



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
RESOURCE CONSERVATION AND RECOVERY ACT

GENERAL INFORMATION

Facility Name: Lexmark International Inc.

RCRA ID: COD983775123

Facility Location:

6555 Monarch Road, Longmont, CO

Facility Contact:

Vlad Kantorovich, 303-581-5054,
vlad.kantorovich@lexmark.com

Notification Status:

Large Quantity Generator

Date of Inspection: August 16, 2023

Arrival Time: 8:45 a.m.

Departure Time: 4:45 p.m.

Lead Inspector & Report Author: Annette Maxwell, U.S. EPA Inspector

Inspection Attendees:

1. Jackie Vega, U.S. EPA
2. David Foster, CDPHE
3. Vlad Kantorovich, Lexmark International Inc. (Lexmark)
4. Don Knowles, Lexmark
5. Mark Jadvani, Lexmark
6. Mark Watkins, Lexmark
7. Rahel Bogale, Lexmark
8. Trent Peter, Lexmark
9. Tanner Hinton, Lexmark
10. Susan Peil, Lexmark

Type and Purpose of Inspection: Compliance Evaluation Inspection
Compliance with RCRA Subtitle C

Facility Type: NAICS 325992 - Photographic Film, Paper, Plate, Chemical, And Copy Toner Manufacturing

Applicable Regulations: R6 CCR 1007-3 Parts 260-279

Inspection Type: Announced Inspection
EPA inspection with CDPHE accompanying

Disclaimer

This report is a summary of observations and information gathered from the facility at the time of the inspection. The information provided does not constitute a final decision on compliance with RCRA

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regulations, nor is it meant to be a comprehensive summary of all activities and processes conducted at the facility.

OPENING CONFERENCE

Upon arrival at the facility, an opening conference was conducted with Mr. Kantorovich. Jackie Vega and I presented our federal inspector credentials to the facility personnel and explained the purpose of the inspection. We were not denied access to the facility and were allowed to inspect all areas that we selected for inspection.

The following information was obtained verbally during the inspection from the above-listed facility personnel unless otherwise noted.

FACILITY OVERVIEW

Regulatory Status

According to RCRAInfo, Lexmark International Inc. (Lexmark) is a large quantity generator (LQG) of hazardous waste. During the inspection, Mr. Kantorovich confirmed this generator status.

Facility and Process Description

Lexmark is a manufacturer of toners and photoconductors. The facility is leased from Kyndryl (formerly IBM). At the time of the inspection, the site had approximately 140 employees and production was 24/7 in three shifts. Products manufactured at this location include photoconductor drums (application of coatings to aluminum cylinders) and conventional toner (processes include extrusion, milling, and blending). The site also performs development and pilot scale-up for chemical process toner (CPT). Processes generating hazardous waste include photoconductor manufacturing, toner manufacturing, facility maintenance, and laboratories.

Hazardous waste is accumulated in approximately 46 satellite accumulation areas (SAA), one interior 90-day central accumulation area (CAA), one outdoor 90-day CAA, and one 90-day 3,000-gallon hazardous waste tank. The tank holds spent THF and resins and is in light liquid service with applicability to Subpart BB for RCRA air emissions. Most of the BB-applicable piping is welded, but the applicable valves number is approximately 55 and are tagged. Valves and pumps are monitored annually, with a no-detectable-emissions leak detection limit of 500 ppm.

Elementary neutralization is conducted in the anodization area prior to discharge to the sanitary sewer pursuant to a City of Boulder permit. The City inspects the facility annually. The wastewater treatment system includes an industrial wastewater tank where laboratory sinks are routed for monitoring prior to discharge but not for treatment. Monitoring results for this tank are sent quarterly to the City of Boulder.

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Based upon the facility's 2023 Biennial Report, commonly generated hazardous waste includes, but is not limited to:

- Knockout filters liquid, D002
- Waste solvents, D001, F005
- Lab solvents, D001, D022, F002, F003, F004, F005
- Knockout pot solids, D018
- Solids from manufacturing, F005
- Spent organic liquid, D006, D007
- Bulk wash water from tank cleanouts, D001, D035, F005

TOUR INFORMATION

All photographs collected during the inspection and referenced below are included in Attachment 1 – Photograph Log.

Areas of the Facility included in the site tour:

- Photoconductor manufacturing areas with SAAs
- Toner manufacturing areas with SAAs
- Indoor 90-day CAA
- Outdoor 90-day CAA
- Laboratories with SAAs
- Anodizing
- The wastewater neutralization system (in anodizing)
- Precious metals recovery
- Truck loading across the street from the hazardous waste tank
- Used oil storage
- Universal waste storage
- Pipe runs to the hazardous waste tank

The following narrative includes areas listed above in which conditions of interest or potential deficiencies were noted. The information included below was obtained by my observation or by explanation provided by the accompanying facility personnel unless otherwise noted.

In the Building 031A Analytical Lab prep room, I observed that an SAA container was marked with the words "Hazardous Waste" and with a DOT Class 9 "miscellaneous" hazardous materials label but did not include a marking or label that provided an indication of the hazards of the contents specific to that waste. Such placards are appropriate for meeting DOT requirements for shipments of hazardous waste but do not provide an indication of the hazards specific to each waste as required by 6 CCR 1007-3 § 262.15(a)(5)(ii). See Attachment 1, photos 1 and 2.

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Nearby in Building 031A, I observed a room holding approximately 50 drums and two cubic yard boxes of shredded circuit boards awaiting precious metal recovery for gold and copper, see Attachment 1, photos 3 and 4. Ms. Bogale said the drums were from the Mexico and Poland assembly locations. Ms. Peil said the precious metal recovery was currently at a lab bench scale as they were still working on developing the recovery process. Mr. Kantorovich added that they were not continuing to bring more in at that time.

In Building 031 at EX-4 (Extrusion 4 Process), I observed two 55-gallon drums in an SAA, one of which was a blue poly drum marked to contain corrosive hazardous waste liquids, and the other a black metal drum marked to contain hazardous waste solids but placarded miscellaneous DOT Class 9 and not with an indication of the hazards specific to the waste. See Attachment 1, photo 5.

At the Tank Farm, Mr. Kantorovich identified which tanks held various products, and Ms. Peil explained that an outside basin had been originally designed to capture fire suppression water but also collects stormwater and can collect spills if they were to happen. The hazardous waste tank (T305, see Attachment 1, photos 6-9) containment consisted of the tank's primary shell, a secondary wall (double-walled tank), and for tertiary containment, a concrete pad with a metal liner. The tank is set up with overfill protection for high-high at 90% of working capacity and an 85% high level warning. The second level containment outer tank wall was equipped with continuous interstitial leak detection that notifies via a central alarm panel. Ms. Peil said the tank is nitrogen-inerted, as are all of the other tanks.

From the hazardous waste tank, the waste is pumped across the driveway to unload to trucks for transport. Nitrogen is used to push residual hazardous waste from the line back into the tank after trucks are loaded. At the truck loading point where hazardous waste is transferred to tankers, I observed that a valve had no cap or second valve. See Attachment 1, photos 10-12.

At the outdoor 90-day CAA, I observed that containers were closed and in good condition, with no visible leaks or spills. See photos 13-40. Although the containers were marked with the words "Hazardous Waste", I observed that many were not marked with an indication of the hazards specific to the waste they contained and were instead marked with miscellaneous DOT Class 9 placards. Such placards are appropriate for meeting DOT requirements for shipments of hazardous waste, but do not provide an indication of the hazards specific to each waste as required by 6 CCR 1007-3 § 262.17(a)(5)(i)(B). One 55-gallon drum of F005 hazardous waste solids was not marked with an accumulation start date as required by 6 CCR 1007-3 § 262.17(a)(5)(i)(C), see photo 16.

In a containment locker located in the outdoor 90-day CAA, hazardous waste containers with flammable placards were stored on one side and hazardous waste containers with corrosive placards were stored on the other side. Despite being stored at a distance of several feet separating the containers, it was unclear if the grated area beneath the containers was equipped with separation barriers or if it was a single space that might enable spills to intermingle.

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At the CPT development lab, I observed that a blue poly 55-gallon hazardous waste SAA drum holding contaminated PPE and rags was marked with the words "Hazardous Waste" but for the indication of the hazards, was marked only with miscellaneous DOT Class 9 placard and not with an indication of the hazards specific to the waste. See Attachment 1, photo 51. Also in this area, a 55-gallon drum was marked non-hazardous.

In the 53G PCDE South Lab, I observed a blue poly SAA drum marked with the words "Hazardous Waste" but for the indication of the hazards, was marked only with miscellaneous DOT Class 9 placard and not with an indication of the hazards specific to the waste. See Attachment 2, photo 52.

In a conference room, I observed the calibration gas (see Attachment 1, photo 56) and PID unit used for Method 21 monitoring. Ms. Peil explained that a correction factor of 0.4 is programmed into the MiniRAE 3000 PID, which is equipped with a 10.6 eV bulb, to have the 3,000 ppm n-hexane calibration gas read as 3,000 ppm isobutylene. The target gas being monitored is tetrahydrofuran. Following the inspection, I reviewed publicly available documentation from RAE Systems, and based on that review, the 0.4 correction factor appears to be appropriate, calculated by dividing the isobutylene correction factor for the constituent of interest (THF, 1.7) by the isobutylene correction factor for the calibration gas (n-hexane, 4.3). These correction factors are published in the Rae Systems technical bulletin 106. In addition, it appears that using a 10.6 eV bulb is appropriate for n-hexane calibration gas and for detection of THF based on their ionization energies. Although the use of this calibration gas and PID appear to be well-reasoned selections for monitoring of THF, additional consideration is needed due to the wording of 6 CCR 1007-3 § 265.1063(b)(4)(ii) and 6 CCR 1007-3 § 265.1063(c)(1) (state regulation analogues to 40 CFR 265.1063(b)(4)(ii) [leak detection monitoring] and 40 CFR 265.1063(c)(1) [NDE]), which specify the use of 10,000 ppm n-hexane in air (which is not commercially available as a calibration gas above 6,000 ppm in air), or 10,000 ppm methane in air (which is not detectable by PIDs).

At the thin film evaporation unit, the facility personnel said the piping coming from the bottom of the unit routes to the hazardous waste tank and that incoming THF is routed from Tank 300 on piping marked "Recyclable THF." The unit is run frequently but is not emptied every time, and waste from the unit is pumped to the hazardous waste tank a minimum of two times per month. Mr. Hinton added that pumping to the hazardous waste tank is automated, and that the unit is equipped with two pressure relief devices and one working vent. Ms. Peil said the that approximately 90% of the solvent is recovered by the unit.

At anodization in Building 30, I observed two separate SAAs, each containing a 55-gallon SAA drum marked to contain corrosive hazardous waste.

At photoconductor operations, I observed an approximately 10-gallon SAA container for PPE, rags and Q-tips contaminated with THF that was marked with a DOT Class 9 placard but no indication specific to the hazards of that waste. A Lexmark employee, Andrew Mason, provided an overview of the

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operations in this area, and pointed out that a coating process is the point of generation for THF to be recycled.

At the indoor 90-day central accumulation area located in B030 Building, I observed universal waste lamps, lead acid batteries, and containers marked with the words: hazardous waste, with an indication of the hazards, and with accumulation start dates. A Veolia waste profile sheet was located in the area, see Attachment 1, photos 58-59.

In the Building 3 Oil Room at SAA MT-3, I observed that a 55-gallon SAA drum was marked with a DOT Class 9 placard but no indication specific to the hazards of that waste. Also at SAA MT-3, a weekly inspection log was posted that was missing entries for 2023. See Attachment 1, photo 61.

ON-SITE RECORD REVIEW:

Central Accumulation Area Inspection Records: Inspection logs were reviewed, and no concerns were identified at the time of the inspection.

Hazardous Waste Manifests: 2020 through August 2023 manifests were reviewed. Mr. Kantorovich said that manifests marked with the F005 waste code for a specific waste containing MEK should not have carried that code. Mr. Foster suggested that the facility conduct an audit on how wastes are profiled by the treatment/disposal facilities because the hazardous waste codes affect the treatment a waste is subject to.

Annual Tank Inspection Records: No concerns were identified for this documentation at the time of the inspection.

Training Records: No concerns were identified for this documentation at the time of the inspection.

Document listing the job title for each position at the facility related to hazardous waste management, the name of the employee filling each job, and the written job description for each position: laboratory staff were not included in this documentation.

CLOSING CONFERENCE

During the closing conference, I requested copies of the contingency plan, quick reference guide, certain waste profiles, spill records (if any), and a summary of the 90-day tank contents.

Following the inspection, I requested by email for the hazardous waste tank: 1) the tank's maximum pressure design capacity, 2) the set points for each of the pressure relief devices on the tank, and 3) the maximum organic vapor pressure as it is defined in 6 CCR 1007-3 §265.1081.

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Post-Inspection Documentation Received

The following documentation was provided to the EPA by email following the inspection:

- 8/16/2023: site overview presentation.
- 8/17/2023: contingency plan and associated documents including the quick reference guide and local authority agreements and documentation of attempts to notify, a hazmat inventory, and waste profiles.
- 8/18/2023: a waste profile.
- 8/22/2023: Tank 305 maximum vapor pressure determination, pressure relief device photographs, a tank drawing, documentation of waste constituents, and a summary stating the tank maximum pressure design capacity is 202.325 kPa (1 atm), the set point for each of the pressure relief devices on the tank is 104.772 kPa (0.5 psig), and the maximum organic vapor pressure as defined by 6 CCR 1007-3 §265.1081 is 40.100 kPa.

Based on the review of the documentation provided, it appears that the quick reference guide does not contain a map of the facility showing where hazardous wastes are generated, accumulated, and treated, as well as routes for accessing these wastes as required by 6 CCR 1007-3 §262.261(h)(4).

INSPECTION FOLLOW-UP

Details regarding requested follow-up will be included in correspondence to the facility, as appropriate.

SIGNATURES

ANNETTE MAXWELL

Digitally signed by ANNETTE MAXWELL
Date: 2025.01.07 10:22:50 -07'00'

Annette Maxwell, Inspector

KRISTIN MCNEILL

Digitally signed by KRISTIN MCNEILL
Date: 2024.12.23 13:53:16 -07'00'

Acting for Sri Susarla, Manager
RCRA and OPA Enforcement Branch
Enforcement and Compliance Assurance Division

ATTACHMENT LIST

Attachment 1 – Photograph Log