

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Self Initiated Inspection

N633742741

FACILITY: TRI K CYLINDER SERVICE INC		SRN / ID: N6337
LOCATION: 4539 WAYNE RD, SPRINGFIELD		DISTRICT: Kalamazoo
CITY: SPRINGFIELD		COUNTY: CALHOUN
CONTACT: Kurk Sparks , President		ACTIVITY DATE: 12/12/2017
STAFF: Rex Lane	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MINOR
SUBJECT: Self Initiated Inspection		
RESOLVED COMPLAINTS:		

On December 12, 2017, MDEQ, Air Quality Division (AQD) staff (Rex Lane and Cody Yazzie) arrived at Tri-K Cylinder Service Inc. (TKCS) located at 4539 Wayne Road, Springfield, MI to conduct an unannounced air quality inspection. Staff arrived at 11:15 am and made contact with Mr. Kurk Sparks, President, TKCS. Staff stated that the MDEQ had a statewide initiative to inspect all hard chrome plating facilities this fiscal year to determine if they used Per- and Polyfluoroalkyl Substances (PFAS) in their operations. The chrome NESHAP (40 CFR Part 63, Subpart N) was amended on 9/19/12 and required existing sources to phase out the use of fume suppressants that contained perfluorooctane sulfonic acid (PFOS) by 9/19/15.

TKCS is a hard chrome plating business that strips existing plating surfaces, repairs and re-plates gravure printing cylinders. The facility commenced operation in 1982 and is considered to be an existing small hard chrome facility under 40 CFR Part 63, Subpart N (Chrome NESHAP). The facility has two hard chrome tanks each with a rectifier capacity of 4,000 amp-hours for a total rectifier capacity of 47.04 million amp-hours per year. Plating process operations are covered under Permit to Install (PTI) No. 383-97.

TKCS submitted their initial notification under the Chrome NESHAP on 7/28/97; an operation and maintenance plan on 4/10/98 (revised following performance test); and completed a performance test on 1/15/99. During the performance test, a packed bed scrubber was run without water for ventilating process emissions and a chemical fume suppressant was maintained at or below 32 dynes/cm and is used as the emission compliance method under the Chrome NESHAP. In March 2000, the facility entered into a Consent Agreement and Final Order with USEPA.

The facility was last inspected by the AQD on 11/17/15 and was determined to be non-compliant at that time due to the use of a fume suppressant product, Fumetrol 140, that contained > 1% PFOS by weight on or after 9/19/15. Staff asked if the facility had made any changes since the last inspection and Mr. Sparks said no. The facility does not have any boilers, emergency generators or solvent based parts washers. At the time of the inspection, Mr. Sparks was plating a test rod in Chrome Plate Tank # 1 in preparation to plate later that day.

The chrome strip tank was covered while not in use and uses a product called HCL Acid Solution Catalyst Chrome Stripper UN 1789 by Bonded Chemicals, Columbus, Ohio. Staff obtained the SDS for the HCL solution and acid stabilizer from the chemical supplier following the inspection and they are attached to this report. The chrome strip tank exhausts externally and was included in the equipment description portion of the permit application for PTI No. 383-97, however, no PTI special conditions were included for this process.

The rectifier for Chrome Plate Tank # 2 (south tank) has been removed and per Mr. Sparks the tank has not been operated in several years because it needs to be relined. Chrome Plate Tank # 1 (north tank) was initially plating a test rod upon staff's arrival and the rod was pulled out and rinsed off during the inspection and the insulated cover was reinstalled since the bath is heated and maintained between 125 – 135 degrees F. Chrome Plate Tank # 1 had a new liner installed on 12/12/12. Chrome Plate Tank # 1 is equipped with three hour meters as follows: a non-resettable total cumulative amp-hour meter (current reading: 146,724); an annual hour meter (current reading: 465.47 hours; reset annually); and a testing hour meter (current reading: 25.4 hours; reset every 40 hours provided surface tension measurements remain below 32 dynes/cm). Mr. Sparks has clip boards on top of the rectifier for Chrome Plate Tank # 1 that are used to track each plating job (see attached form) and by the packed bed to record daily pressure drop when hard chrome plating is performed which was reviewed by staff.

PTI No. 383-97:

Special Condition (SC) # 1: The facility tested in compliance with total chrome emission limit on 1/15/99.

SC # 2: Mr. Sparks turned on the packed bed scrubber to demonstrate to staff that scrubber pressure drop was within range from the last performance test. The magnahelic gauge reading was 1.25" of water. He also opened

the inspection glass to show complete water spray coverage across packed bed surface. The scrubber pad is rinsed down twice a week and the rinse water drains back into Tank # 1.

SC # 3: Mr. Sparks maintains a written log of operation for chrome plating tank # 1. Written log observation by staff indicates that plating operations remain below 110 hours per calendar month. Per the 2015 and 2016 on-going compliance status reports maintained by the facility (see attached copies), total annual plating operating hours were 464 hours (2015) and 644 hours (2016) or less than 50% of allowable rate.

SC # 4: Stack exhaust dimensions do not appear to have been modified and dimensions were verified in previous air quality inspections.

SC # 5: Stack testing was completed on 1/15/99 and demonstrated compliance with emission limit. No testing has been requested by the AQD since the initial test.

SC # 6: Special condition references a composite mesh pad scrubber system, however, the facility installed a packed bed scrubber system (SC # 7) for ventilation purposes. There was a recommendation by staff following the previous air quality inspection to Mr. Sparks that he consider submitting a request to AQD Permit Section to remove this condition from PTI No. 383-97.

SC # 7: Mr. Sparks performs an inspection of the packed bed scrubber system on a monthly basis and maintains a written record of these inspections. It should be noted that the packed bed scrubber system is only used for ventilation purposes since the facility used a chemical fume suppressant during their performance test on 1/15/99 to demonstrate compliance with chrome emission limit (i.e. scrubber water was turned off for the performance test). A copy of the 2017 monthly scrubber inspection records is attached to this report.

SC # 8: Facility is maintaining required inspection records.

SC # 9: Facility has installed the required pressure drop gauge on the scrubber control system.

SC # 10: Facility maintains records of pressure drop readings on days when plating tank is in operation.

SC # 11: Facility's ongoing compliance status reports for 2015 and 2016 were emailed to staff following the inspection and are attached to this report. The reports state that there were zero hours of excess emissions during the reporting period. Staff requested a copy of the last surface tension analysis conducted on 11/16/17 and the tested value was 30 dynes/cm which demonstrates compliance with the 32 dynes/cm established during the performance test. Following issuance of a violation notice following the 2015 inspection for use of chemical fume suppressant Fumetrol 140 that contains > 1% PFOS by weight, the facility switched to Hunter Chemical HCA Fume Control 8.2 which does not contain PFOS. Staff verified that the facility continues to use the Hunter Chemical HCA Fume Control 8.2 fume suppressant chemical.

SC # 12: Condition requires facility to monitor surface tension in the plating tanks in accordance with 40 CFR Part 63, Subpart N and that the frequency of monitoring shall be at least once every 4 hours. The wording of this permit condition conflicts with the chrome NESHAP which establishes a set schedule for the frequency of surface tension monitoring based on length of compliance with the limit (i.e. NESHAP allows up to 40 hours between surface tension measurements provided no monitoring exceedances are observed which then resets monitoring back to every four hours for specified period of time). Since facility has not recorded or reported an exceedance of the 32 dynes/cm surface tension limit, facility determines surface tension value every 40 hours of plating tank operation. The facility continues to use a stalagmometer to determine surface tension of the plating tank solution. There was a recommendation by staff following the previous air quality inspection to Mr. Sparks that he submit a request to AQD Permit Section to modify this condition in PTI No. 383-97.

SC # 13: Total rectifier capacity of the facility is 8,000 amp-hours. Based on the maximum total rectifier capacity calculation formula in the chrome NESHAP (8,000 amp-hours*8400 hours*0.7), the facility's total rectifier capacity is 47.04 million amp-hours/year. Therefore, TKCS is considered to be an existing small hard chrome facility under the chrome NESHAP.

SC # 14: Facility is maintaining required records. Copies of their 2015 and 2016 on-going compliance status reports are attached to this activity report.

Staff thanked Mr. Sparks for his time and cooperation and left the facility at 12:15 pm. At the time of the inspection, staff verified that TKCS is still using a non-PFOS containing wet suppressant chemical and that it appears that the facility is operating in compliance with PTI No. 383-97 special conditions and all applicable requirements of the chrome NESHAP, 40 CFR Part 63, Subpart N. -RIL

NAME RIL DATE 12/20/17 SUPERVISOR MM 1/2/2018