

REPORT OF INDUSTRIAL USER COMPLIANCE SAMPLING INSPECTION

AT
General Electric Engine Services
P.O. Box 797, Strother Field
Arkansas City, Kansas 67005

KANSAS PRETREATMENT PERMIT: KSP000020

BY
U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION 7

Enforcement and Compliance Assurance Division
January 23-24, 2024

INTRODUCTION

I conducted an Industrial User Compliance Inspection at General Electric Aviation at the Strother Field Industrial Park south of Winfield, Kansas, from January 23, 2024, through January 24, 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

General Electric Aviation (General Electric):

Dominick McWhirt, EHS Leader

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

Joe Heafner, Life Scientist

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FACILITY DESCRIPTION

General Electric disassembles, repairs, and reassembles jet aircraft engines for their clients. The operations consist of various steps of disassembly then washing of all metal parts to remove coatings and or paint. Parts are recoated or repainted then the engine is re-assembled.

This facility is subject to the Electroplating Standard for Existing Sources, 40 CFR Part 413.44 and 413.64 Subparts D and F, and for facilities with flows greater than 10,000 gallons per day (gpd). The cleaning and chemical etching of aluminum, steel and various metal alloys occurs in Building 5C and includes wash tanks and rinse tanks that discharge through outfall 001. In addition, the permit identifies several non-regulated process wastewaters that are treated by oil-water separators before being discharged to the sanitary sewer system.

INSPECTION PROCEDURES

Facility personnel were not notified prior to the inspection. I arrived at the facility unannounced on the afternoon of January 23, 2024, introduced myself, then presented my credentials to Mr. McWhirt. I explained the purpose and procedures of the inspection. I set up the sampler then conducted the physical inspection of the facility and the processes that generate wastewater. I completed the Region 7 industrial user inspection checklist by the afternoon on January 23, 2024.

SAMPLING PROCEDURES:

On January 23, 2024, I installed an ISCO Model 3710 automatic sampler to sample the facility's wastewater at the west end of the drain trench that acts as Outfall 001. The trench is covered with a metal grate that was temporarily removed so that a weight could be added to the sample tubing. This ensured a sample aliquot would be obtained with each cycle of the sampler.

The composite sampler was stocked with ice and programmed to collect equal volume aliquots every 30 minutes. A composite sample of the effluent was successfully collected from January 23 through 24, 2024, and submitted for metals analysis only. The effluent composite sample was poured into a clean container for analysis, preserved as appropriate, cooled with ice to maintain 4°C. In addition, a grab sample of the wastewater was collected on January 24, 2024, for determination of pH, and temperature values. The temperature and pH analyses were performed immediately on site.

All samples collected were packed in ice then hand delivered 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

1. Permit: A Kansas Pretreatment Permit for General Electric became effective on April 1, 2020, and will expire March 31, 2025 (attachment 1). The permit requires the facility to monitor its effluent for flow, pH, metals (cadmium, chromium, copper, lead, nickel, silver, zinc), total toxic organics (TTOs), and cyanide. The permit also places numerical limitations on those parameters. The permit further requires the facility to sample and analyze the parameters on a quarterly basis and submit discharge monitoring reports (DMRs) to the Kansas Department of Health and Environment on a semi-annual basis, by January 28 and July 28 of each year.

Mr. McWhirt described the cleaning operation as different cleaning tanks depending on the type of metal. She stated that specific cleaners are used for different parts. During the inspection, Mr. McWhirt provided the Safety Data Sheets for all cleaners used in the tanks (attachment 2). I reviewed copies of the Safety Data Sheets and noted that the cleaners were a combination of strong acids (phosphoric acids; pH of less than 2) and strong bases (sodium hydroxides; pH greater than 13). Since the use of the strong phosphoric acids are used in the cleaning process this would constitute a phosphating operation subject to the Metal Finishing regulations, 40 CFR Part 433.

2. Discharge Monitoring Reports (DMRs): I reviewed the facility's compliance status for the last four reporting periods (July 2022, December 2022, July 2023, and December 2023) which were provided by the facility after the completion of the inspection. I found the facility in compliance for all three periods. After the review, I placed copies of the DMRs in the ECAD electronic file system.

3. Water Balance: An accurate water balance was not able to be achieved during the inspection. The facility uses water for several applications; however, it is only metered by what comes into the facility and what leaves outfall 001. Other processes that utilize water, include a small cooling tower, wet scrubbers, power washers, and wash bays with oil/water separators and are not able to be accurately accounted for since water usage is not monitored. I reviewed the water usage for the facility, and it appears that an average of 75,000 gpd is consumed by the facility. Process wastewater discharged through Outfall 001 from the facility is metered. Based on the discharge monitoring reports submitted to KDHE, an average of 27,000 gpd is discharged through outfall 001. The facility has approximately 500 employees that will use an average of 10,000 gpd. Previously the wash bays, scrubbers, cooling tower were estimated to use up to 6,000 gpd. This leaves approximately 32,000 gpd that is not accounted for.

4. Total Toxic Organics: The facility can certify compliance with the Metal Finishing limit established for Total Toxic Organics provided it is following the provisions of its approved Solvent Management Plan (attachment 3). A review of the Solvent Management Plan revealed it to be adequate as it did identify the chemicals used that contained potential TTO constituents.

5. Spill Control Plan: The facility does have a Spill Prevention Control and Countermeasure (SPCC) Plan for petroleum products it stores on site. During the inspection, multiple spill kits were observed throughout the facility. The Solvent Management Plan also stated that all floor drains throughout the facility have been sealed. I determined that the potential for spilled chemicals to enter the sanitary sewer system was minimal.

6. Sample Results: Analytical results for samples collected during the inspection are presented in the table below. The complete data transmittal package is included as attachment 4.

Sample Results For General Electric, mg/L																			
	Ag		Cd		Cr		Cu		CN		Ni		Pb		Zn		pH (s.u.)		
	Dmax	Mavg	Dmax	Mavg	Dmax	Mavg	Dmax	Mavg	Dmax	Mavg	Dmax	Mavg	Dmax	Mavg	Dmax	Mavg	Min	Max	
Outfall	0.43	0.24	0.11	0.07	2.77	1.71	3.38	2.07	1.2	0.65	3.98	2.38	0.69	0.43	2.61	1.48	5	10	
001	ND		ND		ND		0.0563		Not Sampled		0.0898		ND		0.029		8.45		
Result:	C		C		C		C		NA		C		C		C		C		

Results of the sampling indicate that the facility did not violate any of the permit limits during the sampling event from January 23, 2024, through January 24, 2024.

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Attachments:

1. Pretreatment Permit (16 pages)
2. SDS Sheets (33 pages)
3. Solvent Management Plan (2 pages)
4. Data Transmittal Packet for Activity JAH2408 (12 pages)
5. EPA Industrial User Inspection Checklist (6 pages)