State: CA Zip Code: 94544 County: Alameda

Contact Person: Doris Farley

Address: 30677 Huntwood Avenue

City: Hayward State: CA Zip Code: 94544 Phone Number: 510 429 1129

**Project Description:**

In accordance with Health and Safety Code (HSC) section 25201.6, the Department of Toxic Substances Control (DTSC) is considering approval of a Class 2 Standardized Permit Modification for AERC.com, Inc. (AERC), Hayward, California, USEPA I.D. number CAD 982 411 993. The proposed permit would authorize the continued operation of a lighting waste processing facility for the recovery of glass and metals. AERC is an existing facility currently authorized under Series A, Standardized Permit. The changes proposed at this site are defined as a "project" according to the Public Resources Code (PRC) Section 21065 and the California Environmental Quality Act (CEQA) Guidelines Section 15378. This project is subject to the environmental review process by the lead agency (DTSC) as defined by the PRC Section 21080 and the CEQA Guidelines Section 15063. Consequently, this environmental review document has been prepared in accordance with these CEQA requirements.

AERC.com, Inc. (AERC) is a "Universal Waste Handler" (as defined in California Code of Regulations, Title 22, section 66273.9) and a recycler authorized to recycle spent fluorescent and High Intensity Discharge (HID) lamps.

Spent fluorescent light tubes and HID lamps are regulated by DTSC due to their mercury content. Mercury is characterized as a hazardous waste, according to Chapter 11, Division 4.5, Title 22, California Code of Regulations. Handling, including storage and treatment of offsite waste fluorescent light tubes requires a Hazardous Waste Facility Standardized Permit (Permit) from DTSC. Class 2 Permit Modifications to the Permit requires DTSC approval.

Prior to AERC operating the facility, Mercury Technology Inc (MTI), owned by AERC, operated at this location since 1989, and received an interim status December 31, 1993, pursuant to Health and Safety Code (HSC) section 25201.6 from the Department of Toxic Substances Control (DTSC). DTSC issued a Series A Standardized Hazardous Waste Facility Permit to MTI on November 25, 1997, effective December 29, 1997. The Standardized Permit authorizes the operation of a hazardous waste storage and treatment facility in Hayward, Alameda County, to reclaim mercury from spent fluorescent and high-intensity discharge (HID) lamps received from or collected by MTI from offsite generators. DTSC prepared an Initial Study for the Standardized Permit and determined that a Negative Declaration was appropriate. The Negative Declaration and Notice of

Determination were filed with the State Clearinghouse (SCH 97072029) on July 9, 1997.

In February 2001 AERC made a request to change MTI 's name to AERC.Com.

AERC made a Class 2 permit modification request application on May 24, 2002, subsequently amended the request on March 1, 2004 in accordance with the California Code of Regulations, Title 22, section 66270.42(b).

The Class 2 modification consists of the following:

- 1) authorization to change the facility name and facility layout;
- 2) authorization for the use of an improved fluorescent lamp crusher LSS1 machine to process lamps at rate of 3500 lamps per hour of T-12 (4 foot) lamps or 5250 lamps per hour of T-8 (4 foot) lamps;
- 3) update of the facility's closure cost estimate;
- 4) clarification of the filtration system used for high intensity discharge (HID) lamp processing;
- 5) authorization to combine crushed glasses and metal from HID process and fluorescent lamp process, and eliminate testing of lead in crushed glass and metal;
- 6) authorization to accept additional hazardous waste streams for storage:
  - (a) previously crushed and broken lamps in sealed 55-gallon drums (generally from out-of-state generators), stored up to 90 days;
  - (b) non-leaking lighting ballasts that may contain small amounts of polychlorinated biphenyls (PCBs) for storage for no more than 30 days;
  - (c) metallic mercury in lab packs stored up to 90 days; and
- 7) to specify the storage capacity of fluorescent and HID lamps.

The modified permit for AERC limits the hazardous waste types, quantities and treatment capacity. The following wastes can be stored at AERC if the Class 2 modification is approved:

Waste Type	Current Permitted capacity	Current Storage time	Modified Permitted Capacity	Modified Permit Storage Time
Phosphor powder	10,000 pounds (Equiv. 15-16 drums)	90 days	16 drums	90 days
Non leaking PCB containing lighting ballasts	N/A	10 days as transporter exemption	28 drums	30 days
HID inner capsules	16 drums	90 days	16 drums	90 days
Plant debris	32 drums	1 year	32 drums	1 year
HID lamps	Stack no more than 10 feet	90 days	12,000 lamps*	90 days
Mercury containing fluorescent lamps	Stack no more than 10 feet (intact lamps only)	90 days	78,000 lamps* (including crushed lamps)	90 days
Metallilic liquid mercury	10 gallon (onsite generated) (Equiv. 1133 pounds)	90 days	1133 pounds received from offsite in lab packs	90 days

\* Combined storage for HID and fluorescent lamps is dynamic and total number cannot exceed 78,000 lamps at any time. The maximum number of HID lamps cannot exceed 12,000 lamps.

**Project Activity:**

AERC, Hayward facility is located in an area zoned for industrial use (Figure 1). AERC collects spent fluorescent and HID lamps, and transports them to the facility on a standard bill of lading. AERC also accepts these wastes from other transporters. The spent lamps are unloaded manually or with a forklift, and placed into the lamp storage area of the facility. Occasionally, before unloading, spent lamps may remain overnight in the enclosed truck or trailer in which they were transported.

In the first permitted lamp treatment process, AERC crushes (treats) fluorescent lamps and separates the mercury-containing phosphor powder from the lamp's non-hazardous components (i.e., the outer glass and metal end caps). The mercury-containing phosphor powder is sent offsite for reclamation of mercury. Mercury Technology Inc. replaced the old lamp crusher with a new machine in early 2000 without notifying DTSC. A subsequent Consent Order from DTSC (HWCA 99/00-2008) provided for the operation of the new machine under specific conditions, and required the facility to apply for a Class 2 permit modification. The principal treatment process now occurs in an enclosed processing unit referred to as the Lamp Recycling System, model LSS1, manufactured by Resource Technology, Inc. This unit, LSS1, operating under a low vacuum, may be fed whole, intact lamps by a conveyor belt to a breaker rod and crushing drums inside an implosion chamber. Whole lamps with plastic shatter shields may be passed through a single tube feed pipe to a lamp shear prior to falling into the implosion chamber.

AERC/Mercury Technology Inc. was previously permitted to treat T-12 (4 foot) fluorescent lamps at rate of 1,250 lamps per hour. With the improved and more efficient design of the lamp crusher, LSS1 is able to treat 3,500 lamps per hour of T-12 (4-foot) lamps or 5,250 lamps per hour of T-8 (4-foot) lamps. The lamp feed rate can vary with the type of lamp. The LSS1 has increased efficiency and can better process mercury-containing lamps at higher feed rate.

Inside the LSS1 machine, an elevated conveyor carries the crushed material under a vacuum to a series of trammels which separate the lamp components and direct them to their proper location. The entire LSS1 is designed to operate under vacuum. The system blower draws air through the LSS1's integrated baghouse, which is stacked with nine High-Efficiency Particulate Air (HEPA) filters and an activated carbon vessel used to absorb mercury vapor, and filter the process air before it is discharged back into the facility. Because of the low process emissions the LSS1 is exempt from permit requirements of the Bay Area Air Quality Management District.

The mercury-containing phosphor powder is sent to the AERC facility in Allentown, Pennsylvania or an authorized permitted facility for recycling. At AERC in Pennsylvania, the phosphor powder is retorted to recover mercury from the phosphor. The metallic mercury is then sold for eventual re-use. The existing permit allows AERC to store up to 10,000 pounds, equivalent to 15 -16 drums of phosphor powder.

The crushed glass and metal end caps and electrodes, once tested to verify they are non-hazardous, are sent to offsite recyclers. Grab samples of glass and metal are periodically taken according to the facility waste analysis plan to produce composite samples that are analyzed monthly to verify that the equipment is operating efficiently, and that the resultant components are non-hazardous.

The second permitted treatment unit is a small "down draft booth" to disassemble HID lamps. If there is visible mercury outside of the inner capsule in the globe of the HID lamp, AERC will disassemble the lamp. The disassembly process utilizes a filtration system, which prevents any mercury vapor (due to breakage of the inner HID capsules) from escaping into the environment. In the disassembly treatment process, the metal base is detached from the outer glass; the outer glass bulb is broken to allow the removal of the inner capsule. The inner capsule, which contains the liquid mercury, is placed into a DOT-approved container and shipped to AERC's facility in Pennsylvania.

The outer glass is tested as per the facility waste analysis plan and sent offsite to be managed either as a recyclable glass or a hazardous waste depending on the result of the test, e.g. mercury concentrations. Non-hazardous components are sent offsite for recycling. Monthly composite samples of the metal components are

taken and analyzed to verify that the treatment equipment is operating efficiently and that the resulting components are non-hazardous.

Since 1997, sampling of crushed glass and metal end caps has been taken separately from fluorescent lamp process and HID process and tested for both mercury and lead. The past sample results have demonstrated that there was no lead present in crushed glass and metal end caps. Therefore, the testing for lead is no longer needed and will be deleted. AERC will combine the crushed glass and metals from both processes and continue to sample and test mercury in the crushed glass and metal end caps.

The existing permit allows AERC to store and stack fluorescent lamps and HID lamps up to 10 feet. There are no design capacity limits for the number of intact fluorescent and HID lamps. The permit modification will set a storage limit. The maximum number of HID lamps will be 12,000 lamps. The total number allowed for both fluorescent and HID lamps will be no more than 78,000 lamps.

The existing permit allows AERC to store liquid mercury (up to 10 gallons of mercury, about 1,133 pounds) generated from lamp crushing process. AERC will not generate liquid mercury. The permit modification proposes storage of metallic mercury in lab packs. The storage capacity for metallic mercury in lab packs does not increase beyond the present storage limit for liquid mercury.

AERC occasionally receives small amounts of the older lamp ballasts with sealed PCB-containing capacitors. These ballasts are managed as hazardous waste. Lighting ballasts with components containing small amounts (under 5 milliliters) of polychlorinated biphenyls (PCBs) are received and stored in sealed DOT-approved containers to be shipped to authorized off-site treatment or disposal facilities. Currently AERC transfers ballasts within 10 days as a function of transporter. With the modification, AERC will store PCB-containing non leaking ballasts up to 30 days.

By accepting additional waste streams such as lighting ballasts, and metallic mercury in lab packs, no significant additional traffic is anticipated as these waste items are incidental and often commingled with fluorescent lamps. Thus, although storage and treatment capacity have increased, there is no significant additional impact in transportation or air emissions because of this permit modification. Safe management practices, operating procedures, inspection program, and the facility's emergency plan will ensure environmentally safe operations.

All hazardous waste shall be stored in sealed containers within designated areas inside the AERC facility. Any spillage of the dry hazardous components of the lamps will be vacuumed and processed back into the LSS1 mercury reclamation system. Any hazardous waste that cannot be processed through the facility will be placed in DOT-approved containers and manifested to an authorized treatment or disposal facility.

In addition to lighting wastes, AERC also receives and stores other universal wastes, non hazardous wastes and generates its own hazardous waste such as carbon from filtration system and plant debris. The waste streams types and descriptions are in Table 1 and Table 2.

In accordance with the California Occupational Safety and Health Administration standards of Title 8, California Code of Regulations, section 5155, the air from within the facility's treatment room and the air used in the treatment process is monitored for mercury vapor levels and passed through a HEPA filtration system before being released to the atmosphere.

DTSC has prime responsibility for permitting AERC. Regulated facilities must notify DTSC of any changes to the facility or its operation, and the changes may need prior DTSC approval before they occur.

The permit modification application identifies all possible waste codes or waste types, the annual generation rate and identifies storage locations. A detailed description of the facilities, waste characterization procedures, and closure plan are provided in the permit application. The materials handling methods and waste analysis methods address two (2) USEPA waste codes, mercury (D009, or U151) and four (4) California waste codes: 181 (mercury containing lighting devices, mercury containing phosphor powder, mercury containing lamps, mercury containing devices, carbon from filtration equipment, non-leaking fluorescent lighting ballasts without PCBs, crushed/broken fluorescent lamps containing mercury and metallic mercury in lab packs); 725 (inner

capsules containing liquid mercury from HID lamps); 352 (plant debris) ; and 261 (non-leaking fluorescent lighting ballasts containing PCBs) . Waste codes are used to track the generation, shipment, and disposal of hazardous wastes in California and the nation.

**Table 1. WASTE STREAM PROPERTIES**

(1)	(2)	(3)	(4)	(5)	(6)	(7)
<b>Waste Stream Letter</b>	<b>Common Name of Hazardous Waste</b>	<b>U.S. EPA Code</b>	<b>California Waste Code (22CCR § 66261.1 26 Appendix XII)</b>	<b>Maximum Storage Time at Facility</b>	<b>Description of Waste</b>	<b>Process Generating Waste</b>
A	Mercury Containing Lighting Devices - Fluorescent Lamps	N/A - Note: Some generators choose to ship these wastes as characteristic hazardous wastes	181	90 days	Spent Fluorescent Lighting Devices	Incoming spent lamps from off-site generators
B	Mercury containing Phosphor Powder	D009	181	90 days	Phosphor Powder from Fluorescent and Hg containing Lighting Devices	Recycling of Spent Lamps
C	Recovered glass from Fluorescent lamp recycling process	N/A	N/A		Glass Components from Lamps - non-hazardous after processing	Lamp Recycling System
D	Recovered metallic end caps and pins and wires from fluorescent lamp recycling process	N/A	N/A		Metal Components from Lamps - non-hazardous after processing	Lamp Recycling System
E	Mercury-containing HID lamps	N/A - Note: Some generators choose to ship these wastes as characteristic	181	90 days	Mercury-containing HID lamps, including mercury vapor, metal halide, and high pressure	Incoming spent HID lamps from off-site generators

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Waste Stream Letter	Common Name of Hazardous Waste	U.S. EPA Code	California Waste Code (22CCR § 66261.1 26 Appendix XII)	Maximum Storage Time at Facility	Description of Waste	Process Generating Waste
		hazardous wastes			sodium lamps	
F	Inner Capsules Containing Liquid Mercury from HID Lamps	D009	725	90 days	Intact or broken, internal arc tubes containing liquid mercury from the disassembly of HID lamps.	Disassembly of HID lamps
G	Recovered outer glass from HID lamps	N/A	N/A		Recovered outer glass from HID lamp disassembly. Non-hazardous after processing.	Disassembly of HID lamps
H	Metal base, mounting stem, and spacer	N/A	N/A		Metal base, mounting stem, and spacer from HID lamp disassembly. Non-hazardous after processing.	Disassembly of HID lamps
I	Plant debris	D009	352	1 year	Plant scraps, debris, tyvek uniforms, etc.	Plant processing and cleaning activities
J	Non-leaking Fluorescent Lighting Ballasts containing PCBs	N/A	261	30 days	Lighting ballasts containing small capacitors with PCBs.	Incoming spent lighting ballasts from off-site generators from lighting maintenance and energy efficiency upgrades
K <sup>1</sup>	Universal Waste Batteries	N/A - Note: Some generators choose to ship these wastes as characteristic hazardous wastes	N/A		Small consumer and other batteries including lead acid, alkaline, nickel-cadmium, nickel-metal hydride, carbon zinc, mercury	Incoming spent batteries from off-site generators

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Waste Stream Letter	Common Name of Hazardous Waste	U.S. EPA Code	California Waste Code (22CCR § 66261.1 26 Appendix XII)	Maximum Storage Time at Facility	Description of Waste	Process Generating Waste
					oxide, and other types.	
L	Universal Waste CRT's, Material and Devices	N/A - Note: Some generators choose to ship these wastes as characteristic hazardous wastes	N/A		Computer monitors, televisions and other CRT's	Incoming electronic scrap from off-site generators
M	Electronic Scrap	N/A	N/A		CPU's printers, fax machines, telephones, mice, other electronic devices and peripherals.	Incoming electronic scrap from off-site generators
N <sup>1</sup>	Mercury Containing Devices	Thermostats are classified as Universal Waste			Mercury-containing devices such as thermometers, barometers, regulators, thermostats, etc.	Incoming mercury containing devices from off-site generators
O	Incandescent type Lamps Not Containing Mercury	N/A - Note: Some generators choose to ship these wastes as characteristic hazardous wastes	N/A		Lamps such as, incandescent lamps, etc. that do not contain mercury	Incoming lamps from off-site generators
P	Carbon from Filtration Equipment	D009	181	Managed as Generator waste	Carbon filter media generated from the replacement of processing equipment filters.	Change out of carbon filter media from processing equipment filters.

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Waste Stream Letter	Common Name of Hazardous Waste	U.S. EPA Code	California Waste Code (22CCR § 66261.1 26 Appendix XII)	Maximum Storage Time at Facility	Description of Waste	Process Generating Waste
Q	Non-leaking Fluorescent Lighting Ballasts without PCBs	N/A	181		Lighting ballasts containing small capacitors without PCBs.	Incoming spent lighting ballasts from off-site generators from lighting maintenance and energy efficiency upgrades
R	Crushed / Broken Fluorescent Lamps containing Mercury	D009 or N/A	181	90 days	Crushed and broken fluorescent lamps containing mercury	Incoming lamps from off-site generators
S <sup>1</sup>	Low Pressure Sodium Lamps	N/A			Low pressure sodium lamps that do not contain mercury	Incoming lamps from off-site generators
T	Metallic Mercury in Lab Packs	D009, U151	181	90 days	Metallic mercury	Incoming waste from off-site generators`

1: Subject to Universal Waste Rule; some generators choose to send waste as a hazardous waste

**Table 2: AERC Storage Aisle Designation and Capacities**

WASTE STORAGE CATEGORY	Waste Stream Codes	STORAGE AREAS	MAXIMUM VOLUMES		
			POUNDS	DRUM EQUIVALENT	COUNT
MERCURY CONTAINING LAMPS (FLUORESCENT)	A	S6 TO S19			78,000*
PHOSPHOR POWDER	B	S1 TO S5	10,000	16	
HID LAMPS	E	S6 TO S19			12,000*

HID INNER CAPSULES (intact or broken)	F	S1 TO S5	2,240	16	
PLANT DEBRIS, CARBON FROM	I	S1 TO S5		32	
BALLASTS WITH OR WITHOUT PCBS	J, Q	S1 TO S5	21,000	28	
UNIVERSAL WASTE BATTERIES	K	S1 TO S5			
CRTS AND MONITORS	L	N1 TO N3	20,000		
ELECTRONIC SCRAP	M	N1 TO N3	20,000		
MERCURY DEVICES	N	S1 TO S5			
NON-MERCURY LAMPS	O	N1 TO N3			
CARBON FROM FILTRATION SYSTEM	P	S1 TO S5			AS PLANT DEBRIS (I)
BROKEN FLUORESCENT LAMPS	R	S1 TO S5			AS FLUORESCENT LAMP (A)
SODIUM LAMPS	S	N1 TO N3			
METALLIC MERCURY IN LAB PACKS	T	S1 TO S5	1,133		
RECOVERED METALLIC COMPONENTS, STEM, AND SPACER; GLASS	C, D, G, H	N1 TO N3			

\* Combined storage for HID and fluorescent lamps is dynamic and total number cannot exceed 78,000 lamps at any time. The maximum number of HID lamps cannot exceed 12,000 lamps.

Agency Having Jurisdiction Over the Project/Types of Permits Required:

City of Hayward, Fire Department

II. DISCRETIONARY APPROVAL ACTION BEING CONSIDERED BY DTSC

- |   |  |  |
|---|--|--|
| <input type="checkbox"/> Initial Permit Issuance        | <input type="checkbox"/> Closure Plan        | <input type="checkbox"/> Removal Action Workplan |
| <input type="checkbox"/> Permit Renewal                 | <input type="checkbox"/> Regulations         | <input type="checkbox"/> Interim Removal         |
| <input checked="" type="checkbox"/> Permit Modification | <input type="checkbox"/> Removal Action Plan | <input type="checkbox"/> Other (Specify)         |

Program/ Region Approving Project:

Contact Person:

Jennifer Smith Grubb  
Address: 700 Heinz Avenue

City: Berkeley State: CA Zip Code: 94710 Phone Number: 510 540-3779

III. ENVIRONMENTAL RESOURCES POTENTIALLY AFFECTED

The boxes checked below identify environmental resources which were found in the following ENVIRONMENTAL SETTING/IMPACT ANALYSIS section found to be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact".

- |   |  |  |
|---|--|--|
| <input checked="" type="checkbox"/> Not Identified  | <input type="checkbox"/> Aesthetics                      | <input type="checkbox"/> Agricultural Resources      |
| <input type="checkbox"/> Air Quality                | <input type="checkbox"/> Biological Resources            | <input type="checkbox"/> Cultural Resources          |
| <input type="checkbox"/> Geology and Soils          | <input type="checkbox"/> Hazards and Hazardous Materials | <input type="checkbox"/> Hydrology and Water Quality |
| <input type="checkbox"/> Land Use and Planning      | <input type="checkbox"/> Mineral Resources               | <input type="checkbox"/> Noise                       |
| <input type="checkbox"/> Population and Housing     | <input type="checkbox"/> Public Services                 | <input type="checkbox"/> Recreation                  |
| <input type="checkbox"/> Transportation and Traffic | <input type="checkbox"/> Utilities and Service Systems   |  |

IV. ENVIRONMENTAL IMPACT ANALYSIS

The following pages provide a brief description of the physical environmental resources that exist within the area affected by the proposed project and an analysis of whether or not those resources will be potentially impacted by the proposed project. Preparation of this section follows guidance provided in DTSC's [California Environmental Quality Act Initial Study Workbook](#) (Workbook). A list of references used to support the following discussion and analysis are contained in Attachment A and are referenced within each section below.

Mitigation measures which are made a part of the project (e.g.: permit condition) or which are required under a separate Mitigation Measure Monitoring or reporting Plan which either avoid or reduce impacts to a level of insignificance are identified in the analysis within each section.

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**1. Aesthetics**

*Project activities likely to create an impact:* None

*Description of Environmental Setting:*

AERC is located within an industrial park. The building consists of a single level slab concrete structure partitioned into multiple workspaces. The workspaces offer a front office and a rear warehouse space. All deliveries are handled in the back of the structure and are not generally visible from the street.

All of the storage and treatment activities at AERC are conducted inside the existing building, so most of the activities are not open to public view. There are outdoor security lights that illuminate the rear (west) yard of the facility, but there are no nighttime activities in the area that would be impacted by these lights.

The issuance of the Modified Standardized Permit for AERC is not expected to impact any aesthetic values in the area. All hazardous waste management activities are conducted indoors or in the enclosed rear area of the facility. Therefore no more analysis on this environmental resource is necessary.

*Analysis of Potential Impact:*

- a. Have a substantial adverse effect on a scenic vista.
- b. Substantially damage scenic resources, including, but not limited to, tress, rock, outcroppings and historic buildings within a state scenic highway.
- c. Substantially degrade the existing visual character or quality of the site and its surroundings.
- d. Create anew source of substantial light of glare that would adversely affect day or nighttime views in the area.

Specific References (List a, b, c, etc.): 1

Findings of Significance:

- ? Potential Significant Impact
- ? Potentially Significant Unless Mitigated
- ? Less Than Significant Impact
- x No Impact

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**2. Agricultural Resources**

*Project activities likely to create an impact:* None

*Description of Environmental Setting:*

The existing AERC building is in the Hayward Industrial Park and located on Huntwood Avenue between Crocker Avenue and the railroad right-of-way in the southeast part of the City of Hayward. The Hayward Industrial Park is an area designated as industrial use. Prior to the development of this area as an industrial park, the general land use in the area was agriculture. The industrial park was developed in the early-to-mid 1980s. The activities at AERC are the recycling of various lighting wastes, and the collection of the reclaimed lamp components for shipping to other recyclers (e.g., clean glass and aluminum). These uses are consistent with the General Plan land use designation.

The issuance of the Modified Standardized Permit for AERC is not expected to impact any agricultural resources in the area. All hazardous waste management activities are conducted indoors or in the enclosed rear area of the facility. Therefore, no more analysis on this environmental resource is necessary.

*Analysis of Potential Impact:*

- a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) as shown as maps prepared to the Farmland Mapping and Monitoring Program of the California Resources Agency.
- b. Conflict with existing zoning or agriculture uses, or Williamson Act contract.
- c. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural uses.

Specific References (List a, b, c, etc.): 1, 5

Findings of Significance:

- ? Potential Significant Impact
- ? Potentially Significant Unless Mitigated
- ? Less Than Significant Impact
- x No Impact

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### **3. Air Quality**

*Project activities likely to create an impact:* Limited fugitive emissions from handling and crushing lamps

*Description of Environmental Setting:*

The AERC facility is located in the San Francisco Bay Area. The Bay Area Air Quality Management District (BAAQMD) monitors air quality throughout the San Francisco Bay Area and has adopted an Air Quality Management Plan to reduce air pollution to healthful levels. The state of California and the federal government have established ambient air quality standards, or criteria, for outdoor air pollutants in order to protect public health. Currently, the Bay Area is considered in non-attainment of State and Federal standards for the criteria pollutant ozone and non-attainment of California standard for particulate matter.

All proposed treatment and storage activities will occur in the existing building. Treatment activities are conducted within closed, negative pressure vacuum systems.

*Analysis of Potential Impact:*

- a. Conflict with or obstruct implementation of the applicable air quality plan.

The proposed project does not generate criteria air pollutants and the operation is exempt from the BAAQMD permit requirements, approval of this project would not conflict with the air quality plan.

The treatment of waste fluorescent and HID lamps has the potential to release mercury-containing phosphor powder into the air when the glass tubes are broken. However, AERC's lamp recycling process occurs within a closed, negative-pressure vacuum system that minimizes the phosphor dust and mercury vapor from escaping and contaminating the surrounding atmosphere. Indoor air monitoring is conducted to quickly detect and remove incidentally broken lamps (i.e. broken during shipment). Broken lamps may be received in 55-gallon drums, which are individually fed to the LSS1 treatment system.

AERC/Mercury Technology Inc. was previously permitted to treat T-12 (4 foot) fluorescent lamps at rate of 1250 lamps per hour. With the improved and more efficient design of the lamp crusher, LSS1 is able to treat 3,500 T-12 (4-foot) lamps per hour or 5,250 T-8 (4-foot) lamps per hour. The lamp feed rate can vary with the type of lamp and other activities in the facility. LSS1 has increased efficiency and can better process mercury-containing lamps at higher feed rate.

The powder generated by the LSS1 crushing process, along with the mercury vapor, is transported by vacuum through a separator and a high-efficiency particulate air (HEPA) filtration system that absorbs mercury vapor and removes particulates from the process air before it is discharged back into the facility. Because of the low emissions from this process, AERC does not require a permit from the Bay Area Air Quality Management District (BAAQMD), pursuant to Regulation 2-1-103. This regulation provides a permit exemption for any source that has emissions no greater than ten pounds of any class of regulated pollutants per day and does not trigger a risk screening, or is not otherwise regulated by the BAAQMD. No other specific regulations apply to fluorescent lamp recycling. Particulate emissions do not exceed ten pounds per day, the BAAQMD's exemption level. AERC's mercury emissions remain below the 57.9 pounds per year (0.16 pounds per day) BAAQMD risk screening trigger level.

Work station air monitoring is conducted several times during each operating shift to ensure worker safety and compliance with California Occupational Safety and Health Administration (Cal/OSHA) requirements for mercury vapor as an air contaminant. Samples are taken at least every two hours to assess mercury levels. The samples are taken at numerous locations in the operating plant area and the office area. If the mercury vapor concentration in these samples exceeds 0.025 milligrams per cubic meter ( $\text{mg}/\text{m}^3$ ), which is the California Occupational Safety and Health Administration's (Cal/OSHA) threshold for a workplace, based on an 8-hour exposure, then samples are taken every 15 - 20 minutes. AERC submitted mercury sampling data taken from this regime: sample concentrations are all in the 0.003 - 0.016  $\text{mg}/\text{m}^3$  range, which is below the Cal/OSHA permissible exposure limit.

By accepting additional waste streams such as lighting ballasts and metallic mercury in lab packs, no significant traffic related air quality concern is anticipated as these waste items are incidental and often commingled with fluorescent lamps. Additional traffic is not anticipated as trucks are not usually full at present. During a 10 month study of truck traffic at AERC, there was an average of 4.5 truck trips a day. AERC will only store these additional waste streams and no treatment or additional handling will occur. Thus, although storage and treatment capacity have increased, there is no significant additional impact on air quality because of this permit modification.

- b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation.

Neither the LSS1 nor the HID processing area is subject to permit requirements of the BAAQMD because they do not generate criteria pollutants such as ozone precursors or PM10 for which the Bay Area is currently in non-attainment.

See response to Subcategory a. above.

- c. Result in cumulative considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).

See response to Subcategory a. above.

- d. Expose sensitive receptors to substantial pollutant concentrations.

No sensitive receptors, such as hospitals or schools have been identified within a one-mile radius of the facility.

- e. Create objectionable odors affecting a substantial number of people.

The proposed project does not generate odors, because wastes are stored in closed containers.

- f. Result in human exposure to Naturally Occurring Asbestos (see also Geology and Soils. f)

This project does not involve the exposure or movement of any soil or asbestos.

Specific References (List a, b, c, etc.): 1, 5, 7, and 8

Findings of Significance:

- ? Potential Significant Impact  
 ? Potentially Significant Unless Mitigated  
 x Less Than Significant Impact  
 ? No Impact

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#### **4. Biological Resources**

*Project activities likely to create an impact:* None

*Description of Environmental Setting:*

Existing building is located in an industrial park that was developed about 20 years ago. Prior land use was agricultural. With the lengthy history of disturbances, little remains of the area's original flora and fauna. There are no endangered species in the Hayward Industrial Park where AERC is located, although there are several in the greater southeast San Francisco Bay Area. The California Department of Fish and Game Natural Diversity Database (RAREFINDS) were used to identify endangered, threatened, rare, and listed species, and species of concern. The following plant species were noted in the Hayward Quadrangle: Fritillaria lilicea (fragrant fritillary), Astragalus tener (alkali milk-vetch), Hemizonia parryi (Congdon's tarplant), Helianthella castanea (Diablo helianthella), Balsamorhiza macrolepis (big-scale balsamroot), Cordylanthus maritimus (Pt. Reyes Bird's Beak) and Valley Needlegrass Grassland habitat. Of the locations in the Hayward Quadrant identified in RAREFINDS, the species closest to AERC is Congdon's tarplant found in the Mount Eden Park area about 21/2 miles WNW of the facility. Most of the land in the Hayward Industrial Park is paved. Landscaping around the building consists of some grass, small bushes and trees.

*Analysis of Potential Impact:* Describe to what extent project activities would:

- a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

The activities at AERC are not expected to impact any of the plants identified in the RAREFINDS database. There are no identified species in the immediate vicinity of the facility; those identified range from about 2.5 to about 12 miles away (see California Department of Fish and Game, Natural Diversity Data Base, CD-Government Version, July 5, 2000). The standardized permit modification authorizes activities similar to those previously approved. The activities at AERC are not expected to have any significant impacts on native, non-native, rare, listed, threatened, endangered, protected or identified plants or plant communities. No adverse impacts have been identified during past operation of this facility.

Only limited quantities of liquids are present in the waste streams or used in the treatment processes at AERC. All treatment activities at the facility are conducted indoors. Airborne emissions are controlled by the closed vacuum treatment systems. Broken lamps are collected and placed into the treatment system. The storage units are inspected daily.

The project is carried out in an existing building. There is no construction, dismantling, excavation, or grading proposed with this project. There are no impacts on riparian lands, wetlands, or soils essential to fish and wildlife habitat. Management practices, operating procedures and an inspection program in the facility operation plan will help to ensure that there are no releases to the environment. No wastes are discharged from this facility into the air or land. AERC has operated at this location since 1989, no significant environmental incidents have occurred during the operation of the facility.

- b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

See the response to Subcategory a. above.

- c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernalpool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

See response to Subcategory a above.

- d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

See response to Subcategory a above.

- e. Conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

See response to Subcategory a above.

- f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

See response to Subcategory a above.

Specific References (List a, b, c, etc.): 1, 4 and 6

Findings of Significance:

- ? Potential Significant Impact  
 ? Potentially Significant Unless Mitigated  
 ? Less Than Significant Impact  
 x No Impact

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## **5. Cultural Resources**

*Project activities likely to create an impact:* None

*Description of Environmental Setting:*

The land immediately around the AERC facility is industrial. The facility is part of the large Hayward Industrial Park complex that covers several square miles. The Hayward Industrial Park is a well-maintained industrial area, it consists of large multi-suite industrial buildings, wide paved streets, and large paved parking lots. The area surrounding the facility is heavily trafficked and has been fully developed.

Sharing the immediate industrial complex with AERC are Sylvania Lighting (lighting supplies), San Francisco Bay Trading (art import/export), Sepragen Corporation (a biotechnology firm), and Pearson Dental Supply (a dental supply company). Behind AERC (west), and therefore abutting AERC's waste loading and unloading area, are Coca Cola Vending Machines, California Dolly and Supply (a dolly distributor), and Granger Sanitary Supplies and Equipment. Across the street from AERC (east) is OMI, a computer and copier manufacturing firm. Immediately north of the building in which AERC is located is the railroad right-of-way, and across Crocker Avenue to the south is a vacant lot that has been cleared for industrial development. The working accesses to AERC are from Huntwood Avenue and Crocker Avenue.

All modifications to the facility will occur within the existing building footprint. No construction, dismantling, excavation, or grading is proposed with this project. The project will not therefore have impacts to any historical, cultural or paleontological resources. Therefore, no more analysis on this environmental resource is necessary.

*Analysis of Potential Impact:* Describe to what extent project activities would:

- a. Cause a substantial adverse change in the significance of a historical resource as defined in 15064.5
- b. Cause a substantial adverse change in the significance of an archeological resource pursuant to 15064.5
- c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.
- d. Disturb any human remains, including those interred outside of formal cemeteries.

Specific References (List a, b, c, etc.): 1, 5

Findings of Significance:

- ? Potential Significant Impact
- ? Potentially Significant Unless Mitigated
- ? Less Than Significant Impact
- x No Impact

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## **6. Geology and Soil**

*Project activities likely to create an impact:* waste spillage

*Description of Environmental Setting:*

The existing AERC building is located in an industrial area that was developed in the early-to-mid 1980s. The area is mostly paved with asphalt. AERC is not located in an area designated as a 100 or 500-year flood plain. Numerous seismic faults are mapped throughout the eastern San Francisco Bay region, including the Hayward Fault about 1.5 miles east of AERC, the Calaveras Fault, about 12 miles northeast of AERC, and the San Andreas Fault, about 15 miles southwest of AERC.

The activities at AERC include loading, unloading, storage, and treatment (disassembling) of waste fluorescent lamps and high-intensity discharge (HID) lamps, and storage of intact polychlorinated biphenyl (PCB) - containing lighting ballasts, storage of metallic mercury in lab packs that are shipped offsite for recycling.

Treatment of the fluorescent and HID lamps consists of crushing waste lamps to reclaim the various components of the lamps (i.e., glass, aluminum, and phosphor powder that contains mercury vapor). Wastes stored or treated are generally solid. PCBs are inside sealed ballasts which are contained and placed in shipping containers. No spillage of PCB into the environment is anticipated. Metallic mercury lab packs will be stored on containment pallets. In case any leakage occurs, the containment pallets will contain any liquid mercury.

*Analysis of Potential Impact:* Describe to what extent project activities would:

- a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

- Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault. (Refer to Division of Mines and Geology Special Publication 42).

The facility is located more than 2,000 feet from the active Hayward fault. The building is built according to City of Hayward building permit and standards.

- Strong seismic ground shaking.

See Response to Subcategory a above.

- Seismic-related ground failure, including liquefaction.

See Response to Subcategory a above

- Landslides.

The entire site is on the flat land; no known landslides occurred in the past.

- b. Result in substantial soil erosion or the loss of topsoil.

The entire site is paved or level with little likelihood of erosion.

- c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.

See Responses to Subcategory a. and b. above. No land slide, or liquefaction is expected.

- d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.

The project is not located on expansive soils as defined in Table 18-1-B of the Uniform Building Code.

- e. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of water.

The project does not entail the new construction of septic tanks or alternative waste water disposal systems.

- f. Be located in an area containing naturally occurring asbestos (see also Air Quality, f.).

The site is not located in an area containing naturally occurring asbestos.

This project does not involve or result in physical change to the site or the surrounding area by soil movement or ground feature alteration. The area has been developed in approximately its current state for about 20 years.

Management practices, operating procedures and inspections will help to ensure that there are no releases to the environment. No significant environmental incidents have occurred during the operation of this facility. No changes to the building are planned under the standardized permit. None of the activities conducted at AERC

would reasonably result in unstable earth conditions, disruption, displacement, compaction or over-covering of soil.

Specific References (list a, b, c, etc): 1, 5

Findings of Significance:

- ? Potential Significant Impact
- ? Potentially Significant Unless Mitigated
- ? Less Than Significant Impact
- X No Impact

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## **7. Hazards and Hazardous Materials**

*Project activities likely to create an impact:* Release of mercury containing wastes from lamp crushing, spillage or fire.

*Description of Environmental Setting:*

All sorting, storage and treatment (crushing) activities are conducted indoors within an enclosed building.

The building in which AERC is located is constructed of concrete panels that are fire resistant. There is an automatic-sprinkler fire suppression system built into the building. The contingency plan is on file with the Hayward Fire Department and the Alameda County Department of Environmental Health.

*Analysis of Potential Impact:* Describe to what extent project activities would:

- a. Create a significant hazard to the public or the environment throughout the routine transport, use or disposal of hazardous materials.

There are no chemical differences between a waste lamp and a new lamp. Unbroken waste lamps create no exposures of hazardous wastes to humans and the environment might occur. The risks of exposure handling unbroken lamps are similar to the risks of handling new lamps. The waste lamps are routinely transported in the original manufacturers' shipping boxes to prevent breakage and releases.

When wastes are received at the facility, the lamps are handled and stored in their cardboard cartons and on pallets, to minimize the possibility of breakage. Incidentally broken lamps are segregated and separately fed into the LSS1 lamp crusher. PCB-containing lighting ballasts are generally received in sealed containers and stored within the facility awaiting shipment to a permitted off-site treatment or disposal facility. Metallic mercury is lab packed into DOT-approved containers pending shipment to off-site disposal facilities. Aside from metallic mercury lab packs and small amount of PCB in the ballasts, no liquid hazardous wastes are received by, or are processed by the AERC facility.

The procedures for HID lamps are provided in the standardized permit modification application. If there is visible mercury outside of the inner envelope in the globe of the HID lamp, the disassembly process utilizes a filtration system, which prevents any mercury vapor (due to breakage of the inner HID capsules) from escaping into the environment. The outer glass and metal electrodes that are separated (cutting) in the disassembly process of the lamps are shipped for further dismantling and mercury recovery.

The greatest potential for exposure to the hazardous mercury-containing phosphor powder is while lamps are being unloaded from the truck. The maximum amount of mercury in one lamp is approximately 20 milligrams. The uncontrolled breakage of a number of lamps may create a significant inhalation hazard. As lamps do occasionally break or are received broken, work station air monitoring is conducted several times during each operating shift to ensure worker safety and compliance with

California Occupational Safety and Health Administration (CalOSHA) requirements for mercury vapor. Air samples are taken at least every two hours to assess mercury levels. The samples are taken at numerous locations in the operating plant area, the office area, (see the air monitoring log in the permit application). If the mercury vapor concentration in these samples exceeds 0.025 milligrams per cubic meter ( $\text{mg}/\text{m}^3$ ), which is the California Occupational Safety and Health Administration's (Cal/OSHA) threshold for a workplace, based on an 8-hour exposure, then samples are taken every 15 -20 minutes. If threshold levels are exceeded, remediation measures consist of venting and vacuuming in any area that exceeds the  $0.025 \text{ mg}/\text{m}^3$  level for mercury; employees doing the cleanups use Level C personal protective equipment (air-purifying respirator, Tyvek coverall, and gloves). AERC submitted mercury sampling data taken from this regime: sample concentrations are all within the  $0.003 - 0.016 \text{ mg}/\text{m}^3$  range, which is below the CalOSHA permissible exposure limit.

AERC employees receive health and safety training, quarterly medical (urine test) monitoring for mercury and annual physical exams. All operators are required to wear respirators (as determined in AERC Health & Safety Plan), protective coveralls, steel-toed boots, gloves, work uniform, ear protection and safety glasses, and to follow the facility's Health and Safety Plan. Waste management practices, operating procedures, emergency plans, and employee training requirements each address public health and safety precautions. No releases of any environmental significance have occurred during the operation of the facility since operations began in 1989.

On-going monitoring is designed to identify and respond to localized releases within the AERC facility. All lamp crushing operations are of limited duration and are closely supervised and monitored. If PCB containing ballasts are found leaking, they will be stored on containment pallets. Metallic mercury lab packs will be stored on containment pallets. All treatment activities at the facility are conducted indoors. Airborne emissions are controlled by the closed vacuum treatment systems. Broken lamps are collected and placed into the treatment system. The storage units are inspected daily.

- b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

The building in which AERC is located is constructed of concrete panels that are fire resistant. There is an automatic-sprinkler fire suppression system built into the building. There are no process vents that might provide a pathway for public exposure. The contingency plan is on file with the Hayward Fire Department and the Alameda County Department of Environmental Health.

See response to Subcategory a. above.

- c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances or waste within one-quarter mile of an existing or proposed school.

The proposed project is not located within one-quarter mile of an existing or proposed school. See also response to Subcategory a. above.

- d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to public or the environment.

The project is not located on such a list.

- e. Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan.

The proposed facility layout offers free and easy access to equipment such as the LSS1 and the HID processing equipment. Rows of stored waste and recyclable materials are clearly labeled and facilitate access from the north and south.

Waste management practices, operating procedures, emergency plans, and employee training requirements help ensure safe conditions and no releases to the environment. No releases of any environmental significance have occurred during the operation of the facility since inception of operations.

This project will not result in the creation of any significant health hazard or exposure of any persons at levels that might pose the potential of significant health hazard.

*Specific References (list a, b, c, etc):* 1, 5

Findings of Significance:

- ? Potential Significant Impact
- ? Potentially Significant Unless Mitigated
- x Less Than Significant Impact
- ? No Impact

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## **8. Hydrology and Water Quality**

*Project activities likely to create an impact:* Spillage of Electronic and Lighting Waste

*Description of Environmental Setting:*

The facility is not located within an area designated as a 100-year floodplain. The depth to groundwater is 20 to 40 feet. The nearest surface water body is Alameda Creek ¼-mile north of the facility. This is an east-west trending ephemeral creek running along Industrial Parkway.

All treatment will be conducted indoors in an enclosed building. Treatment is performed within a closed, negative-pressure vacuum system. The waste lamps contain no liquids and the treatment process is a completely dry system. Only small amounts of water are used at the facility; the water is used in restrooms, the kitchen, or routine plant cleaning. There is no discharge to the sewer of any hazardous waste. There is a storm drain in the parking area behind AERC and a plug is available to block off the entrance into that drain in case of an accidental release. AERC also monitors storm water discharges into the storm drain, and annually reports this water quality data to the San Francisco Bay Regional Water Quality Control Board.

Mercury-containing lamps, metallic mercury in lab packs, and PCB-containing ballasts are stored at AERC within the AERC facility. Metallic mercury lab packs are stored on containment pallets. The ballasts are stored in DOT-approved drums. No wastes with free liquids are processed by the AERC facility.

*Analysis of Potential Impact:* Describe to what extent project activities would:

- a. Violate any water quality standards or waste discharge requirements.

There are no discharges of industrial waste water or discharges to surface water bodies.

- b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficient in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).

The project does not use groundwater and therefore will not deplete groundwater supplies interfere substantially with groundwater recharge.

- c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on or off-site.

The proposed project does not involve construction, excavation or grading. Therefore, it will not impact the existing drainage pattern of the site.

- d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off-site.

See response to Subcategory c. above.

- c. e. Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff.

See response to Subcategory c. above.

- f. Otherwise substantially degrade water quality.

No discharge from the facility is authorized.

- g. Place within a 100-flood hazard area structures which would impede or redirect flood flows.

AERC is not located within a 100-year flood plain.

- h. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.

See response to Subcategory g. above. There are no active levees or dams in the vicinity of the project site that could cause flooding at the site.

- i. Inundation by sieche, tsunami or mudflow.

The project site is located in the City of Hayward, well away from the coast. This area has never had a history of tsunami or mudflow.

*Specific References (list a, b, c, etc):* 1, 5

Findings of Significance:

- ? Potential Significant Impact
- ? Potentially Significant Unless Mitigated
- x Less Than Significant Impact
- ? No Impact

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**9. Land Use and Planning**

*Project activities likely to create an impact:* None

*Description of Environmental Setting:*

The existing building and business operate in the Hayward Industrial Park, an area designated for industrial use. Prior to the development of this area as an industrial park, the general land use in the area was agricultural. The industrial park was developed in the early-to-mid 1980s. The closest residence is about 1/3 of a mile away.

AERC is located on Huntwood Avenue between Crocker Avenue and the railroad right-of-way in the southeast part of the City of Hayward. The land use on the streets immediately around AERC is industrial. Sharing the immediate industrial complex with AERC are Sylvania Lighting (lighting supplies), San Francisco Bay Trading (art import/export), Sepragen Corporation (a biotechnology firm), and Pearson Dental Supply (a dental supply company). Behind AERC (west), and therefore abutting AERC's waste loading and unloading area, are Coca Cola Vending Machines, California Dolly and Supply (a dolly distributor), and Granger Sanitary Supplies and Equipment. Across the street from AERC (east) is OMI, a computer and copier manufacturing firm. Immediately north of the building in which AERC is located is the railroad right-of-way, and across Crocker Avenue to the south is a vacant lot that has been cleared for industrial development. The working accesses to AERC are from Huntwood Avenue and Crocker Avenue. AERC has operated at this location since 1989. The activities at AERC are recycling electronic waste, lighting wastes, and mercury-containing waste. AERC crushes mercury-containing lamps, while consolidates the other waste for shipment to specialized off-site recycling facilities. These uses are consistent with the General Plan land use designation.

All permit modifications and authorized activities occur within the existing facility. No physical changes to the buildings are planned. The project will not result in any changes to the existing land use, and will not have impacts on the land use. There, no more analysis on this environmental resource is necessary.

*Analysis of Potential Impact:* Describe to what extent project activities would:

- a. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.
- b. Conflict with any applicable habitat conservation plan or natural community conservation plan.

*Specific References (list a, b, c, etc):* 1, 5

Findings of Significance:

- ? Potential Significant Impact
- ? Potentially Significant Unless Mitigated
- ? Less Than Significant Impact
- x No Impact

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## **10. Mineral Resources**

*Project activities likely to create an impact:* None

*Description of Environmental Setting:*

There are no known mineral resources at the project site.

None of the waste management activities at AERC consume natural resources, except what may be required by a small business. The minimal electrical usage is offset by the recovery of mercury, resulting in a reduced demand for the mining and refining of mercury. Glass and aluminum are also recovered and sent for recycling. This project does not involve or result in a change to the use of any natural resource.

No construction, dismantling, excavation, or grading is proposed with this project. For these reasons, DTSC finds that the proposed project will not result in impacts upon this resource category. Therefore, no more analysis on this environmental resource is necessary.

*Analysis of Potential Impact:* Describe to what extent project activities would:

- a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.
- b. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

*Specific References (list a, b, c, etc):*

Findings of Significance: 1, 5

- ? Potential Significant Impact
- ? Potentially Significant Unless Mitigated
- ? Less Than Significant Impact
- x No Impact

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## **11. Noise**

*Project activities likely to create an impact:* Operation of trucks and equipment.

*Description of Environmental Setting:*

AERC is located in the Hayward Industrial Park. In general, the Hayward Industrial Park has a high level of industrial traffic, and the portion of that traffic contributed by AERC's traffic is insignificant.

Most of the activities at AERC are conducted within a closed building. The only outside activities are the temporary storage of lamps prior to treatment and storage of the non-hazardous broken glass into a dumpster awaiting shipment to a recycler.

Operations at the facility are conducted between the hours of 6:00 AM and 10:00 PM, seven days a week. AERC has the option of operating 24 hours a day seven days a week, but is not doing so at this time.

*Analysis of Potential Impact:* Describe to what extent project activities would:

- a. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

The noise from the AERC's processing equipment is not audible from the street outside of the facility. Numerous commercial or industrial operations are located to the rear and sides of the AERC facility. The loading and unloading of waste lamps and of separated lamp components are conducted only intermittently, and do not contribute significantly to the overall noise level of the facility or the area. The loading and unloading area, which is behind AERC, is also at the back of the adjacent businesses (Coca Cola Vending Machines and California Dolly and Supply), so noise from AERC's operations does not significantly impact those businesses.

The noise level within the AERC building when the treatment system is operating approaches the OSHA noise generation limit of 85 decibels. The noise is produced by the LSS1 Lamp processing machine. Although the noise level in the general facility is within the OSHA limits, employees that work immediately around the processing equipment wear hearing protection as an additional safety provision. Although the wall on which the LSS1 is located is a shared wall with Sylvania Lighting, AERC has not received any noise complaints from Sylvania.

The existing noise level of the facility was confirmed during DTSC inspections of the facility on January 5, 1994 and on November 15, 1996. The last industrial hygiene survey at AERC for noise was conducted by Forensic Analytical on March 27, 2001. The time-weighted-average (TWA) measurements for noise in the

process area were found levels to vary between 51.3 and 83.1 dBA. Inside noise levels are below the Cal/OSHA PEL for noise.

Because of the completely industrial nature of the area, outside noise produced by AERC from trucks, loading and unloading at any time should not significantly impact surrounding activities. The approval of this permit will not significantly increase the noise level at this facility.

- b. Exposure of persons to or generation of excessive groundbourne vibration or groundbourne noise levels.

See response to Subcategory a. above

- c. A substantial permanent increase in ambient noise levels in the vicinity above levels existing without the project.

See response to Subcategory a. above

- d. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

See response to Subcategory a. above

*Specific References (a, b, c, etc):* 1, 5

Findings of Significance:

- ? Potential Significant Impact  
 ? Potentially Significant Unless Mitigated  
 ? Less Than Significant Impact  
 x No Impact

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## **12. Population and Housing**

*Project activities likely to create an impact:* None

*Description of Environmental Setting:*

AERC is located in Hayward, in the greater "East Bay" area of San Francisco Bay. The entire area is highly developed and densely populated. AERC currently has nine employees.

The proposed project will not require any hiring of additional employees beyond those already assigned to the project. The project also will not entail the construction of any new off-site or on-site housing units. For these reasons, DTSC finds that the proposed project will not result in impacts upon this resource category. Therefore, no more analysis on this environmental resource is necessary.

*Analysis of Potential Impact:* Describe to what extent project activities would:

- a. Induce substantial population growth in area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).
- b. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere.
- c. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

*Specific References (list a, b, c, etc):* 1, 5

Findings of Significance:

- ? Potential Significant Impact
- ? Potentially Significant Unless Mitigated
- ? Less Than Significant Impact
- x No Impact

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### **13. Public Services**

*Project activities likely to create an impact:* None

*Description of Environmental Setting:*

The public services used by AERC are required by any similar sized small business. City public health, environmental and safety services have approved of this project under separate actions. The project is to authorize AERC to use the new fluorescent lamp crushing equipment (LSS1) and to allow additional waste streams, e. g. PCB containing lighting ballast, metallic mercury lab packs, and broken lamps.

The LSS1 normal capacity is 3,500 lamps of T-12 (4-foot) lamps per hour or 5,250 lamps of T-8 (4-foot) lamps per hour. The lamp feed rate can vary with the type of lamp and other activities in the facility. The previous permitted process unit capacity was 1,250 lamps per hour of T-12 (4 foot) lamps. LSS1 has increased efficiency and can better process mercury-containing lamps at higher feed rate.

By accepting additional waste streams such as lighting ballasts and metallic mercury in lab packs, no significant additional impact on public services is anticipated as these waste items are incidental and often commingled with lamp shipments. AERC only stores these additional wastes and does not process or treat.

The project does not require additional public services such as fire protection, police protection, and public transit. The additional waste streams such as broken fluorescent lamps and metallic mercury in lab packs are similar to the existing waste streams. The PCB-containing lighting ballasts are only small quantity and often shipped together with the lamps.

No significant impacts on any public services are expected as a result of this project. Therefore, no more analysis on this environmental resource is necessary.

*Analysis of Potential Impact:* Describe to what extent project activities would:

- a. Result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services:
  - Fire protection
  - Police protection
  - Schools
  - Parks
  - Other public facilities

*Specific References (list a, b, c, etc):* 1, 5, and 8

## Findings of Significance:

- ? Potential Significant Impact
- ? Potentially Significant Unless Mitigated
- ? Less Than Significant Impact
- x No Impact

**14. Recreation**

*Project activities likely to create an impact:* None

*Description of Environmental Setting:*

AERC is located in Hayward, in the greater "East Bay" area of San Francisco Bay. The entire area is highly developed and densely populated. No capacity increases or additional employment is anticipated as a result of this project.

The project is to upgrade the facility's equipment to better process lighting waste and allow additional compatible waste streams. The project does not generate the need for an increase for on and off-site recreational facilities. For these reasons, DTSC finds that the proposed project will not result in impacts upon this resource category. Therefore, no more analysis on this environmental resource is necessary.

*Analysis of Potential Impact:* Describe to what extent project activities would:

- a. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.
- b. Include recreational facilities or require construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

*Specific References (list a, b, c, etc):* 1, 5

## Findings of Significance:

- ? Potential Significant Impact
- ? Potentially Significant Unless Mitigated
- ? Less Than Significant Impact
- x No Impact

**15. Transportation and Traffic**

*Project activities likely to create an impact:* Transport of containerized waste via truck to and from the AERC facility.

*Description of Environmental Setting:*

The vehicle access to this facility is on Huntwood Avenue, which is two blocks south of Industrial Parkway between Mission Boulevard and Interstate 880. Huntwood Avenue is designed as an industrial route. Normal daily traffic activities associated with AERC include commute trips for nine employees and one company truck that brings waste lamps to the facility. AERC also accepts waste lamps delivered by other transporters, receiving about three of these deliveries daily.

Lighting wastes that are not broken and are going to authorized recycling facilities can be tracked with bill of lading, rather than a manifest. Most of wastes coming to AERC are tracked by a bill of lading. If wastes arriving at AERC are manifested, AERC signs the manifest as the authorized destination facility. The separated components, such as the glass and aluminum, are picked up on an occasional basis and shipped to the end-point waste management companies. The mercury-containing phosphor powder, HID capsules, and metallic mercury in lab packs are manifested via hazardous waste transporters to AERC's authorized hazardous waste treatment facility in Pennsylvania or other permitted facility to properly process the waste.

Ballasts are received in containers ranging from fiber cartons and poly pails to 55-gallon steel drums. AERC.com, Inc. conducts visual quality control of these waste containers as needed for shipping purposes. Once accumulated, wastes are shipped to an approved offsite ballast recycler. Ballasts are shipped out using a California Hazardous Waste Manifest or bill of lading, according to federal and state regulations, as the shipping document. All ballasts are received as either "Non-Leaking PCB Ballast" or "Non-PCB Ballast."

There is adequate parking space in AERC's parking lot for all of the vehicles associated with the operation of the facility.

*Analysis of Potential Impact:* Describe to what extent project activities would:

- a. Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections).

By accepting additional waste streams such as lighting ballasts, and metallic mercury in lab packs, no significant additional traffic is anticipated as these waste items are incidental and often commingled with lamp shipments. During a 10 month study of truck traffic at AERC, there was an average of 4.5 truck trips a day, and trucks are not usually full at present. AERC has been transporting PCB-containing ballasts, and store them up to 10 days. The permit modification will allow AERC to store ballasts up to 30-days. Thus, although permitted storage and treatment capacity will increase, there will be no significant additional impact to transportation because of this permit modification.

This project will not result in an environmentally significant change in transportation or circulation patterns. Because of the industrial nature of the area and the intermittent schedule on which the wastes arrive, the traffic generated by AERC's waste shipments do not create any noticeable or significant impacts to the area or to the businesses surrounding AERC.

The facility serves as a collection point to consolidate lighting waste and electronic waste. This consolidation may serve to facilitate a decrease in the number of vehicle trips leaving the facility.

- b. Exceed, either individually or cumulatively, a level of service standard established by the country congestion management agency for designated roads or highway.

See response to Subcategory a. above.

- c. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

See response to Subcategory a. above.

- d. Result in inadequate emergency access.

See response to Subcategory a. above.

Although the storage or treatment capacity will increase as a result of the permit modification, the project will not result in inadequate emergency access. AERC, as a transporter, has been transporting lighting ballasts and storing them in the facility up to 10 days; the metallic mercury lab packs storage will

take place previous liquid mercury storage; and the lamp crusher LSS1 occupies in the same vicinity of previous crusher. The emergency access will not be impacted because of this project.

- e. Result in inadequate parking capacity.

The proposed project will not entail an increase in the existing employee base, thus not impacting existing on and off-site parking capacity.

- f. Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks).

This project does not involve the use of public transportation nor increase existing employee commute habits that would otherwise require an analysis of transportation alternatives.

*Specific References (list a, b, c, etc):* 1, 5

Findings of Significance:

- ? Potential Significant Impact  
 ? Potentially Significant Unless Mitigated  
 x Less Than Significant Impact  
 ? No Impact

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## **16. Utilities and Service Systems**

*Project activities likely to create an impact:* None

*Description of Environmental Setting:*

Utilities and services systems used by AERC are similar to any small business. Upgrades to the building's electrical utility circuits supplying the LSS1 have been reviewed and approved by the City of Hayward. There will be no other change in demand for utilities associated with these permit modification. No wastes are discharged to the sewer from this facility.

The proposed permit modifications do not constitute a significant alteration of the existing demand for utilities. No increases in the need for gas or water utilities have been identified. This project will not involve or result in a need for any new utilities. Therefore, no more analysis on this environmental resource is necessary.

*Analysis of Potential Impact:* Describe to what extent project activities would:

- a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.
- b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- c. Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed.
- e. Result in determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the projects projected demand in addition to the providers existing commitments.

- f. Be served by a landfill with sufficient permitted capacity to accommodate the projects solid waste disposal needs.
- g. Comply with federal, state, and local statutes and regulations related to solid waste.

*Specific References (list a, b, c, etc): 1, 5*

Findings of Significance:

- ? Potential Significant Impact
- ? Potentially Significant Unless Mitigated
- ? Less Than Significant Impact
- No Impact

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### **17. Mandatory Findings of Significance**

Analysis of Potential Impacts. Describe to what extent project activities would:

- a. Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory.

This project does not involve nor authorize discharges into the environment. The modified permit prescribes stringent ambient and physical monitoring of the facility's operations.

- b. Have impacts that are individually limited but cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.]

A review of the facility's operations by third party industrial hygienists indicates limited to zero emissions. Medical monitoring of employees corroborates no impacts to AERC employees. There are no similar projects nearby the AERC.

- c. Have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly.

Industrial Hygiene surveys conducted for this application indicate no potential adverse working conditions or substantial adverse effects on human beings, either directly or in-directly.

*Specific References (list a, b, c, etc): 1, 5*

Findings of Significance:

- ? Potential Significant Impact
- ? Potentially Significant Unless Mitigated
- Less Than Significant Impact
- ? No Impact

#### V. DETERMINATION OF DE MINIMIS IMPACT FINDING

Prepared only if a Finding of De Minimis Impact to fish, wildlife and habitat is proposed in lieu of payment of Department of Fish and Game Notice of Determination filing fee required pursuant to section 711.4 of the Fish and Game Code.

##### Instructions

A finding of "no potential adverse effect" must be made to satisfy the requirements for the Finding of De Minimis Impact as required by title 14, California Code of Regulations, section 753.4 "No potential adverse effect" is a higher standard than "no significant impact" and the information requested to provide substantial evidence in support of a "no potential adverse effect" is not identical in either its standard or content to that in other parts of the Initial Study.

In the *Explanation and Supporting Evidence* section below, provide substantial evidence as to how the project will have no potential adverse effect on the following resources:

- a) Riparian land, rivers, streams, watercourse, and wetland under state or federal jurisdiction
- b) Native and non-native plant life and the soil required to sustain habitat for fish and wildlife
- c) Rare and unique plant life and ecological communities dependent on plant life
- d) Listed threatened and endangered plants and animals and the habitat in which they are believed to reside
- e) All species of plant or animals as listed as protected or identified for special management in the Fish and Game Code, the Public Resources Code, the Water Code, or regulations adopted there under.
- f) All marine and terrestrial plants species subject to the jurisdiction of the Department of Fish and Game and ecological communities in which they reside
- g) All air and water resources the degradation of which will individually or cumulatively result in a loss of biological diversity among the plants and animals residing in that air and water

##### Explanation and Supporting Evidence

The project is carried out in an existing building. There is no construction, dismantling, excavation, or grading is proposed with this project. There are no impacts on riparian lands, wetlands, or soils essential to fish and wildlife habitat. Management practices, operating procedures and an inspection program in the facility operation plan will help to ensure that there are no releases to the environment. No wastes are discharged from this facility into the air or land. AERC has operated at this location since 1989, no significant environmental incidents have occurred during the operation of the facility.

See Environmental Setting Description and Potential Impact Analysis on Section 4. Biological Resources.

##### Finding

Based on the explanation and supporting evidence provided above, DTSC finds that the project will have no potential for adverse effect, either individually or cumulatively on fish and wildlife, or the habitat on which it depends, as defined by section 711.2 of the Fish and Game Code.

#### VI. DETERMINATION OF APPROPRIATE ENVIRONMENTAL DOCUMENT

On the basis of this Initial Study:

x I find that the proposed project COULD NOT have a significant effect on the environment. A NEGATIVE DECLARATION will be prepared.

? I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

? I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

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DTSC Project Manager Signature	Date
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Jennifer Smith Grubb	Senior Hazardous Substances Scientist	510-540-3779
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DTSC Project Manager Name	Title	Phone #
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DTSC Branch Chief/Section Chief Signature	Date
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DTSC Branch/Section Chief Name	Title	Phone #
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**ATTACHMENT A**  
**INITIAL STUDY REFERENCE LIST**

**For**

AERC.COM, Inc., Class 2 Permit Modification to the Existing Standardized Hazardous Waste Facility Permit

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(Project Name)

1. "Request for Class II Modification of Standardized Permit CAD 982 411 993, for Mercury Lamp Recycling Facility in Hayward, CA", dated May 24, 2002 and "AERC Permit Modification Update", requesting amendments on March 1, 2004.
2. Consent Order, Docket HWCA 99/00-2008, dated November 19, 2002.
3. Letter from AERC.com, Inc. submitting revisions to Standardized Permit, dated January 13, 2003.
4. Memorandum from Dave Anderson, Associate Industrial Hygienist, Human and Ecological Risk Division, Industrial Hygiene & Safety Branch, Department of Toxic Substances Control, dated February 28, 2003.
5. Standardized permit application, dated January 1994.
6. California Department of Fish and Game, Natural Diversity Data Base, CD-Government Version, July 5, 2000.
7. <http://baaqmd.gov/pln/ambientairquality.asp>
8. Equipment Comparison, Industrial Hygiene and Air Monitoring Section, AERC Request for Class II Modification of Standardized Permit CAD 982 411 993, for Mercury Lamp Recycling Facility in Hayward, CA.



Figure 1: Location Map of AERC

