ENVIRONMENTAL PROTECTION AGENCY
REGION 1 – NEW ENGLAND
5 POST OFFICE SQUARE, SUITE 100
BOSTON, MASSACHUSETTS 02109-3912

March 3, 2023

Leonel Klassen, Sr. VP of Operations

Elektrisola Inc.

126 High Street

Boscawen, NH 03301

Elektrisola
Re: U.S. EPA-Region 1 Inspection Report of LLC, January 3, 2023

Dear Mr. Klassen:

In accordance with current policy, I am providing you with a copy of the final inspection report summarizing observations made during the January 3, 2023 inspection of your facility. Excluding Attachment 2, report attachments have not been included as these are documents already in the Facility's possession.

This inspection was conducted under the authority of RCRA.

Please contact me at 617-918-1876 or brolin.linda@epa.gov if you have any questions.

Sincerely,
MARY ODONNELL
Digitally signed by MARY ODONNELL
Date: 2023.03.03 12:33:37 -05'00'
For --
Linda Brolin, Environmental Engineer
Waste and Chemical Compliance Section

Disclaimer: Unless otherwise noted, this report describes conditions at the facility/property as observed by EPA inspector(s), and/or through records provided to and/or information reported to EPA inspector(s) by facility representatives and as understood by the inspector(s). This report may not capture all operations or activities ongoing at the time of the inspection. This report does not make final determinations on potential areas of concern. Nothing in this report affects EPA's authorities under federal statutes and regulations to pursue further investigation or action.

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RCRA Compliance Inspection of:

Elektrisola Inc.

Boscawen, NH

January 3, 2023
Date of Inspection

March 3, 2023
Date Inspection Report Approved

March 3, 2023
Date Inspection Report Finalized

March 3, 2023
Date Inspection Report Transmitted to Facility

Linda Brolin, Environmental Engineer
Waste and Chemical Compliance Section

MARY ODONNELL
Digitally signed by MARY ODONNELL
Date: 2023.03.03 12:35:31 -05'00'

Mary Jane O'Donnell, Manager
Waste and Chemical Compliance Section

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RCRA HAZARDOUS WASTE INSPECTION REPORT

I. GENERAL INFORMATION

a. **Facility Name:** Elecktrisola LLC ("Elektrisola" or the "Facility")

b. **Inspection Date:** January 3, 2023

c. Inspection Type: RCRA Compliance Evaluation Inspection (CEI)

d. **EPA Inspectors:** Linda Brolin, Environmental Engineer
James Carew, Life Scientist

e. **EPA ID Number:** NHD040252744

f. **NAICS:** 331420 - Copper Rolling, Drawing, Extruding, Alloying

g. **Street Address:** 100 High Street Boscawen NH 03303

h. **Mailing Address:** 100 High Street Boscawen NH 03303

i. **Facility Contacts:** Leonel Klassen, Sr. Vice President of Operations
Phone: 603-796-3006
Email: LKLASSEN@ELEKTRISOLA-USA.COM

j. **Generator Status (per RCRAInfo):** Large Quantity Generator (LQG) FQG1

k. **Date first notified as a generator (per RCRAInfo):** 8/24/1981

l. **Date of most recent notification in RCRAInfo:** 01/20/2022

m. **Current Property Owner:** Elektrisola Inc.

n. **Current Operator:** Elektrisola Inc.

o. **Wastes generated (per most recent RCRAInfo notification)**: D001, D002, D008, D009, D011, D039, F002, F003

Report Attachments:

ATTACHMENT 1 – List of documents requested by EPA

ATTACHMENT 2 – Digital photo log of photos taken by James Carew, EPA throughout the inspection. (The digital photos were uploaded to the shared folder: January 2023 Elektrisola.)

II. FACILITY DESCRIPTION

Elektrisola, Inc. ("Elektriosola" or the "Facility") located in Boscawen, NH, manufactures enameled and copper wire, aluminum wire, brass wire, silver plated copper wire, silver wire, copper nickel wire and high-tension magnet wire. The Elektrisola manufacturing plant was established in Boscawen NH in 1976. According to Elektrisola's website, the plant in Boscawen, NH became the biggest fine wire factory in North America.

The size of the facility is approximately six acres and it is located on approximately 50 acres of land. Elektriosola employs approximately 240 people. Production is 24 hours/7 days a week. Elektrisola operates two 12-hour shifts: 7 am - 7 pm and 7 pm - 7 am; with two 12-hour shifts, one 10-hour shift and one 6-hour shift.

III. INSPECTION IN-BRIEF

EPA inspectors arrived at Elektrisola Inc ("Elektrisola" or the "Facility") at 126 High Street, Boscawen NH at about 11:15 am on January 3, 2023. The inspection team ("inspection team") consisted of Linda Brolin and James Carew. At about 11:30 am, the inspection team was greeted at the Facility by Leonel Klassen, who is the Senior Vice President of Operations at the facility. The inspection team presented their EPA credentials and signed into the facility. The inspection team followed Mr. Klassen to a conference room, where the opening conference was conducted. Also present during the opening conference was Nancy Martocchia, Quality Systems Administrator. EPA Inspectors exchanged business cards with Facility representatives at this time. The following personnel were present at the in-brief:

EPA:	Linda Brolin, Environmental Engineer James Carew, Life Scientist
Elektrisola Inc.:	Leonel Klassen, Senior Vice President of Operations Nancy Martocchia, Quality Systems Administrator (12 years) Wayne King, Environmental Safety and Health Assistant (about 6 months)

EPA will provide the Facility with a list of requested documents after the inspection via email. EPA asked the facility to upload the requested documents to a shared electronic folder by January 10, 2023.

Elecktrisola employees and EPA inspectors discussed the following information about the Facility during the in-brief:

The inspection team first asked the facility representatives for an overview of the Facility's operations.

According to Leonel Klassen, Elektrisola produces insulated copper wire for the following industries: Automotive, Home Appliances, Home Electronics and various other industries.

"Copper rods are put through a drawing machine to produce wire. Dies are used to elongate the wire. The drawing machines uses a synthetic /mineral oil mixture as a lubricant in the drawing process. The spent water soluble synthetic /mineral oil mixture is sent to a vacuum distillation system to recover the water for reuse in Elektrisola's non-contact water cooling system. The lubricants are then shipped off site as non-hazardous waste. The copper fines are sent off-site for recycling.

The drawing process is repeated several times until the wire is at the required diameter. Elektrisola makes copper wire. The copper wire can be coated with enamel, various colors or polyurethane. The coating is applied using felt pads in the coating machines to get to the desired thickness. The felt pads are disposed of as hazardous waste. The coating process anneals the wire to remove the stresses in the metal. The wire is passed through a lacquer box where it is coated with enamel. The wire is steam cleaned and the enamel prevents oxidization. The enamel coated wire passes through a laser micrometer to measure the enamel thickness and to see if it meets the tolerances for the products being manufactured. The finished wire is wound in a spool and packaged for the customer."[1]

The facility generates waste enamel when it changes the formulation in the coating machine. The waste enamel is managed as a hazardous waste flammable liquid (D026, D001, F003, F004).

Elektrisola is notified as a large quantity generator of hazardous waste.

The HWSA is located in the Chem Room and SAAs are located in the Chem Room Ante Room. Waste is generated in Halls #1, #2 and #4. Copper wire is laced on the machines and layers of enamel are applied, several times and then dried in ovens.

The Chemical Storage Handlers (also called Utility Techs) move the waste from the Production area to the SAA. Hall #1, #2 and #4 generates liquid waste, rags, and felts.

Heritage is the primary hazardous waste transporter. Enpro is their alternate Hazardous waste transporter. Manifests are signed by Kyle Shaw and Wayne King. The most recent pick up was in October 2022.

Elektrisola recycles metal. Universal waste generated include bulbs and batteries. Universal waste is stored in Hall#1. The Quality Lab generates some hazardous waste and it is stored in the Chemical Storage Cabinet.

The opening conference ended and the inspection team took a break for lunch.

IV. FACILITY TOUR

This section consists of observations by EPA Inspectors during the physical tour of the Facility. Please see Attachment 2 for a digital photo log of photos taken by James Carew throughout the inspection.

[1] From the January 5, 2017 NH DES Report of Hazardous Waste Inspection.

The tour of the Facility took place on Wednesday, January 3, 2023 starting at 1:50 pm. The following personnel were present for all or part of the tour:

EPA:	Linda Brolin James Carew
Elektrisola Inc.	Leonel Klassen, Nancy Marttocchia

Wire Drawing

The bare copper wire is prepared to be ready for the next stage where the wire gets insulated. The Intermediate drawing machine using a water emulsion (lubricant) to keep stable at certain temperature and lubricates the diamond dies. It is a semi-synthetic oil and water which is Non HW, Non-DOT. There are copper particles in it. The oil and copper are separated from the water. The water is recycled for cooling purposes. The oil and copper go to a holding tank. The holding tank is pumped out by tanker truck by Tradebe.

Hall # 1 Enameling

The application felt is saturated with the enamel and then the wire passes through the felt and then goes to the heater and the enamel is applied again until the required thickness. The felt is good for 2-3 dries. The felt is disposed of in the step can and the contents are moved to the SAA daily by the Utility Technician. Hall #1 has a total of 25-30 step cans. The step cans are located at each station.

UWSA

The Universal waste area is behind doors, with the following Sign “Universal Waste Only”. The following Universal waste was observed in this area:

One four ft. box, closed, labeled Universal Waste (UW) fluorescent lamps, dated 12/13/22
Two four ft boxes, open, containing UW fluorescent lamps, with lamps longer than the boxes
One three ft. by three ft. box, open, labeled Universal Waste, containing about 10 fluorescent lamps.
One 5-gallon closed white pail, containing UW battery packs, with no label.
One 2-gallon open blue pail, containing UW batteries and with no label.

Hall #2

Hall #2 has the same process as in Hall #1 but using thicker wire.
There are 29 machines in Hall #2 each machine has 1 or 2 step cans, which is the same waste stream of xylene and phenol.

Hall #3

There was no equipment in Hall #3 at the time of the inspection. Hall #3 is for a future product for the EV market. Hall # 3 is also for product storage. There was no hazardous waste observed.

Chem Storage

At the entrance to Chem Storage, there is an Emergency phone that will call 911 automatically when the phone is picked up. There is a fire extinguisher. The entire building has a sprinkler system. The following signs were posted at the entrance to Chem Storage: Two "Danger Hazardous Waste Storage Area Authorized Personnel Only", "Danger Hazardous Material Storage Area Authorized Personnel Only", "Danger No Smoking", and the Emergency Phone listing. The Chem Storage Room has a sealed cement floor with a berm.

The following is a diagram representing the storage of hazardous waste containers in the Chemical Storage Room (HWSA) starting on the left side of the room:

Container A	Container B	Container C	Container D	Container E
			Container F	Container G
			Container H	Container I
			Container J Over pack	Container K Over pack
			Containers L-O Nitric acid with rags	
			Container P SAA	
			Container Q SAA	
			Container R SAA	
		DOOR		

The following represents waste containers that inspectors observed in the of the hazardous waste storage area. The letters correspond to the numbers in the diagram above.

#A	Container Type/Contents: • One 55-Gallon drum, black steel, with closed funnel in bung, HW label RQ UN1993? Waste flammable liquids, nos 3 PGII (xylene, mineral spirits F003, D001) ERG 128
#B	Container Type/Contents: • One 55-Gallon drum, black steel, with bung open and label facing wall.
#C	Container Type/Contents: • One 55-Gallon drum, blue poly, HW label Waste compounds, Chemical Liquid, 8 PGII, D002, ERG#154 with bung open.
#D-I	Container Type/Contents: • Six 55-Gallon drum clear poly, HW Waste nitric 8 (5.1) PGII RQ, D002, ERG 157, with dates 12-5-2022; 12-9-22, 12-12-22 and 11-21-2022, located on spill pallets. The labels for Container # E and #G were not visible.
#J	Container Type/Contents: • One 55-Gallon drum, in a yellow overpack drum, labeled. The label information was not noted in the notes.
#K	Container Type/Contents: • One 55-gallon drum in a yellow overpack drum. The label information was not noted in the notes
#L-#O	Container Type/Contents: Four 55-gallon clear poly container, HW label RQ 3260 Nitric acid with rags, corrosive solid, acidic, inorganic Nos 8, PGII, NH02, VT20
#R	Container Type/Contents: SAA One 55-gallon black steel drum, HW Label, UN 2926, Flammable Solids, Toxic, organic, nos 4.1 (6.1) PGII (xylene, phenol) F003, D001 ERG 134 Flammable Rags, Flammable Solid Lid Labeled “Haz Waste with Metal” (photo 21)
#Q	Container Type/Contents: SAA One 55-gallon black steel drum, HW label, UN 2926 Flammable Solids, Toxic organic, nos 4.1(6.1) PGII, (xylene, phenol) F003, D001 ERG 134, Flammable Rags, Flammable solid Lid Labeled “Haz Waste” (photo 20)
#P	Container Type/Contents: SAA One 55-gallon black steel drum, HW label UN 2926 Flammable Solids, Toxic, Organic, nos 4.1 (6.1) PGII (xylene, phenol) F003, D001 ERG 134, Flammable Rags, Flammable Solid (photo 22)

There are three SAA drums (identified as Containers “P”, “Q” and “R” in the above Table) located in Chem Storage to the right near the entrance (see photos 20-23) and are labeled UN2926 RQ Waste Flammable Solids, Toxic, organic, Nos 4.1(6.1) PGIII (Xylene, Phenol) F003, D001.

These SAA containers are from the Tubing Area; Hall #1-Enameling and Hall # 2-Enameling. Leonel Klassen stated that these drums are located in the Chem Storage Room since they are Flammable Solids.

Two of these SAA containers are not at or near the point of generation. According to Leonel Klassen one SAA is from Hall #2 which is about 200 feet away; the second SAA is from EKT which is about 15 feet away and the third SAA is from Maintenance and Production which is about 200 feet away. Since these containers are being managed in the HWSA, these three containers need a start accumulation date on the label.

QC lab ("Back Lab")

The Testing area has the following SAAs:

One 5-gallon white container, HW label caustic soda, sodium hydroxide
One 5-gallon white container, HW label, lead solder, NA 3077, Hazardous waste solid nos 9 PGIII, RQ (Lead) ERG #171.

At the time of the inspection, the labels on the SAA containers were not visible since the labels were facing the wall. At the time of the inspection, the containers were repositioned to show the labels.

One 5-gallon red step can, with a HW label, Flammable solid, Toxic, Xylene, Phenol that the lid was stuck open. The step can was closed at the time of the inspection.

Maintenance

The following scrap metal is collected and recycled: mild steel, aluminum, stainless steel, steel t-bands.
There was one 55-gallon closed container, labeled non-regulated waste used cutting oil.
The facility uses Unifirst for their rag service.

Tubing

To make the tubing, the facility wants the enamel to release from the copper. There are eight machines and each machine has a 5-gallon red step cans, that are labeled, hazardous waste, flammable solid, toxic, xylene, phenol.

Final Inspection

Final Inspection is where final inspection of the product is conducted and then it is packed and put on conveyor belt. No hazardous waste was observed in this area.

Shipping and Receiving

There was no hazardous waste was observed. This area concluded the walk through of the facility at 4:20pm.

Out brief conducted for the inspection

The initial areas of concern are the following:

1. Universal waste containers need to be closed and labeled.
2. In the HWSA, there needs to be more space between drums, so that the labels are visible.
3. There are two SAA drums of Flammable solids: one from Hall #2 about 200 ft away and the second one is from Maintenance and Production (HW With metal) that is about 200 ft away according to Leonel Klassen. These SAA drums are not at or near the point of generation. These containers would need an accumulation start date since they are in the HWSA.

The inspection team discussed that we would email Leonel Klassen and Nancy Martocchia with the list of the records that are to be uploaded to a SharePoint folder with the link included in the email by close of business 1/10/23. We also discussed that 1/20/23 or 1/18/23 are the potential dates for the Record Review Out brief.

The inspection team departed the facility at about 4:38 pm

EPA inspectors requested the inspection logs for the HWSA for the first week of the following months January - December 2022. (See Attachment 1 for full list of documents requested by EPA)

This area concluded the walk-through portion of the inspection.

V. RECORDS REVIEW

The inspection team reviewed all documents remotely following the electronic submission made by Elektrisola, Inc.

Manifests/LDRs

The inspection team reviewed hazardous waste manifests (E-manifests) from shipments made by Elektrisola, Inc. from July 2022 through to December 2022. Manifests were signed by Kyle Shaw, Wayne King, and Jon Wright. Requested and received the LDRs for the following manifests: 001063620WAS, 024291256JJK, and 001063664WAS. The manifests were complete, timely and have the destination facility copy.

Inspection Logs

Reviewed the weekly inspection logs for the first week for the following months January 2022-December 2022 for the HWSA. Inspections are done weekly and include the following:

Drums/Containers: Labels affixed and visible; labels have accumulation start date (90-day area only); Drums/containers clean; Free of visible leaks; Drums/Containers closed and sealed; Bungs and lids closed and sealed, Any signs of heat or pressure; deterioration due to corrosion or other factors; separation of ignitable-reactive incompatible wastes.

Floor: Aisle space clear; floor clean; any cracks? Any spills or debris?

Equipment - 90 Day Area Only: Spill control/Decontamination equipment within 100 ft. Phone, Lights, Alarm working; Fire extinguisher current; Fan working; Response procedures available.

The inspection team found no missing inspections in reviewing the inspection documents. The inspections were done by Michael Dunlap, Andrew Kachuk, Kyle Shaw, and Aben Whiteley.

Area of Concern: There was no time noted on the 4/1/2022 Weekly Inspection Report.

Training/Job Descriptions

Training attendance logs and job descriptions were reviewed by the inspection team and no deviations from the regulatory requirements were noted.

Contingency Plan
Elecktrisola's Emergency Response Plan revised 9/14/2022 was reviewed by the inspection team and no issues were noted. Leonel Klassen stated that the Emergency Response Plan has been submitted to the local authorities. Evacuation Routes are posted in the building.

VI. INSPECTION OUTBRIEF

An initial out-brief conference was conducted on January 3, 2023, prior to leaving the facility. The following personnel were present for the closing conference:

EPA:	Linda Brolin James Carew
Elektrisola:	Leonel Klassen, Senior VP Nancy Martocchia, Quality Systems Administrator

EPA Inspectors noted that the inspection was still ongoing at this point as there were records to be reviewed. EPA then relayed the following areas of concern that arose from observations throughout the inspection.

1. UWSA- There were the following open containers of Universal Waste: Two, open 4 ft. boxes of waste lamps; one open three ft. box of fluorescent lamps, one open and unlabeled white container of UW batteries, and one open and unlabeled blue container of UW batteries.
2. HWSA aisle space - At the time of the inspection, the inspection team could not see labels of two 55-gallon white containers located in the HWSA, since there was insufficient aisle space.
3. There were two SAA containers (about 200 ft from where the waste is generated) in the HWSA that were not at or near the point of generation. Since the SAA containers are in the HWSA, the accumulation date needs to be added to these containers.

4. QC Lab (Back Room) There were two 5-gallon containers with HW labels, but the labels were not visible. At the time of the inspection, the containers were turned so the labels were visible. There was one red step can with the lid stuck open. Maintenance was done on this step can so the lid closes.

After discussing the above areas of concern, Inspectors reviewed the broad range of all possible post-inspection follow-up and asked the facility to provide the documents that were asked for via email.

Following this discussion, the inspection team discussed that an out-brief call with the facility representatives would be done after the off-site records review, on January 18 or 20, 2023. The inspection team then signed out of the building, and left the premises, which concluded the on-site portion of the inspection.

On January 4, 2023, Leonel Klassen sent an email that detailed the corrective actions taken to address the areas of concern from the 1/3/2023 Inspection. Elektrisola had corrected the issues identified with the Universal waste. The facility has put the Universal waste in closed and labeled containers. At the time of the inspection, there was not enough aisle space in the Less than 90 Day Storage Area to get close enough to read labels on a couple of containers and some of the labels were not visible at the time of the inspection. The facility stated they had more than the normal amount of containers in the Less than 90 day storage area due to a delay in a pick up by their Waste hauler and they had material that was generated from their winter shut down and preventative maintenance work.

A virtual out-brief for the Records Review was conducted on January 20, 2023 at 11:30 am via Teams with Leonel Klassen and Nancy Martocchia. The following information was given during this call:

<u>Inspection records</u>
There was no time noted on the 4/1/2022 HWSA Weekly Inspection Report.

<u>Emergency Response Plan revised date 9/14/2022</u>
There were no issues noted.

<u>Manifests</u>
There were no issues noted.