

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Scheduled Inspection

N682128884

FACILITY: Reliable Relamping Inc		SRN / ID: N6821
LOCATION: 6459 NASH HWY, SARANAC		DISTRICT: Grand Rapids
CITY: SARANAC		COUNTY: IONIA
CONTACT: Dan Schmidt, President		ACTIVITY DATE: 03/20/2015
STAFF: Eric Grinstern	COMPLIANCE STATUS: Non Compliance	SOURCE CLASS: MINOR
SUBJECT: Compliance inspection/mercury monitoring		
RESOLVED COMPLAINTS:		

Scheduled inspection of Reliable Relamping, Inc. to determine compliance with Permit to Install (PTI) No. 373-00, as well as applicable state and federal air quality rules and regulations.

At the facility, staff consisting of Joy Taylor Morgan, Amy Robinson and Eric Grinstern (EG) met with Dan Schmidt, President. During a pre-inspection meeting the results of the recent MIOSHA inspection at the facility were discussed. EG informed Mr. Schmidt that the results of the air sampling performed by MIOSHA were credible evidence that the facility had violated the PTI mercury emission limit for the bulb recycling process. It was also explained that Joy Taylor Morgan and Amy Robinson were on-site to conduct air monitoring for mercury with a portable mercury vapor analyzer. The type of analyzer used was a Lumex RA915+.

FACILITY DESCRIPTION

Reliable Relamping services lighting at large retail stores. The used lights are brought back to the facility in Saranac to be processed through the bulb crusher.

REGULATORY ANALYSIS

The facility holds one permit (PTI No. 373-00) for a portable bulb crusher that is mounted in a truck. The permit allows for the unit to be mobile as well as stationary at the Saranac location. The truck mounted unit has not moved from the facility's truck bay for several years.

COMPLIANCE EVALUATION

The bulb crusher was not operating when staff arrived at the facility. However, the facility had a pallet of bulbs waiting to be crushed. Prior to starting the bulb crusher, air monitoring was conducted around the perimeter of the facility. Upon starting operation of the crusher, monitoring was again conducted around the perimeter of the facility as well as inside the warehouse and in the truck where the crusher is mounted.

While Joy Taylor Morgan and Amy Robinson conducted air monitoring around the perimeter of the facility (prior to the operation of the crusher) EG evaluated compliance with the conditions of PTI No. 373-00 with Mr. Schmidt.

EU-LAMPCRUSHER

The emission unit includes the truck mounted lamp crusher controlled by a prefilter, HEPA filter and two carbon beds in series.

Emissions Limits

The emission unit has limits for mercury and particulate. The permit also requires no visible emissions from the emission unit. Compliance with the emission limits is demonstrated through proper operations of the control equipment and through monitoring/testing with a mercury vapor analyzer by the facility. The facility uses a Jerome analyzer. Every two weeks the facility is required to measure the mercury concentration between the primary and secondary carbon filters in accordance with Special Condition No. 15:

Every two weeks, according to a method acceptable to the Air Quality Division, the permittee shall measure the mercury and mercury compounds concentration in the exhaust gas stream between the Primary Carbon Filter and the Secondary Carbon Filter, and after the Secondary Carbon Filter. If the mercury concentration is 0.01 mg/m³ or greater, the permittee shall remove the Primary (lead) Carbon Filter from service, and replace it with the Secondary (lag) Carbon Filter. The permittee shall then replace the Secondary Carbon Filter with a new one. If the mercury concentration after the Secondary Carbon Filter is also found to be 0.01 mg/m³ or greater, both carbon filters shall be replaced. (R 336.1205, R 336.1224, R 336.1225, R 336.1901, 40 CFR 52.21 (c) and (d))

Review of facility records from June 29, 2012 until present show that the testing has been conducted and that the highest recorded mercury reading between the primary and secondary filters was 0.003 mg/m³. The highest recorded reading after the secondary filter was 0.001 mg/m³. Additionally, the facility conducted monitoring in the warehouse that was never recorded above 0.00 mg/m³. The facility conducted "functional tests" (calibration checks) on January 11, 2013, August 2, 2013, March 14, 2014 and September 26, 2014. All checks were recorded as being "ok". Mr. Schmidt stated that a functional test was conducted within the last week that showed the monitor was reading high and that it would need to be calibrated.

Mr. Schmidt stated that they have only replaced a carbon filter once since the crusher has been in operation.

On October 29, 2014, MIOSHA conducted air monitoring which documented exceedances of the 0.05 mg/m³ mercury limit contained in PTI No. 373-00 on five separate times. The documented exceedances were between 0.052 and 0.101 mg/m³.

Sampling conducted during this inspection also showed readings greater than the 0.05 mg/m³ emission limit.

Status: Non- Compliant

Exceedance of mercury emission limit.

Production Limit/Records

The permit limits the number of lamps that can be processed to no more than 500,000 lamps per calendar month as a combined total for all sites. Compliance with the production limit is demonstrated through daily and monthly records of the number of lamps processed. Review of the facility records demonstrated compliance with the production limit.

Status: Compliant

Process/Operational Limits

The permittee must handle, transport and dispose of all mercury contaminated wastes according to applicable regulations. Mr. Schmidt stated that the TCLP analysis for the crushed glass and phosphate powder allows for each to be handled as a universal waste. The phosphate powder is picked up by Cleanlites Recycling to be shipped to a retort facility. The crushed glass is placed in a roll-off dumpster along with the general facility waste. Observation of the dumpster showed a fairly large amount of crushed glass on the ground adjacent to the dumpster. Air monitoring around the crushed glass showed elevated mercury readings above background. An employee of the facility began cleaning up the crushed glass and dumping it into the dumpster. Mr. Schmidt stated that the dumpster had a hole in the bottom that allowed the glass to fall out on the ground.

The permittee is required to maintain the emission unit according to the Inspection and Maintenance Plan in Appendix A of the permit and to inspect the prefilter on a daily basis and the HEPA filter on a weekly basis. The facility records contained check sheets indicating that the PM requirements had been conducted. There are pressure drop gauges associated with the pre-filter as well as the HEPA filter. The gauge for the pre-filter was registering a reading less than 1.0 inch W.C., while the gauge for the HEPA filter was pegged out. Mr. Schmidt stated that they utilize the daily and weekly inspections to evaluate the condition of the filters, not the pressure drop gauges. The permit does not require the use of pressure drop gauges.

Status: Non-Compliant

Failure to properly dispose of mercury contaminated waste

Equipment Limits

The facility is required to maintain system seals, blowers, filters and carbon filters. Compliance with this condition is based upon the PM checks that the operator performs.

EG asked Mr. Schmidt about the cleaning of the pre-filter. Mr. Schmidt stated that the pre-filter is cleaned with air blowdown internally. EG asked about removal and cleaning of the pre-filter. Mr. Schmidt stated that they have only had to remove the filter for cleaning 2-3 times in the last ten years. EG questioned if the pre-filter was blown off uncontrolled in the parking lot. Mr. Schmidt stated that he has never conducted the cleaning. EG discussed with Mr. Schmidt that the any cleaning has to be done in a manner to properly handle collected air contaminants.

Status: Compliant

Stack Condition

The exhaust gases are required to be discharged unobstructed vertically upwards. The exhaust point on top of the truck is not fully visible from the ground. The facility provided a ladder for sampling the exhaust of the crusher. While sampling the exhaust EG observed that the exhaust has a slotted vent cover.

The exhaust gases from EU-LAMPCRUSHER shall be discharged unobstructed vertically upwards to the ambient air from a stack with a maximum diameter of 4 inches at an exit point not less than 13 feet above ground level. (R 336.1225, R 336.1901)

Status: Non-Compliant

Exhaust is obstructed.

Air Sampling

Sampling conducted with the Lumex monitor showed mercury levels above published background concentrations around the perimeter of the facility. There was also a noted increase in recorded mercury levels around the perimeter of the facility when the bulb crusher was operating. Sampling conducted at the outlet of the crusher showed emission levels below the permitted limit. The readings above the permitted limit were observed while sampling half way into the trailer.

A separate report will summarize the mercury sampling conducted during the inspection.

CONCLUSION

The facility will be issued a VN for the following violations:

- Exceedance of the permitted emission limit for mercury
- Failure to properly dispose of mercury contaminated wastes
- Failure to exhaust gases unobstructed vertically upwards

NAME 

DATE 3/26/15

SUPERVISOR 

