



**Florida Department of  
Environmental Protection  
Hazardous Waste Inspection Report**

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**FACILITY INFORMATION:**

**Facility Name:** Lighting Resources LLC  
**On-Site Inspection Start Date:** 03/13/2014      **On-Site Inspection End Date:** 03/13/2014  
**ME ID#:** 40403      **EPA ID#:** FLR000070565  
**Facility Street Address:** 1007 SW 16th Ln, Ocala, Florida 34474  
**Contact Mailing Address:** 1007 SW 16th Ln, Ocala, Florida 34471  
**County Name:** Marion      **Contact Phone:**

**NOTIFIED AS:**

LQG (>1000 kg/month)  
Transporter

**INSPECTION TYPE:**

Complaint Inspection for TSD Facility Unit Type(s)  
Complaint Inspection for LQG (>1000 kg/month) facility

**INSPECTION PARTICIPANTS:**

**Principal Inspector:** John E. White, Inspector  
**Other Participants:** Michael Eckoff, Environmental Specialist; Jason Muhlenkamp, Facility Manager

**LATITUDE / LONGITUDE:** Lat 29° 10' 20.7785" / Long 82° 8' 49.0004"

**SIC CODE:** 4212 - Trans. & utilities - local trucking, without storage

**TYPE OF OWNERSHIP:** Private

**Introduction:**

On March 13, 2014 John White and Michael Eckoff, Florida Department of Environmental Protection (FDEP), inspected Lighting Resources, LLC for compliance with hazardous waste, universal waste, and mercury recycling regulations. Inspectors were accompanied by Jason Muhlenkamp, Lighting Resources Facility Manager. The inspection was prompted by a complaint alleging mismanagement of spent lamps by facility personnel.

Lighting Resources, located at 1007 SW 16th Lane, Ocala, Marion County, Florida, operates a facility for recovery of mercury from mercury containing lamps under RCRA Permit 0309339-HO-001. The permit was issued July 6, 2012, and expires July 6, 2017. A permit modification was made on March 4, 2014, to increase the storage volume allowed for processed glass, phosphor powder, and processed metals.

Lighting Resources notified FDEP as a Transporter and Large Quantity Handler of Universal Waste Lamps and Devices and received EPA identification number FLR000070565 on February 17, 2011. Lighting Resources began mercury lamp processing operations at this location on July 11, 2012.

The facility operates Monday through Friday with one shift 8:00 AM to 4:00 PM. Lighting Resources is connected to City of Ocala drinking water and sanitary sewer services.

**INSPECTION HISTORY:**

Lighting Resources was last inspected on April 25, 2013, in a joint FDEP and U.S. EPA inspection. The facility was not in compliance at that time. Violations cited included: receipt of hazardous waste from a foreign source without proper notification; training was not conducted annually for personnel; position descriptions for personnel were not correct; mercury containing lamps were

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being broken by employees in the storage area in uncontrolled conditions; emergency contacts in the contingency plan were not up to date; universal waste lamps and batteries were not properly labeled; the volume of phosphor powder stored on site exceeded the permit limit; and weekly inspection documents were found to have been completed for future dates.

The initial inspection by the Department was conducted in August 2012. The facility was cited for not meeting permit requirements by not maintaining the log documenting the 12 week rolling average, not having the proper signage and not documenting weekly inspections. The facility was advised to ensure employees had the proper training and that hazardous waste from outside entities could not be stored on site for more than 24 hours. The facility provided the corrective actions and no further action was taken.

### **Process Description:**

Lighting Resources is permitted to operate a mercury containing lamp and device storage and recovery facility. The storage of mercury containing lamps are limited to 139,104 T-12 lamps or 45.0 tons. Total storage of processed glass should be a maximum volume of four 20-yard roll-off containers, or 120,000 lbs, of separated glass. Total storage of processed metals should be a maximum of 45,000 lbs or sixty 55-gallon drums. Maximum storage capacity of phosphor powder should be 24,000 pounds or thirty-two 55-gallon drums.

Lighting Resources is a hazardous waste transporter, a universal waste transporter and handler, and a processor of mercury containing lamps. Waste coming into the facility is unloaded and placed inside the warehouse in the counting area where the number of containers described on the shipping paper is verified with the number of containers delivered by the trucking company. From there, the waste is moved to one of ten rows in the processing storage area. Bulbs are processed within 72 hours.

Located in a separate room with an air filtering system and self contained, negative pressure process, is a Balcan MP8000. The Balcan MP8000 lamp processor separates the glass, end caps and phosphor powder from mercury containing lamps. The equipment operates all day during each business day. The lamps are fed into the processor on a conveyor belt and pass through crushers. Phosphor powder is continuously pulled out of the system by air handlers. Glass and metal end caps are separated and fall out into separate containers. Lamps are processed by type with one machine handling long tubes and a second, multi-purpose machine handles crushed lamps, HID lamps, CFLs, and other miscellaneous lamps. Plastic shields are removed from bulbs prior to processing in the warehouse.

### **INSPECTION NARRATIVE:**

Inspection of the warehouse began in the staging area for incoming materials. Trucks are off-loaded and containers are counted to verify the shipping paper(s). Once verified, intact lamps are moved to rows 1 through 9 in the warehouse and crushed lamps are moved to row 10.

Wastes that come in on one shipping paper are kept together on a pallet and are shrink wrapped with a copy of the shipping paper and a universal waste label. A written log is maintained by personnel identifying the shipping paper number, the generator of the waste, the date the waste arrived on-site, and the date the waste was verified.

Row 1 contained twenty 55-gallon drums of universal waste batteries and alkaline batteries. Batteries are shipped to Metal Conversions Technology, Cartersville, Georgia, and Battery Solutions, Howell, Michigan. All of the batteries were properly labeled and managed.

Row 2 contained four 55-gallon drums of compact fluorescent lamps. All of the containers were properly labeled and managed.

Row 3 was empty and Rows 4 through 9 contained pallets of universal waste lamps. All of the pallets were properly labeled and managed. The labels are marked with the date the lamps arrived on site.

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Row 10 contained eighteen 55-gallon drums of crushed lamps. Each drum was properly labeled with the appropriate Universal Waste label, dated, and marked with a container weight. Nine 55-gallon drums of phosphor powder were stored adjacent to Row 10. Two more drums of phosphor powder were identified in the warehouse, for a total of eleven drums. All of the containers were properly labeled and managed.

Along one wall of the warehouse is the battery sorting area. Batteries are sorted by type and placed into 55-gallon drums. At the time of the inspection there were three 55-gallon drums of lead-acid batteries, three 55-gallon drums of nickel cadmium batteries, one 55-gallon drum of nickel metal hydride batteries, and two 55-gallon drums and one 30-gallon drum of lithium batteries. There were also two 55-gallon drums of non-hazardous, non-universal waste alkaline batteries. Terminals on all lithium-ion batteries were properly taped. All of the drums were properly labeled and managed.

The hazardous waste storage area is located near the loading dock. It is marked off with yellow tape. At the time of the inspection the facility was storing two 55-gallon drums of hazardous waste floor sweepings. Both drums were properly labeled "Hazardous Waste." One drum was dated 2-10-2014 and the second drum was dated 3-13-2014.

Within the processing room were eleven 55-gallon drums of phosphor powder, one 55-gallon drum of Spent personal protective equipment (PPE), and one 5-gallon pail of mercury ampoules. All containers were properly labeled, dated, and managed.

Two air filtration devices, each with six filters, separate phosphor powder from the glass and metal of the lamps. A vacuum pulls the powder onto the filter and then drops it into a 55-gallon accumulation drum. Both drums were properly labeled "Hazardous Waste" and dated.

A gaylord box contained metal end caps separated from lamps and a hopper contained processed glass. A second gaylord box contained CFL end caps processed by the multi-purpose machine.

In the glass storage area were three roll-off containers identified as C1, C2, and C3. There was approximately 37,543 pounds of glass on site at the time of the inspection. A log book is maintained that identifies the volume of processed glass and which container it went into.

A trailer contains processed metal end caps and electronic waste (e-waste) destined for Trademark Metals Recycling.

#### RECORDS REVIEW:

Records reviewed included disposal manifests, weekly inspection logs for accumulation containers, weekly and 12-month rolling average mercury analyses for spent materials, training records and contingency plan.

Freehold Cartage is the hazardous waste transporter and Lighting Resources (IND000351387), Greenwood, Indiana, is the designated facility for wastes shipped off-site for recycling.

End caps are recycled as scrap metal through Trademark Metals Recycling and glass is sent to the Marion County Landfill, Ocala, Florida. Phosphor powder is shipped off-site every two weeks to Lighting Resources facility in Indiana for retorting.

Sample analysis logs were reviewed for Lamp Glass, End Caps, HID Bases, and Shatter Shields. Samples of lamp glass and end caps are obtained daily and composited and analyzed weekly for mercury. Mercury content must be less than 1 part per million (ppm) "average" for a twelve week running average and less than 3 ppm for any weekly composite. No issues were noted during review of the sample results or logs.

On March 20, 2014, a copy of the facility's Waste Minimization Plan was provided for review. No issues were noted.

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**Conclusion:**

Lighting Resources LLC was inspected as a mercury processor, large quantity generator of hazardous waste, and a universal and hazardous waste transporter. The facility was in compliance at the time of the inspection. Complaint allegations of mismanagement of spent mercury containing lamps was not verified.

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**Signed:**

A hazardous waste compliance inspection was conducted on this date, to determine your facility's compliance with applicable portions of Chapters 403 & 376, F.S., and Chapters 62-710, 62-730, 62-737, & 62-740 Florida Administrative Code (F.A.C.). Portions of the United States Environmental Protection Agency's Title 40 Code of Federal Regulations (C.F.R.) 260 - 279 have been adopted by reference in the state rules under Chapters 62-730 and 62-710, F.A.C. The above noted potential items of non-compliance were identified by the inspector(s).

This is not a formal enforcement action and may not be a complete listing of all items of non-compliance discovered during the inspection.

John E. White

**PRINCIPAL INSPECTOR NAME**

Inspector

**PRINCIPAL INSPECTOR TITLE**

FDEP

**ORGANIZATION****Supervisor:**Aaron Watkins

NOTE: By signing this document, the Site Representative only acknowledges receipt of this Inspection Report and is not admitting to the accuracy of any of the items identified by the Department as "Potential Violations" or areas of concern.