

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Scheduled Inspection

N645254425

FACILITY: ADVANCED HEAT TREAT CORP		SRN / ID: N6452
LOCATION: 1625 ROSE ST, MONROE		DISTRICT: Jackson
CITY: MONROE		COUNTY: MONROE
CONTACT: Jeff J. Machcinski , V.P. of Engineering		ACTIVITY DATE: 08/06/2020
STAFF: Diane Kavanaugh Vetort	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: Conducted complete Scheduled Compliance inspection FCE/PCE. Opt Out Facility for HAPs. MACT Subpart T.		
RESOLVED COMPLAINTS:		

FCE REPORT OF 8/6/20 COMPLIANCE INSPECTION. SEE SEPARATE MACES ENTRY FOR PCE RECORDKEEPING REVIEW/DISCUSSION.

On August 6, 2020, the AQD conducted a complete scheduled compliance inspection of the Advanced Heat Treat Corporation (AHTC) located at the above address in Monroe, MI. 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 required by the Degreaser MACT to submit Semi-annual and Annual Exceedance Report and these include their emission estimates. They also report annually through MAERS. The most recent reports were received timely and indicate compliance.

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. They also have a Bake oven to clean some parts and also use hand spray/wiping for some.

AHTC is located in an industrial park. I met with 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 22 employees and operates reduced hours currently only 7AM to 7PM Monday through Friday. Both EGLE and AHTC complied to the best of our abilities with COVID-19 safety practices and procedures.

Per Jeff, the significant changes since the prior inspection include mothballed an Ammonia Nitriding Unit; and in 2014/15 added an exempt Ion Plasma Unit.

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 operating during the inspection and the cover was removed. I observed an overhead crane lift a long narrow cylinder and place section by section into the unit for cleaning. Following the large part's cleaning the cover was put back in place. There was also a stacked round rack full of small parts on deck for degreasing.

During the previous inspection, Jeff explained they recently instituted a more efficient and environmentally beneficial method of receiving, storing, and transferring the NeuTri TCE solvent into the EUDEGREASER2. Jeff said the material was from Dow Chemical called "Safe Totes". Jeff said the drum of TCE was inside and this is how it is transported and kept on site. It had containment and the base/container prevents tipping (and drum rolling). He said they were able to pump the solvent directly into the degreaser below the vapor line whereas previously they had to manually lift and pour it into the top. **During today's inspection** I inquired about this process. Per Jeff *"the Dow Chemical Safe Tote became obsolete and no longer available from Dow Corning. This meant we had to go back to the original style round drums and another solvent supplier. We added the spill trays since the spill proof totes were no longer provided. We still have the same dispensing procedure though.*

We pump directly into the unit without pouring the solvent in from a crane suspend drum carrier implemented. ... , I showed you the chemical pump, the pump hose that is directly attached to the unit. This is that system we implemented back then, the only change is the obsolete safe totes were discontinued by Dow. There were no other mfg. who adopted the safe tote idea YTD."

Emission Limits

Condition 1.1a Trichloroethylene **limit 1708 lb/month-three month rolling time period** as determined at the end of each month. Condition 1.1b Trichloroethylene **limit 9.9 tons/year-12 month rolling time period** as determined at the end of each calendar month.

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**.

For the Semi-Annual reporting period January – June 2020, AHTC TCE emissions for the three month rolling average time period ending June 2020: **335 lbs average = 32.75 kg/m2/month < 150 kg/m2/mo**. Total pounds solvent 2019 (calendar year) = 6711. = 3.35 tons. Total pounds solvent 2020 to date = 3600 = 1.8 tons.
COMPLIANT

As of July 2020 the overall combined **HAP emissions are 3.78 tons per year**.
AHTC emissions are less than the permit limit = COMPLIANT

AHTC submits MAERS for the Ammonia Tank, TCE Vapor Degreaser and other exempt equipment emissions. The **2019** annual VOC emissions as reported in MAERS were 4 tons; all other pollutant under 400 lbs. Metal treatment 35.73 tons. TCE 549.6 gallons.

Material Usage Limits

Condition 1.2 states they shall **not use more than 1600 gallons of trichloroethylene (TCE) per year based on a 12-month rolling period** as determined at the end of each calendar month.

AHTC reports indicate the 12 month rolling TCE gallons used as of July 2020 in EUDEGREASER2 is 623.9. This indicates COMPLIANCE with permit limit.

Process/Operational Limits

Condition 1.3 states the company shall not operate FGDEGREASERS except in compliance with the overall emission limit requirements of 40 CFR 63.464(a)(1).

AHTC reported emissions are below established emission limits based on 40 CFR 63.464(a)(1). SEE ABOVE under Emission Limits.

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.

AHTC appears to be in compliance with 40 CFR Part 63, Subparts A and T.

Recordkeeping/Reporting/Notification

All records shall be kept on file for five years. AHTC is keeping the required records.

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.

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.

Condition 1.7 requires 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. AHTC is keeping the records of the dates and amounts of solvents added and removed.

b) The solvent composition of waste removed from degreasers using the procedures described in 40 CFR 63.465(c)(2). AHTC contracts with US Ecology, Detroit since @1995 to pick up and haul their solvent waste

composition for disposal.

c) Calculations sheets showing how monthly emissions and rolling 3-month average emissions from degreasers were determined and the results of all calculations. AHTC records 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). AHTC has been submitting these required reports twice a year.

HAPS Emissions for the Facility

All records shall be kept on file for five years. AHTC is keeping the required records.

Emission Limits

2.1a. Individual HAP-Less than 10 tons per year, and 2.1b. Combined HAPs-Less than 25 tons per year. As indicated above the primary HAP is TCE and emissions as of month ending July 2020 were 3.78 **tons**.

Recordkeeping/Reporting/Notification

2.2 Calculations of the individual HAPs and combined HAPs emissions shall be kept on a monthly and 12-month rolling time period. AHTC is keeping the required records.

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. Jeff explained the atmosphere is NH₄ 25% Nitrogen and 75% Hydrogen. The exhaust gases pass through what AHTC calls incinerators, which I observed appeared to be the size of a catalytic convertor or muffler type section located prior to the exhaust exit (horizontal out building wall).

Process/Operation Restrictions

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 material to also maintain 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 valves. I observed one location within the plant at an exit and another on the top piping of the Tank where the emergency shut off buttons are located. Per Jeff, loss of power automatically shuts the valve where the second button is and the button requires power to operate.

There are no hoses located on or used for this storage tank 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. Jeff confirmed and to AQD knowledge they have never had a spill or reported release.

MISCELLANEOUS EXEMPT EQUIPMENT

During my inspection I observed several other processes installed and operating at AHTC that qualify for exemption from the Rule 201 Permit to Install requirement. Following the 2012 inspection I received a spread sheet listing all exempt process equipment. Pre- 2020 inspection email I requested any significant updates to this. AHTC appears to have all applicable processes listed and there have been no significant changes. Exempt equipment includes: Cooling towers, HVAC ventilation, Blast Room w/exhaust/control, Heat treating stress relief oven, small Emergency Diesel Generator (2012), laboratory equipment, Storage of 2,500 gallon Nitrogen and Hydrogen (Material Management Division permitted), Ion Nitriding Vessels (vacuum pump oil emissions and Ammonium Chloride/HCl emissions).

NOTE: Rule 290 record keeping was submitted for the Ion/Nitriding Units process equipment.

I observed the Emergency Generator, located outside near the AirGas Nitrogen and Hydrogen fenced storage. It appeared to be in good condition and is automatically run to test.

In addition, I observed the 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. It was not operating

today. The pulse jet cartridge type collector is outside and has two enclosed drums collecting waste material. I observed the collector had a Magnehelic gauge and Jeff said they monitor this and dispose of the collected material in their regular waste disposal to landfill. It appeared to be in good condition, installed and operating properly.

AHTC also operates two large Jenson 2 MMBTU/hr rated capacity natural gas-fired Batch furnace used for "stress relieving" metal parts, brittleness etc... 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). There are no coating operations at the facility.

AHTC's list and my comments are attached to this report to AQD plant file for AHTC.

RECORDKEEPING AND REPORTING

Refer to the Separate MACES Report "Records Review (in Office)

COMPLAINCE SUMMARY

At this time it appears that AHTC is in substantial compliance with the applicable state and federal requirements and the conditions of their PTI Nos. 281-01 and 77-11 and the Halogenated Solvent Cleaner NESHAP (Degreaser MACT). The overall housekeeping at the facility was very good and I did not observe any ambient odor, visible emissions, or fugitive dust issues or concerns.

AHTC was advised to maintain necessary documentation and record keeping of their exempt process equipment now and in the future.

NAME Maiane Kavanaugh Vitort

DATE 8/6/20

SUPERVISOR 