

REPORT OF INDUSTRIAL USER COMPLIANCE SAMPLING INSPECTION

**AT
ENERSYS INC.
ONE ENERSYS RD, HAYS, KS 67601**

PERMIT: KSP000016

**BY
U.S. ENVIRONMENTAL PROTECTION AGENCY REGION 7**

**Enforcement, Compliance, and Assurance Division
March 26, 2024**

INTRODUCTION

At the request of the Enforcement Compliance and Assurance Division, I conducted an Industrial User Compliance Sampling Inspection at the EnerSys, Inc. facility in Hays, Kansas, on March 26, 2024. The inspection was conducted under the authority of Section 308 of the Clean Water Act (as amended) and in accordance with EPA Region 7 Standard Operating Procedures. This narrative report and attachments present the results of the inspection.

PARTICIPANTS

EnerSys, Inc.:

Don Johnson, EHS Technician, 785-650-2611, don.johnson@enersys.com
Nathan Peters, Environmental Specialist, nathan.peters@enersys.com

U.S. Environmental Protection Agency (EPA), Region 7:

Brian D'Alfonso, Biologist, 913-551-5095, dalfonso.brian@epa.gov

FACILITY DESCRIPTION

EnerSys manufactures sealed, lead-acid batteries for industrial use. Common applications are for backup power for database facilities and telecommunications. The facility began operations as a battery manufacturer in 1987 and acquired the name EnerSys in 2001. According to the EPA Envirofacts database, this facility has the following North American Industry Classification System (NAICS) code 335911.

EnerSys has approximately 240 employees and operates 24 hours a day, five to six days a week. Some operations are limited on weekends. Principal activities are lead casting of battery terminals and grids; pasting the grids to produce cathodes and anodes; and battery assembling, charging, and cleaning. Lead is supplied in ingots received from Doe Run, Missouri. Battery terminals are cast by hand. Between

casting, the molds are cleaned by hand brushing, with small amounts of water used to aid the process. Grids are also cast by hand. A variety of sizes are produced. After the grids are molded and cleaned, they are coated in one of two pasting machines. The paste is a mixture of lead oxide, sulfuric acid, and water. One machine coats the grid with the basic paste to form the positive plates. Barium and black oxide are mixed with the paste in the second coater to form the negative plates. Coated plates are stored in drying machines called hydrossets to allow the paste to harden. The pasting area is washed down daily into a collection sump located between the two pasting areas. The collected water is pumped to a filter press. After dewatering, the supernatant is sent to the facility's industrial wastewater treatment plant (WWTP).

All wastewater generated in the facility, except sanitary wastewater and reverse osmosis reject water, is collected and sent to the WWTP. Collected wastewater is first received in a 15,000-gallon holding tank. The holding tank discharges, in turn, to a 15,000-gallon reactor tank. In the reactor, sodium hydroxide is used to adjust the pH of the wastewater to a target of 8. Ferrous sulfide is also added to aid flocculation. The reactor discharges the wastewater through two metal screens to remove larger debris before it enters a 15,000-gallon settling tank. Lead is precipitated out and removed from the bottom of the settler. Supernatant from the settler collects in a filter holding tank. The contents of the holding tank are pumped through four parallel sets of microfilters and then discharge into four 15,000-gallon holding tanks. The contents of the tanks are tested to ensure they meet permit effluent limits before discharging to the city of Hays publicly owned treatment works (POTW). Solids from the settler are dewatered by a filter press and sent to Doe Run for lead recovery. The supernatant is returned to the WWTP for re-treatment.

After drying, the coated plates are assembled by hand, with alternating positive and negative plates and a fabric separator between each plate. The plates are placed in appropriately sized jigs and lead-soldered together with anode and cathode terminals. The completed sets of plates and terminals are then lowered into prefabricated clear plastic cases. Each case is secured by gluing the top on with polyurethane adhesive.

After the glue has set, the assembled batteries are filled with sulfuric acid and placed in plastic basins. The batteries are then charged for up to two weeks. Water is circulated through the basins to cool the batteries during the charging operation. The cooling water is collected and passed through a mixing basin, with makeup water added as necessary, before being recycled through the cooling system. Sodium hydroxide is added to neutralize any sulfuric acid from the cases that drips into the cooling water. After charging, the cases are cleaned and packaged for shipping. EnerSys does not maintain a constant stockpile of batteries. All batteries are made to customer specifications.

INSPECTION PROCEDURES

Facility personnel were not notified prior to the inspection. I arrived at the facility unannounced at approximately 9:10 a.m. on March 26, 2024. I introduced myself, presented my EPA credentials to Mr. Johnson and Mr. Peters, and I explained the purpose and procedures of the inspection. I conducted the physical inspection of the facility, focusing on inspecting the wastewater generation, collection, treatment, and discharge processes. I completed the inspection by filling in an Industrial User Inspection Checklist which is included as Attachment 1. Photos were taken during the inspection

(attachment 2). I completed the inspection that afternoon by collecting samples, then conducting an exit briefing with Mr. Johnson and Mr. Peters.

SAMPLING PROCEDURES

On March 26, 2024, I collected grab samples of the wastewater effluent for permit parameters. Samples were collected from a spigot at the bottom of tank three, which discharge directly to outfall 001 (Photo 2). The sample was collected directly into a 1-liter plastic sample container for analysis, preserved as appropriate, and cooled with ice to maintain 4°C. In addition, a grab sample was analyzed for pH on-site within 15 minutes of collection.

All samples collected were transported to the EPA Region 7 Laboratory. Chain of custody procedures were used for all samples. All appropriate Region 7 standard operating procedures in the collection, packaging, transportation, and handling of the samples were followed.

FINDINGS AND OBSERVATIONS

Permit: A Kansas Pretreatment Permit was issued to EnerSys, Inc. on May 1, 2021, and will expire March 31, 2025 (Attachment 3). The permit requires the facility to monitor its effluent for flow, pH, copper (Cu) and lead (Pb). The permit also places numerical limitations on pH, Cu and Pb. The permit further requires the facility to sample and analyze pH daily, Cu and Pb quarterly and submit discharge monitoring reports (DMRs) to Kansas Department of Health & Environment (KDHE) on a semi-annual basis (January 28 and July 28 of each year).

The facility was last inspected by KDHE on June 11, 2019 (Attachment 4). The facility was found to be in “compliance” but had four “conclusions/recommendations”:

- Compare grab-composite and instantaneous grab samples for next permit cycle,
- Submit flows and frequency for de-ionization water to determine if combined waste stream formula is necessary,
- Continue to inform KDHE of any future changes in treatment room or process,
- Review Spill Control Plan to determine if adequate,

Discharge Monitoring Reports (DMRs): I reviewed the facility’s compliance status for the last six reporting periods (January 2021 through December 2023) which was provided by facility personnel after the inspection. I found that the facility was in compliance for each of those periods. In addition, I examined this data and found that all discharge limits and monitoring requirements were met. The facility has an on-site laboratory that is certified through KDHE (certification number E-30370). Analysis of samples for regulatory constituents plus any necessary process analysis are conducted in the on-site laboratory. During my inspection, I observed the facility’s laboratory and reviewed calibration records. No issues were observed at the time of my inspection.

Water Balance: An accurate water balance was conducted and achieved by the facility after the inspection (attachment 5). The facility utilizes one source of water (city of Hays). The facility purchased an average of approximately 28,000 gallons of water each day. The facility reported that it had discharged approximately 28,000 gallons per day (on average) to the city of Hays. This includes domestic wastewater, process wastewater, boiler blowdown, evaporation loss, contact cooling water, water consumed in the product and washdown water.

EPA Sample Results: Analytical results of the effluent samples collected during this inspection are provided below in Table 1 and are included as Attachment 7. The facility had a daily average production of 112,669 lbs. The limits listed in table one are from the facility's permit, derived from production numbers. I reviewed the effluent sample data in the table below and found that the effluent met permit limits.

Table 1. Analytical Results for Effluent Samples Collected During Inspection

Parameter	Outfall 001 mg/L	Outfall 001 Limits
Cu (mg/L)	0.728	2.028
Cu (lbs/day)	0.075	0.203
Pb (mg/L)	0.272	0.440
Pb (lbs/day)	0.028	0.044
pH (S.U.)	9.7	5.0-10.0
Flow (Gallons)	12,350	NA

- Permit limits are daily maximums. Permit limits for pH are minimum followed by maximum.

Summary: During the exit meeting on March 26, 2024, I went over the facility's rights to claim confidential business information. The facility did not make any claims of confidentiality (attachment 8). During the exit briefing I issued a NOPF for the following (attachment 9). No findings were left on the NOPF as a result of the inspection.

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Brian D'Alfonso
Biologist

NICOLE
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Nicole Moran
Section Supervisor, ECAD/WB/DWIS

Attachments:

1. EPA Industrial User Inspection Checklist (6 pages)
2. Photo Log (4 pages)
3. EnerSys, Inc. Pretreatment Permit KSP000016 (15 pages)
4. KDHE June 11, 2019, Inspection Report (7 pages)
5. Facility Water Balance (1 page)