

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

N645233873

FACILITY: ADVANCED HEAT TREAT CORP		SRN / ID: N6452
LOCATION: 1625 ROSE ST, MONROE		DISTRICT: Jackson
CITY: MONROE		COUNTY: MONROE
CONTACT: Jeff J. Machcinski , Plant Manager		ACTIVITY DATE: 03/23/2016
STAFF: Brian Carley	COMPLIANCE STATUS: Non Compliance	
SUBJECT: Self initiated inspection due to self report of TCE release		SOURCE CLASS: SM OPT OUT
RESOLVED COMPLAINTS:		

Facility Contact: Jeff Machcinski, VP of Engineering
Phone: 734-243-0063
Email: machcinskij@ion-nitriding.com

On March 23, 2016, the AQD conducted a self-initiated inspection of the Advanced Heat Treat Corporation (AHTC) as a follow up to AHTC's self-reporting to PEAS of a slow trichloroethylene (TCE) release that occurred over a two month period (Jan. 1 through March 1). They estimated that the leak caused the release of TCE of 36 pounds per day for that two month period. They have since repaired the leak and provided me with a summary of what happened (see attachment 4). The purpose of the inspection was to determine the Facility's compliance with the applicable federal and state regulations, particularly Michigan Air Pollution Control Act 451, Part 55, the administrative rules, and the conditions of AHTC's Air Use Permits to Install (PTI) Nos. 281-01 and 77-11. AHTC PTI 281-01 is an OPT OUT for Hazardous Air Pollutants (HAP). AHTC's Trichloroethylene batch vapor degreaser(s) is subject to the National Emission Standards for HAPs for Halogenated Solvent Cleaners 40 CFR 63, Subpart T.

AHTC is a specialty heat treating company. They conduct Plasma Nitriding & Gas Nitriding on a variety of metal parts. They use numerous portable chambers to harden a wide variety of steel machine parts. The electricity powered chambers can be put together to accommodate various part sizes, including very long parts. They remove oxygen by vacuum and inject gases which then heat the parts and bond with the metal surface for different types of hardness. The parts and gases have a purple neon glow when the gases are reacting with the metal. This can be seen through site glass in each chamber. Not all parts require degreasing prior to heat treatment.

AHTC is located in an industrial park. Upon my arrival to the facility I provided identification to the receptionist, stated the purpose for the visit, and requested to meet with our contact in file, Jeff Machcinski, V.P. of Engineering. Jeff and I conducted a pre-inspection meeting and he accompanied me during the physical walk through of the facility. Jeff informed me AHTC has approximately 25 employees and operates Monday through Friday, 24 hours. Saturday/Sunday operate 12 hours on 12 hours off.

AHTC's PTI No. 281-01 covers two vapor degreasers FGDEGREASERS. The smaller sized vapor degreaser was removed from service in 2005 leaving only the larger EUDEGREASER2 Model TI-144E, 155 gallons, still operating. I observed that the degreaser was not operating during the inspection and the cover was in place.

AHTC is subject to 40 CFR Part 63, Subpart T – National Emission Standards for Halogenated Solvent Cleaning (Degreaser MACT). AHTC is required by the Degreaser MACT to submit Semi-annual and Annual Exceedance Report and these include their emission estimates. AHTC has chosen to comply with the Degreaser MACT by using the Alternative Standard - Overall Emission limit. The MACT requires the EUDEGREASER2 meet an emission limit of 150 kg/m²/month based on a 3 month rolling average. They also report annually through MAERS.

Condition 1.1a limits Trichloroethylene emissions to 1708 lb/month based on a three month rolling time period as determined at the end of each month. They were in compliance with the limits except for the time period of December 2015 through February 2016. During that time they exceeded their limits emitting 1,758.85 pounds/month for that time period (see attachment 1). Condition 1.1b limits Trichloroethylene emissions to 9.9 tons/year-12 month rolling time period as determined at the end of each calendar month. For calendar year 2015, they reported in MAERS to have emitted 5.72 tons. For the time periods of February 2015 through January 2016 and March 2015 through February 2016 and April 2015 through March 2016 the emissions were 5.1 tons, 5.8 tons, and 6.5 tons, respectively.

Condition 1.2 states they shall not use more than 1600 gallons of trichloroethylene per year based on a 12-month rolling period as determined at the end of each calendar month. AHTC has not exceeded this material usage limit (see attachment 2).

Condition 1.3 states the company shall not operate FDEGREASERS except in compliance with the overall emission limit requirements of 40 CFR 63.464(a)(1), which, as stated above, is 150 kg/m²/month. They were meeting the emission limit except for the time periods of December 2015 through February 2016 and January 2016 through March 2016. During those time periods, the emissions were 171.95 kg/m²/month and 162.10 kg/m²/month, respectively. Condition 1.4 states the company shall comply with all provisions of the National Emission Standards for Hazardous Air Pollutants as specified in 40 CFR Part 63, Subparts A and T. Because of the two time periods where they exceeded the emission limit set by the Degreaser MACT, AHTC is not in compliance with 40 CFR Part 63, Subparts A and T.

Condition 1.5 requires AHTC record the amount solvent used each month and on a 12-month rolling time period. AHTC is keeping the required records (see attachment 1). Condition 1.6 requires calculations of the Trichloroethylene emissions shall be kept on a monthly, 3-

month rolling time period, and on a 12-month rolling time period. AHTC is keeping the required records (see attachments 1 and 2). Condition 1.7 requires the following records shall be kept as required by 40 CFR 63.476:

- a) The dates and amounts of solvent that are added to and removed from degreasers, which AHTC showed us the records that they are keeping.
- b) The solvent composition of waste removed from degreasers using the procedures described in 40 CFR 63.465(c)(2). AHTC contracts with EQ-Detroit since @1995 to pick up and haul their solvent waste composition for disposal. EQ Detroit does the analysis of the solvent composition (see attachment 3).
- c) Calculations sheets showing how monthly emissions and rolling 3-month average emissions from degreasers were determined and the results of all calculations, which AHTC showed us the records that are being kept.

Condition 1.8 requires submittal of reports to AQD as specified in 40 CFR 63.468. (R336.1205 (3), R336.1225, R336.1702 (A), 40 CFR Part 63 Subpart T), which AHTC has been submitting these required reports twice a year. With the exceedances mentioned above, AHTC is now required to submit their reports on a quarterly basis. They may request to return to semi-annual reporting once they have demonstrated a full year of compliance without an exceedance, continues to comply with all relevant recordkeeping and monitoring requirements, and AQD does not object to a reduced frequency of reporting as provided in paragraph (e)(3)(iii) of 40 CFR Part 63 Subpart A.

As indicated above the primary HAP is TCE and emissions for calendar year 2015 was 5.72 tons and as of month ending February 2016 was 6.76 tons. Both of these emission totals are well under the permitted limits of SC 2.1a (Individual HAP-Less than 10 tons per year), and SC 2.1b (Combined HAPs-Less than 25 tons per year). AHTC is keeping the required records per SC 2.2.

PTI No. 77-11 covers the Anhydrous Ammonia Storage Tank used in the gas nitriding heat treat process. Tank storage capacity is @ 2,000 gallons. The Gas Nitriding process was operating. Jeff explained the atmosphere is NH₄ 25% Nitrogen and 75% Hydrogen.

This tank is located behind the facility which is located in an industrial park. It was observed to be fenced. AHTC relies on supplier, AIRGAS, who delivers the ammonia to and also maintains the tank. Ammonia transfer is direct from truck to tank. Jeff said they receive Ammonia about every 4 months.

AHTC is responsible for portion leaving the tank and entering the facility which includes the remotely operated internal or external positive shut-off valve. I observed two locations within the plant at two exits where the emergency shut off buttons are located.

There are no hoses located on or used for this storage tanks since it is not an agricultural application. It is hard piped into the facility.

Per Jeff, AHTC does have an on-site Pollution Incident Plan (PIP) or emergency response plan involving the applicable State and Local agencies including the Fire Department. To AQD knowledge they have never had a spill or reported release. I have determined that they are in compliance with this permit.

MISCELLANEOUS EXEMPT EQUIPMENT

Several processes at this facility are exempt from Rule 201 Permit to Install requirement. The most significant of the exempt equipment is the installed and operating diesel-fired Emergency Generator, which is exempt per Rule 285(g). This unit is subject to the National Emission Standard for RICE that covers Major and Area Sources, new and existing, and most sizes and fuel types. These standards are referred to as Maximum Achievable Control Technology (MACT) standards. AHTC's is an existing compression ignition (CI-RICE). They have a Facility wide HAP opt out limit and therefore are an Area Source. Jeff stated the Unit was installed in 2005 and is maintained by the manufacturer and the Company tests it for short durations regularly. Its purpose is to provide backup power for basic operations. They have been recording all the information in regard of the use of this unit.

In addition, they operate a Clemco Ind. Metal parts blast cleaning booth – a large enclosed booth (with door) with ambient exhaust proceeded by an appropriately designed and operated dust collector, which is exempt per Rule 281(d). The pulse jet cartridge type collector is outside and has two enclosed drums collecting waste material. It appeared to be in good condition, installed and operated properly.

AHTC also operates one large Jenson 2 MMBTU/hr rated capacity natural gas-fired Batch furnace used for "stress relieving" metal parts, brittleness etc., which is exempt per Rule 282(a)(i). It has an inside chamber high temperature of 1000 degrees F. It has an afterburner type section where the burner is located and the exhaust gas passes through prior to exiting (horizontal out the rear wall). Jeff said they do not do any coating of parts and therefore it is not a "paint burn off oven". I verified there are no coating operations at the facility.

COMPLAINEE SUMMARY

The overall housekeeping at the facility was very good and I did not observe any odor, visible emissions, or fugitive dust issues or any other concerns. At this time I have determined that AHTC is in not in compliance due to exceedance of the 3-month rolling time period averages of TCE, which is in violation with PTI 281-01 and the Degreaser MACT.

NAME Brian Carley

DATE 4/14/16

SUPERVISOR [Signature]