



# **VOLUME REDUCTION, MERCURY RECOVERY,** **MERCURY RECLAMATION PROCESSES**



## **COMPLIANCE INSPECTION CHECKLIST**

**INSPECTION TYPE:** ANNUAL (INS1, INS2) ☒ COMPLAINT/DISCOVERY (CI) ☐  
RE-INSPECTION (FUI) ☐ ARMS COMPLAINT NO:

**AIRS ID#:** 0730094 **DATE:** 4/02/2008 **ARRIVE:** 10:00 **DEPART:** 12:15  
**FACILITY NAME:** VEOLIA ES TECHNICAL-TALLAHASSEE  
**FACILITY LOCATION:** 342 Marpan Lane  
TALLAHASSEE 32305  
**OWNER/AUTHORIZED REPRESENTATIVE:** GREG NEWTON **PHONE:** (850)877-8299  
**CONTACT NAME:** Linda Dunwoody **PHONE:**  
**ENTITLEMENT PERIOD:** 5/19/2007 / 5/19/2012  
(effective date) (end date)

**PART I: INSPECTION COMPLIANCE STATUS** (check ☒ only one box)

☐ IN COMPLIANCE ☒ MINOR Non-COMPLIANCE ☐ SIGNIFICANT Non-COMPLIANCE

**PART II: CONTROL TECHNOLOGY– Rule 62-210.300, F.A.C.**

(check ☒ appropriate box(es))

1. Does the facility operate any emissions units other than the volume reduction, mercury recovery, and mercury reclamation processes and emissions units which are exempt from permitting pursuant to the criteria of paragraph 62-210.300(3)(a), or (b), F.A.C., or have been exempted from permitting under Rule 62-4.040, F.A.C.? (Rule 62-210.300(4)(c), F.A.C.)----- ☐ Yes ☒ No
2. Does this facility emit or have the potential to emit 10 tons per year or more of mercury? (Rule 62-210.300(4)(c)1., F.A.C.)----- ☐ Yes ☒ No
3. Was the highest reported exposure limit observed equal to or less than the United States Occupational Safety and Health Administration's (OSHA) permissible exposure limit (PEL) of 1mg/10m<sup>3</sup> for mercury vapor as set forth in 29 CFR 1910.1000, Table Z-2? (Rule 62-296.417(1)(a), F.A.C.)----- ☒ Yes ☐ No
4. Is the area in which the processing equipment (as defined in Rule 62-737.200, F.A.C.) is located, fully enclosed and kept under negative pressure while processing mercury containing lamps or devices? (Rule 62-296.417(1)(b))----- ☒ Yes ☐ No
5. Does this facility control mercury emissions through the use of: (check ☒ either a) or b) whichever is applicable)
  - a) dual air handling systems? ☐
  - b) a single air handling system with redundant mercury controls? ☒

**NOTE:** \*If you have checked 5.a) above, then proceed on to Page 2 and questions 6 through 12 which cover Dual Air Handling Systems.

\*\*If you have checked 5.b) above, then skip questions 6 through 12 and proceed on to questions 13 through 16 which cover Single Air Handling Systems with Redundant Mercury Controls.

**PART II: CONTROL TECHNOLOGY– Rule 62-210.300, F.A.C. (continued)**

(check ☒ appropriate box(es))

**\*Dual Air Handling Systems**

6. Has the owner or operator installed a primary air handling system with air pollution control equipment in order to reduce the mercury content of the air collected during the volume reduction and mercury recovery and reclamation processes? (Rule 62-296.417(1)(c)1., F.A.C.)----- ☐ Yes ☐ No
7. Is the air collected by the primary system, vented within a fully enclosed area of the facility after the air is filtered through the air pollution control equipment? (Rule 62-296.417(1)(c)2., F.A.C.)----- ☐ Yes ☐ No
8. Once each day, while mercury-containing lamps or devices are being processed, is a sample of air collected from within the fully enclosed area of the facility in which the air collected by the primary air handling system is vented? (Rule 62-696.417(1)(c)3., F.A.C.)----- ☐ Yes ☐ No
- a) Is the mercury content of the sample determined and compared with the OSHA PEL?----- ☐ Yes ☐ No
9. Does the owner or operator operate, monitor, and maintain the primary system air pollution control equipment in such a manner as not to exceed the OSHA PEL for mercury vapor within the fully enclosed area of the facility in which the air collected by the primary air handling system is vented? (Rule 62-296.417(1)(c)4., F.A.C.)----- ☐ Yes ☐ No
10. Has the owner or operator installed a secondary air handling system in order to maintain negative pressure in the fully enclosed area of the facility in which the air collected by the primary system is vented? (Rule 62-696.417(1)(c)5., F.A.C.)----- ☐ Yes ☐ No
11. Has the owner or operator installed, and do they operate, monitor and maintain air pollution control equipment to reduce the mercury content of the air collected by the secondary air handling system? )Rule 62-696.417(1)(c)6., F.A.C.)----- ☐ Yes ☐ No
12. Is the primary air handling system with air pollution controls independent and separate from the secondary air handling system with air pollution controls? (Rule 62-696.417(1)(c)7., F.A.C.)----- ☐ Yes ☐ No
- a) Do the primary and secondary air handling systems air pollution controls incorporate carbon filters or equivalent technology?----- ☐ Yes ☐ No

**\*\*Single Air Handling Systems with Redundant Mercury Controls**

13. Does the owner or operator operate, monitor, and maintain an air handling system with redundant air pollution control equipment in order to reduce the mercury content of the air collected during the volume reduction, and mercury recovery and reclamation processes? (Rule 62-296.417(1)(d)1., F.A.C.)----- ☒ Yes ☐ No
14. Does the redundant air pollution control equipment incorporate at least two (2) carbon filters or equivalent technology arranged in series so that the air passes through both filters before being released? (Rule 62-296.417(1)(d)2., F.A.C.)----- ☒ Yes ☐ No
- a) Is each filter designed to ensure compliance with the OSHA PEL for mercury vapor at the emission point in the event of a single filter failure?----- ☒ Yes ☐ No
- b) Was the highest reported exposure limit observed equal to or less than the OSHA PEL of 1 mg/10m<sup>3</sup> for mercury vapor?----- ☒ Yes ☐ No
15. As the facility processes any mercury-containing lamps or devices once each day, and while mercury-containing lamps or devices are being processed, is a sample of air collected downstream of the first carbon filter (or equivalent technology) and upstream of the second? (Rule 62-296.417(1)(d)3., F.A.C.)----- ☐ Yes ☒ No
- a) Is the mercury content of the sample determined and compared with the OSHA PEL?----- ☒ Yes ☐ No
16. Does the owner or operator, operate, monitor and maintain the air pollution control equipment in such a manner as not to exceed the OSHA PEL for mercury vapor downstream of the first carbon filter (or equivalent technology) and upstream of the second? (Rule 62-296.417(1)(d)4., F.A.C.)----- ☒ Yes ☐ No

**PART III: RECORDKEEPING REQUIREMENTS—Rule 62-210.300(3)(a)27. & 28., F.A.C. & 62-210.300(4)(c)1., F.A.C.**  
(check ☒ appropriate box(es))

1. Does the owner or operator of this facility which is subject to this rule maintain records of monitoring information that specifies and includes: (Rule 62-296.417(2), F.A.C.)
  - a) the date, place and time of measurement?----- ☐ Yes ☒ No
  - b) the methodology used?----- ☒ Yes ☐ No
  - c) the analytical results?----- ☐ Yes ☒ No
  - d) calibration and maintenance records of monitoring equipment?----- ☒ Yes ☐ No
2. Does the owner/operator retain records of all monitoring data and supporting information, and make available for Department inspection, these records for a period of at least five years from the date of collection? (Rule 62-296.417(2), F.A.C.)----- ☒ Yes ☐ No

**PART IV: GENERAL CONDITIONS/MAINTENANCE REQUIREMENTS – Rule 62-210.300(4)(e)6., 8., & 12., F.A.C.**  
(check ☒ appropriate box(es))

1. Does the owner or operator make every reasonable effort to conduct the specific activity authorized by the general permit in a manner that minimizes adverse effects on adjacent property or on public use of the adjacent property, where applicable, and on the environment, including fish, wildlife, natural resources, water quality, or air quality?----- ☒ Yes ☐ No
2. Does the owner or operator maintain the permitted facility, emission unit, or activity in good condition? ☒ Yes ☐ No
3. Has the owner or operator allowed the circumvention of any applicable air pollution control devices?--- ☐ Yes ☒ No
4. Has the owner or operator allowed the emission of air pollutants as the result of the malfunction of, or inoperable condition of applicable air pollution control devices?----- ☐ Yes ☒ No

**PART V: SPECIAL CONDITIONS AND PROCEDURES – Rule 62-210.300(4)(d)4., F.A.C.**  
(check ☒ appropriate box(es))

**A. New or Modified Process Equipment**

1. Since the last inspection has there been
  - a) installation of any new process equipment?----- ☒ Yes ☐ No
  - b) alterations to existing process equipment without replacement?----- ☐ Yes ☒ No
  - c) replacement of existing equipment substantially different than that noted on the most recent notification form?----- ☐ Yes ☒ No
  - d) If you answered **YES** to any of the above, did the owner submit a new and complete notification form and appropriate fee (Rule 62-4.050, F.A.C.) to the appropriate DEP or local program office?----- ☒ Yes ☐ No

Tracy White

4/02/2008

\_\_\_\_\_  
Inspector's Name (Please Print)

\_\_\_\_\_  
Date of Inspection

6-12 months

\_\_\_\_\_  
Inspector's Signature

\_\_\_\_\_  
Approximate Date of Next Inspection

**COMMENTS:**

I met with Linda Dunwoody, Operations Manager, and Randy Williams, Operations Supervisor. I first conducted a records review, followed by a walk-thru of the facility.

Ms. Dunwoody brought forth a letter, dated May 15, 2007, for the most recent permit renewal.

The GPCI inspection checklist points were reviewed with Ms. Dunwoody. Also Ms. Dunwoody obtained the equipment flow diagrams from her copy of the permit application binder and gave copies to me.

The facility staff and I reviewed these diagrams to determine sampling points and to provide an overview of the newer facility equipment that may have been installed or went online since the last inspection in late 2006.

There were 4 equipment diagrams used from Figure 5.5.1.4 of the permit application:

- The Retort Air Room System (incorrectly labeled as HID Lamp Processing)
- Retort Processing
- Fluorescent Lamp Processing
- HID Lamp Processing

#### Description of regulated equipment:

- The Retort Air Room System is mainly used to control emissions from the disassembly room or “prep room”. The disassembly room is used for disassembly of “mercury devices.” This room is linked by a door to the retort room, so therefore it appears the equipment in this diagram can provide a negative environment for both rooms. All control equipment exhaust discharges to the outside of the building (stack) as viewed in the permit diagrams.
- The Retort Processing or “retort room” remains essentially unchanged since the last inspection. A 3” PVC pipe still connects the retort room to the Lamp processing room. All control equipment exhaust discharges to the outside of the building (stack) as viewed in the permit diagrams.
- The Fluorescent Lamp Processing room or “crushing room” remains essentially unchanged since the last inspection. All control equipment exhaust discharges to the outside of the building (stack) as viewed in the permit diagrams.
- The HID Lamp Processing is basically a self contained machine that is not located in a room of the facility. All control equipment exhaust discharges to the outside of the building (stack) as viewed in the permit diagrams.

#### Permit information for recent equipment:

- Ms. Dunwoody explained that the permit incorporated the Retort Air Room System through a permit modification that took place before last year’s permit renewal . The equipment was installed around the Spring of 2007.
- Ms. Dunwoody explained that the permit incorporated the HID Lamp Processing process through the most recent permit application on May 25, 2006 and was approved around September 2007. The equipment was said to be installed around April 2007 and online September 19, 2007.
- The other two processes listed in this report appear to remain unchanged with no modifications.

#### Recordkeeping for equipment:

Ms. Dunwoody explained that the recordkeeping sheet has been revised since the last inspection to incorporate the new equipment/processes. I reviewed the equipment diagrams again to determine the actual location of the sampling ports for emission control equipment. It was agreed that all the equipment can be classified as “Single Air Handling Systems with Redundant Mercury Controls.”

It appears that recordkeeping for the Retort Air Room System was not performed according to permit conditions. Ms. Dunwoody explained that this procedure was apparently overlooked. However she immediately contacted the facility’s Environmental Manager and the recordkeeping sheets were instantly updated to incorporate the unit’s sampling point into recordkeeping procedure. The sampling point for the Retort Air Room System is now listed as item #16 on the newly revised recordkeeping log sheet (effective 4/02/2008). Previously facility staff were sampling inside the disassembly room. For the most recent records, it appeared these results did not exceed the OSHA PEL mercury standard.

Recordkeeping for Retort Processing was available for inspection. Records were from October 2007 through March 2008 for the newer log sheet and June 2007 to October 2007 for the older log sheet. Records before that were in storage and not requested. I did not note any excessive levels over the OSHA PEL mercury standard.

The sampling point for the Retort Processing is now listed as item #14 on the newly revised recordkeeping log sheet (effective 4/02/2008).

Recordkeeping for Fluorescent Lamp Processing was available for inspection. Records were from October 2007 through March 2008 for the newer log sheet and June 2007 through October 2007 for the older log sheet. Records before that were in storage and not requested. I did not note any excessive levels over the OSHA PEL mercury standard. The sampling point for the Fluorescent Lamp Processing is now listed as item #12 on the newly revised recordkeeping log sheet (effective 4/02/2008).

It appears that recordkeeping for the HID Lamp Processing was not performed according to permit conditions. Ms. Dunwoody explained that this procedure was apparently overlooked. However she immediately contacted the facility's Environmental Manager and the recordkeeping sheets were instantly updated to incorporate the unit's sampling point into recordkeeping procedure. The sampling point for the HID Lamp Processing is now listed as item #18 on the newly revised recordkeeping log sheet (effective 4/02/2008). Previously facility staff were sampling air "beside" the machine and recording the results. For the most recent records, it appeared these results did not exceed the OSHA PEL mercury standard.

From the inspection observations of the HID Lamp Processing emission control equipment, it appeared that a sampling port was not installed in this location. However Mr. Williams explained that a port would be installed "today."

Note: According to the below website, it appears "the current [4/14/2008] Occupational Safety and Health Administration (OSHA) permissible exposure limit (PEL) for mercury vapor is 0.1 milligram per cubic meter (mg/m(3)) of air as a ceiling limit."

<http://www.osha.gov/SLTC/healthguidelines/mercuryvapor/recognition.html>

#### Inspection of equipment:

- The Retort Air Room System. I viewed the equipment. It appeared to be in operation. The stack was viewed outside the building. No excessive emissions were noted.
- The Retort Processing . I viewed the equipment. It appeared to be in operation, but this was not confirmed. The stack was viewed outside the building. No excessive emissions were noted.
- The Fluorescent Lamp Processing. I viewed the equipment. It did not appear to be in operation. The stack was viewed outside the building. No excessive emissions were noted.
- The HID Lamp Processing. I viewed the equipment. It appeared to be in operation. The stack was viewed outside the building. No excessive emissions were noted. It appeared the equipment needed the installation of a sampling port (see recordkeeping explanation).

During the last part of the records review, the monitoring equipment and associated calibration records were viewed and copies of the records were obtained. There are three units used on the site. The actual unit viewed was the Jerome 431-X, sn 431-2097. Records for all three units (late 2007 and early 2008 calibrations) showed that all three units were "out of calibration" before the re-calibration of the devices.

The inspector did not obtain a copy of any explanation for the results, however it appears that machine #1973's incoming (pre-calibration) reading deviated 0.0336 mg/m3 units from the lower "allowable range" standard on the date of the test, 12/28/2007. These machines may need more frequent calibration (if applicable), depending on manufacturer's recommendation, laboratory recommendations and/or the machine's history or current condition.

#### Recommendations:

- The facility appeared to be in a non-compliance status for insufficient recordkeeping and mercury sampling related to the "Retort Air Room System" and the "HID Lamp Processing equipment" (Rule 62-296.417 (1) (d) 3. and 62-296.417 (2) Florida Administrative Code).