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Livingston

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

A293145847

FACILITY: DIAMOND CHROME PLATING INC		**SRN / ID:** A2931
LOCATION: 604 S MICHIGAN, HOWELL		**DISTRICT:** Lansing
CITY: HOWELL		**COUNTY:** LIVINGSTON
CONTACT: John Wagner , Director Health, Safety & Environmental Affairs		**ACTIVITY DATE:** 08/29/2018
STAFF: Daniel McGeen	**COMPLIANCE STATUS:** Non Compliance	**SOURCE CLASS:** MINOR
SUBJECT: Unannounced, scheduled annual inspection of multi-media facility.		
RESOLVED COMPLAINTS:		

On 8/29/2018, the Michigan Department of Environmental Quality (DEQ), Air Quality Division (AQD) conducted an unannounced, scheduled inspection of Diamond Chrome Plating, Inc. (DCP).

PTI, rule, or requirement	Emission unit description	Control device	Scrubber location	Operating status
PTI No. 367-83B; 40 CFR Part 63 Subparts A & N; First Amended Consent Decree (FACD)	Open surface chrome plating tank nos. 9, 11, and 12 (10 and 13 have been removed), aka Dept. 2	Scrubber system #3; a Ceilcote vertical composite mesh pad (CMP) scrubber; *Tank 8 now exhausts to scrubber #3	South scrubber on east roof	Compliance
PTI No. 367-83B; 40 CFR Part 63 Subparts A & N; FACD	Open surface chrome plating tank nos. 1-4, 6, and 8*, aka Dept. 1 *Tank 8 now exhausts to scrubber #3	Scrubber system #4; a Ceilcote vertical composite mesh pad (CMP) scrubber	North scrubber on east roof	Compliance
PTI No. 386-85A; 40 CFR Part 63 Subparts A and N; FACD	Open surface chrome plating tank nos. 5, 7, 15, 17; west side of plant, aka Dept. 3	Scrubber system #5; a Ceilcote vertical wet scrubber with kimre mesh pad, fume suppressant	SW portion of bldg., inside plant, exhausts outdoors	Noncompliance for surface tension, and ductwork records
PTI No. 386-85A; 40 CFR Part 63 Subparts A and N; FACD	Not in use; open surface chrome plating tanks 19-21	Not in use; scrubber #6, a Ceilcote packed bed/CMP scrubber with kimre mesh pad	NW of building, on outside ground	Has not been used in recent years
40 CFR Part 63 Subpart T; Rule 285(r)(iv)	Autosonics batch vapor degreaser, uses TCE	Freeboard refrigeration, dwell, reduced draft		Noncompliance for FRD deg. F; will be replaced
40 CFR Part 63 Subpart T; Rule 285(2)(r)(iv)	New batch vapor degreaser, awaiting installation	Freeboard refrigeration, AQD not yet aware of all the unit's control options		Not yet installed
PTI No. 672-88; Rule 285 (2)(m)	Chrome redox tank	MAPCO mist eliminator	West plant, indoor exhaust	Did not observe; PTI can be voided, as exempt
PTI No. 673-88; 40 CFR Part 63, Subpart WWWWWW	Metal cleaning and electroless nickel plating operation	Scrubber	South of plant, on ground	Compliance
PTI No. 675-88A; 40 CFR Part 63, Subpart WWWWWW	Cadmium plating line (two tanks)	Wet scrubber	Inside plant, some ductwork on plant exterior	Compliance
Rule 285(l)(iii); former PTI No. 676-88 (now voided)	Two alkaline chrome strip tanks	In-line mesh pad in stack, exhausts to outside air		Compliance
Rule 285(r)	Two alkaline strip tanks which exhaust indoors			Compliance
PTI No. 677-88	Cooling tower			Compliance
Rule 285(r)	Pickling tanks			Not observed
Rule 285(r)	Phosphate wash tanks			Not observed
Grandfathered	Small sandblaster with wet scrubber	Exhaust to wet scrubber	SW portion of bldg.	Compliance; not operating
Rule 282	6 electric ovens			Compliance
Rule 285(g); 40 CFR Part 60 Subpart JJJJ, and 40 CFR Part 63 Subpart ZZZZ	Emergency generator; natural gas-fired;150 kW			Compliance; not operating
Grandfathered	Small sandblaster with wet scrubber	Exhaust to wet scrubber	SW portion of bldg.	Compliance, not operating
Rule 282	6 electric ovens			Compliance

Environmental contacts:

John D. Wagner, PE, REM, CSP, Director of Health, Safety & Environmental Affairs; 517-546-0150; env@diamondchromeplating.com

Scott Wright, Environmental Manager; 517-546-0150; env@diamondchromeplating.com

Facility description:

DCP is a hard chromium electroplater, which also conducts cadmium and nickel plating. They are a job shop, and plate aircraft landing gear, commercial hydraulics, industrial dies, and miscellaneous parts.

Purpose:

The purpose of this unannounced, scheduled inspection was to check compliance with the facility's various air use permits, with the First Amended Consent Decree (FACD), Case No. 03-1862-CE, and with applicable state and federal air pollution regulations.

Regulatory overview:

The 2006 multi-media Joint Consent Decree (JCD) for this facility has been replaced, as of 8/5/2015, by a First Amended Consent Decree (FACD). The purpose of the JCD was to address not only air issues, but also contamination of soil, storm water, and ground water. The FACD is an updated document, reflecting changes in circumstances and regulations, since the JCD was written.

This facility is considered to be a true minor source, rather than a major source, of air emissions. A *major source* has the potential to emit (PTE) of 100 tons per year (TPY) or more, of one of the criteria pollutants. *Criteria pollutants* are those for which a National Ambient Air Quality Standard exists, and include carbon monoxide, nitrogen oxides, sulfur dioxide, volatile organic compounds (VOCs), lead, particulate matter smaller than 10 microns, and particulate matter smaller than 2.5 microns.

DCP is also considered a minor, or *area source*, for Hazardous Air Pollutants (HAPs), because it is not known to have a PTE of 10 TPY or more for a single HAP, nor to have a PTE of 25 TPY or more for combined HAPs.

In addition, DCP has several air use permits, and various state and federal air regulations apply to a number of emission units. The chrome plating processes are subject to 40 CFR Part 63 Subpart A, *General Provisions*, and Subpart N, the *National Emissions Standards for Hazardous Air Pollutants for Chromium Emissions from Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks* (Chrome NESHAP). DCP considers their facility to be a *large hard chromium electroplating facility*, under the NESHAP, and they plate in open surface chrome tanks. They also have a large batch vapor degreaser, which is subject to 40 CFR Part 63 Subpart T, the *National Emissions Standards for Halogenated Solvent Cleaning*.

Additionally, 40 CFR Part 63 Subpart WWWWWW, the NESHAP for *Area Source Standards for Plating and Polishing Operations* applies to both their nickel plating and cadmium plating processes, but AQD does not have delegated authority from the Environmental Protection Agency to enforce this Area Source MACT.

They have a small emergency generator onsite, which is exempt from the requirement of Rule 201 to obtain a permit to install (PTI). The generator is subject to 40 CFR Part 60, Subpart JJJJ, *Standards of Performance for Stationary Spark Ignition Internal Combustion Engines*. In addition, it is subject to 40 CFR Part 63, Subpart ZZZZ, the *National Emissions Standards for Stationary Reciprocating Internal Combustion Engines*, also known as the RICE MACT. AQD did not initially, but now has delegation of authority for this Area Source MACT standard.

Fee status:

Because it is subject to a MACT standard (the chromium NESHAP), DCP is classified as a Category III fee source, and pays an annual category III fee to the AQD. The facility reports each year to the Michigan Air Emission Reporting System (MAERS).

Location:

The facility is located on the south side of the City of Howell. It was established in 1954. Immediately north of the plant are a DCP parking lot, and some residences. To the immediate east are additional residences. To the west is a community park, and a residential area. To the south is the CSX railroad line, with industrial and commercial facilities to the south and southeast.

Most recent stack testing:

On 9/10 and 9/11/2014, DCP stack tested scrubbers #3 and 4 (the south and north scrubbers, respectively, on the east roof). Total chromium emissions from each scrubber were 0.001 mg/dscm, less than 10% of the limit under the NESHAP. DCP is now considering itself a large rather than small hard chromium electroplating facility with open tanks, subject to the NESHAP limit of 0.011 mg/dscm, whereas they have previously considered themselves to be a small hard chromium electroplating facility with open tanks, subject to a post 9/19/2014 NESHAP limit of 0.015 mg/dscm. In addition, chromic acid emissions complied with the permitted limit in PTI 367-83B.

Recent history:

An 8/30/2017 inspection found the facility to be in compliance with the FACD and their various air permits, as well as the NESHAPS for the chrome plating operations and for halogenated solvent degreasing.

In October 2017, DCP replaced the remaining 54 inch diameter ductwork on their east roof with 24 inch diameter ductwork, with up to 4 of these ducts running parallel to one another, in one location. The purpose was not only to replace older ducts which were more prone to leaking, but to reduce the number of joints between segments. This was done by replacing the 10 foot sections of old ductwork with 20 foot sections of new ductwork, reducing the number of joints in a given length of ductwork. The joints are the areas which DCP considers most likely to develop a leak.

AQD conducted mid-year inspections of the east roof ductwork since the 8/30/2017 annual inspection; please see 10/16/2017 and 1/10/2018 activity reports for details. There were no compliance issues with the east roof ductwork.

Less than one month ago, on 7/31/2018, AQD also conducted an unannounced, mid-year inspection of the Autosonics batch vapor degreaser which DCP uses; please see associated activity report for details. This vapor degreaser uses trichloroethylene (TCE). The batch vapor degreaser appeared to be in compliance with the NESHAP for halogenated solvent cleaning.

Arrival:

AQD was represented today by inspector Samantha Braman, and by myself. This was an unannounced inspection.

Before arrival, we drove around the block on which DCP is located. At 9:36 AM, while southbound on South Michigan, I noticed an odor which was barely detectable, and was so faint that I could not assign any character to it. We were traveling southbound. Weather conditions were cloudy, humid, (88% relative humidity), and 70 degrees F, with winds out of the west northwest at 6 miles per hour, per data from S. Braman's phone. When we arrived in the parking lot north of the plant., there were no visible emissions from scrubbers # 3, 4, 6, or the plant's roofline. There was a barely discernible amount of steam which S. Braman spotted, coming from the cooling tower. Uncombined water vapor is not a regulated air contaminant, however. We could not detect any odors from our vantage point.

Upon entering the office lobby, we provided our identification/credentials, per AQD procedures, and signed in. We met with Mr. John Wagner, PE, REM, CSP, Director - Health, Safety & Environmental Affairs. We had recently been made aware that he is retiring on 9/7/2018. We were introduced to Mr. Scott Wright, who was to replace Mr. Wagner as the environmental contact, after 9/7. Mr. Wright's title is now Environmental Manager.

We discussed the AQD draft Chrome Plater Subpart N inspection checklist, and requested data to fill out the form. Please see the checklist which is attached to the hard copy of this report.

Perfluoroalkyl and polyfluoroalkyl substances (PFAS), which include the compound perfluorooctane sulfonate (PFOS), also known as perfluorooctane sulfonic acid, are part of a group of chemicals used globally during the past century in manufacturing, firefighting and thousands of common household and other consumer products. PFAS and especially PFOS are emerging contaminants of concern in Michigan and the rest of the United States.

PFOS was for years a standard chemical used in the chrome plating industry as a fume suppressant, until the U.S. Environmental Protection Agency (EPA) prohibited its use after 9/21/2015. This prohibition is contained within the chrome NESHAP. DCP's Department 3, in the west side of the plant, historically used PFOS-containing fume suppressant. We were advised today that the last use of PFOS in the plant was in Tank 7 on 7/31/2015. Please refer to the attached hard copy of an e-mail that we were given, while onsite.

A 2/19/2018 e-mail from DCP to their supplier, Hunter Chemical, inquired as to PFOS being present in fuem suppressants HCA 6.1 and 6.2, which DCP had used prior to the PFOS ban. The company representative informed DCP that their fume suppressants HCAHCA 6.1 and 6.2 contained PFOS. DCP was said to have first purchased HCA 6.2 in August 2006, and later was switched to HCA 6.1 with a 1/23/2007 purchase. The last purchase by DCP of HCA 6.1 appears to have been 2/25/2015, months ahead of the 9/21/2015 PFOS-ban in the chrome NESHAP.

As documented in AQD files, from 2013-2015, DCP tried several surfactants free of PFOS, to see if they could reduce the generation of chromic acid mist, while still providing product quality for their plated parts. It is my understanding that their military/aviation customers demand very high quality to plating finishes. However, the surfactants had some product quality issues which they could not resolve, and so they were not deemed acceptable for military/aviation parts. However, the commercial plating tanks 5, 7, 15, and 17, in the west side of the plant, which plate parts for civilian customers, currently use a PFOS-free mist suppressant, MAR Tech MAR Mist Suppressant PF-20X. The civilian customers do not object to the use of the mist suppressant.

In previous AQD inspection reports of DCP, I had referred to fume suppressants as surfactants. Mr. Wagner clarified, however, that fume suppressant is a more accurate term than surfactant.

Mr. Wagner informed us of environmental concerns for toxic organic precursors, or TOPs. He explained that if a fume suppressant contains compounds which are TOPs, then in the presence of a strong oxidizer like chromic acid, PFOS can be formed. He explained that they have gone to their supplier, MAR-Tech, with this concern, and the company has assured DCP that their product contains no TOPs. Mr. Wagner informed us that the DEQ Water resources Division (WRD) should have this information from DCP, already.

<u>Inspection:</u>

<u>Chrome plating Departments 1 and 2; PTI No. 367-83B; FACD; 40 CFR Part 63, Subpart N:</u>

Under the chrome NESHAP, there are two options which regulated facilities may choose from, for compliance. These are the use of fume suppressants, or the use of a control device. DCP is using the mist suppressant MAR Tech MAR Mist Suppressant PF-20X as the option for the chrome plating in the west half of the plant (known as Department 3), with scrubber #5 removing fumes from the workplace environment. Control devices (scrubber #3 and 4) were the option chosen for the chrome plating in the east half of the plant (Departments 1 and 2).

We were advised that no fume suppressants are being utilized in the east plant. The east half of the plant is where aviation parts are plated. As mentioned earlier in this report, DCP's military/aviation customers are very exacting in their standards for the quality of the part finish, and trials with fume suppressants evidently caused bubbles or pitting in the chrome finish. To illustrate the exacting standards for quality that they aspire to, Mr. Wagner provided a hard copy of a photo (attached) showing a lunar landing craft. He explained that this lander was sent by NASA, to the surface of the moon, and the hydraulic tubes for the lander were chrome plated here.

The FACD does not require the use of surfactants, unless the DEQ identifies on 3 separate dates within any 3 year period that releases from ductwork were not identified, documented, or repaired as required under FACD paragraph 5.3(b). Then, under 5.3(c), DCP would be required to submit evidence that it has done one of a number of optional corrective actions.

The east ductwork on the east roof was replaced in October 2015, with twin parallel 24 inch extruded PVC ductwork replacing a single 54 inch diameter duct of sectioned PVC plastic. The east ductwork leads to the north scrubber, #4. The west ductwork on the east roof was replaced around October 2017. The west ductwork leads to the south scrubber, #3. Please see attached a copy of the current ductwork diagram for the east roof of the plant, which was current on 6/28/2018.

We walked out onto the plant's east roof. The scrubbers and their associated ductwork showed no indications of any chromic acid leaks, only occasional traces of rust where metal parts were used, such as bands or bolts. At 11:35 AM, scrubber #3 pressure drop was 2.9 inches water column (w.c.), and scrubber #4 pressure drop was 2.8 inches, w.c. Neither scrubbers #3 nor 4 had any visible emissions. Please see attached photo No. 1 of scrubber #3, which is blocking the view of scrubber #4, behind it.

We observed horizontal and vertical ductwork across the roof of the east plant, and could not identify any chromic acid leaks. Some of the new 24 inch diameter ductwork was still unpainted, gray PVC plastic. DCP has been priming and painting the ductwork this summer with specific coatings intended to protect the plastic from the damaging effects of sunlight. Some ductwork was still in white primer, while other ductwork had been primed, painted, and received labels to identify individual ductwork pieces by their segment ID number. Please see attached photos Nos. 2-5.

Ducts which were still unpainted had a black sealer applied where they joined other pieces of ductwork. We were told that this is intended to help prevent future leaks at those joints, over time. Please see attached photos Nos. 6-7.

Some of the few remaining segments of 54 inch diameter white PVC ductwork have catch trays underneath them, to catch any potential drips of chromic acid. The catch trays have hoses which would route collected liquids into the plant and into the pits underneath the chrome plating tanks. Side shields or wind baffles along the ducts and catch trays were intended to offer shelter from wind and/or rain, to prevent re-entrainment of any collected chromic acid liquids that might be in the catch trays. I could not see any liquids in the catch trays.

On the inside of the east plant, I observed the interior ductwork for chrome plating tanks, discussed in detail below, to check for visible emissions. The interior ductwork for chrome tanks in the east plant is almost all painted a glossy brown color. This brown is distinctly lighter than chromic acid, so any leaks or weeps would be visible. It should be noted that it is not a violation to have a leak on interior ductwork, and is more of a plant maintenance or house keeping issue.

- Chrome tank no. 1 was plating parts at this time. There were no fugitive air emissions visible from the ductwork. The appearance of the ductwork matched that in 2016. There were small splash patterns of dried chromic acid on the lower ductwork, adjacent to the tank, which we were informed was from the rinsing of parts with water, when they are removed from the plating solution.
- Chrome tank no. 2 was plating. There were no fugitive air emissions visible from the ductwork. The appearance of the ductwork resembled that in 2017. There were minor splash out patterns on the ductwork from rinsing of parts.
- Chrome tank no. 3 was not plating parts at this time. There were no fugitive air emissions visible from the ductwork. The appearance of the ductwork was identical to 2017. There were minor splash out patterns from rinsing parts.

- Chrome tank no. 4 was plating parts at this time There were no fugitive air emissions visible from the ductwork. The ductwork had very recently been painted a matte black. There were no signs of leaks on the ductwork.
- Chrome tank no. 6 was plating the inside of a long, hollow tube. Tank 6 is made of titanium, which is more resistant to corrosion from chromic acid than ordinary steel. Gray PVC ductwork was installed in either 2013 or 2014, where the exhaust is ducted through the roof. The older PVC ductwork, for this tank is painted brown. There were no fugitive air emissions visible from the ductwork. The ductwork appearance was consistent with how it looked in 2017.
- Chrome tank no. 8 was plating parts. There were no fugitive air emissions visible from the ductwork. Blue, chemical resistant tape was wrapped around the duct in one location. This is a chemical-resistant blue tape which is used to mask off parts before they are lowered into the plating solution, when plating is not wanted on a section of a part. There was no indication of an active leak. There were minor splash out patterns from rinsing of parts..
- Chrome tank no. 9 was plating. parts There were no fugitive air emissions visible from the ductwork. The ductwork was entirely consistent in appearance with its 2017 appearance.
- Chrome plating tank no. 11 was plating. It is a long, narrow titanium steel tank in the southeast corner of the east plant. A short part was being plated in the north half of this tank. There were no fugitive air emissions visible from the ductwork. The appearance was consistent with its appearance in 2017.
- Chrome tank no. 12 was plating parts, at this time. There were no fugitive air emissions visible from the ductwork. This tank had been used in the past as a trial tank for surfactants, but none of the tanks in the east half of the plant are using surfactants now. The ductwork looked to be clean, other than a splash out pattern from rinsing parts, on the lower portion of the duct. Higher up on the duct was a band of the chemical-resistant blue tape, which had been wrapped around the duct. There was no indication of an active leak.

Recordkeeping for east plant (which includes Depts. 1 and 2):

Recordkeeping examples were provided for the chrome plating scrubbers by Ms. Maryn Revoir, Lab Manager for DCP.

EQP 5708 form, *Composite Mesh-Pad Systems or Combination Packed-Bed Scrubber/Composite Mesh-Pad Systems Operation and Maintenance Record*:

The EQP 5708 form was developed by the DEQ, so facilities could document operation and maintenance activities on control devices for chrome plating tanks.

A scrubber #3 EQP 5708 was also provided for the period 11/20/2017 to 5/30/2018. Quarterly maintenance activities were documented on 11/2/2017, and 2/26 and 5/30/2018. It was noted that 4 mesh pads were replaced on 6/16/2018, and that between 10/14 and 10/19/2017, the scrubber was shut down while existing PVC ductwork was being replaced with the newest PVC ductwork. It is my understanding that the chrome plating tanks which were served by scrubber #3 were also shut down during this time period.

A scrubber #4 EQP 5708 was provided for the period 11/20/2017 to 5/30/2018. Quarterly maintenance activities were documented on 11/2/2017, and 2/26 and 5/30/2018. There was a note of a power outage on 11/17/2017 which resulted in the VFD being replaced. It is my understanding that VFD is variable fan drive.

EQP 5709 form, *Monitoring Data Record*:

The EQP 5709 form was developed by the DEQ, so chrome plating facilities could use it to document pressure drop for scrubbers used as control devices for chrome plating tanks.

Scrubber No. 3, south scrubber: examples were provided for the time period 7/5 to 8/27/2018. The date of 8/27 is entered two days in a row, so the second listing of 8/27 may actually reflect 8/28. The Chrome NESHAP requires daily recordkeeping of pressure drop on days of operation, in Section 63.343(c)(ii). The pressure drop readings on days of operation ranged from 2.9-3.0 inches, w.c. DCP's *Chrome MACT Standard Operation and Maintenance Plan (SOP) Revision I* sets a site-specific operating

parameter for this scrubber of 3.20 + or – 2.0 inches, and DCP appeared to be within this range. The site-specific operating parameter for pressure drop in the *SOP Revision I* for scrubber No. 3 appears to be in keeping with Sections 63.343(c)(ii) and (iii) of the Chrome NESHAP, which require:

(ii) On and after the date on which the initial performance test is required to be completed under §63.7, the owner or operator of an affected source, or group of affected sources under common control, shall monitor and record the pressure drop across the composite mesh-pad system once each day that any affected source is operating. To be in compliance with the standards, the composite mesh-pad system shall be operated within ±2 inches of water column of the pressure drop value established during the initial performance test, or shall be operated within the range of compliant values for pressure drop established during multiple performance tests.

(iii) The owner or operator of an affected source complying with the emission limitations in §63.343 through the use of a composite mesh-pad system may repeat the performance test and establish as a new site-specific operating parameter the pressure drop across the composite mesh-pad system according to the requirements in paragraphs (c)(1)(i) or (ii) of this section. To establish a new site-specific operating parameter for pressure drop, the owner or operator shall satisfy the requirements specified in paragraphs (c)(1)(iii)(A) through (D) of this section.
(A) Determine the outlet chromium concentration using the test methods and procedures in §63.344(c);
(B) Establish the site-specific operating parameter value using the procedures §63.344(d)(5);
(C) Satisfy the recordkeeping requirements in §63.346(b)(6) through (8); and
(D) Satisfy the reporting requirements in §63.347(d) and (f).

Scrubber No. 4 (north scrubber): examples were provided , for the time period 7/5 to 8/27/2018. The pressure drop readings on days of operation ranged from 2.6-3.0 inches, w.c. The SOP Revision I sets a site-specific operating parameter for this scrubber of 3.50 + or – 2.0 inches, and they appeared to be within this range. The range identified in the SOP Revision I appears to be in keeping with Sections 63.343(c)(ii) and (iii) of the NESHAP.

Recordkeeping under the FACD:

The FACD requires daily inspections of the chrome plating ductwork to check for leaks, and requires documentation of those inspections. We were provided with examples of DCP's *Roof Area Inspection Form*, attached, for the east plant, from the period 8/14 to 8/28/2018. No leaks were identified on these records.

Miscellaneous records:

We were also given examples of a number of environmental record sheets (attached) internally used by DCIP. These included *Weekly Routine Inspection Report* forms to document housekeeping activities in the plant yard and alleyway, to prevent any releases to storm water. They also included quarterly *Comprehensive Site Inspection Form/Report* forms, which were used by their Certified Storm Water Operator, Ms. Revoir, to track compliance with their Storm Water pollution Prevention Plan, or SWPPP.

Note: DCP shuts down from 12 noon to 1:00 PM for lunch. S. Braman and I left the plant for lunch, after the shut down, and returned at 1:00 PM to resume the inspection.

<u>Chrome plating Department 3; PTI No. 386-85A; 40 CFR Part 63, Subpart N:</u>

The chrome NESHAP prohibits the use of PFOS-containing fume suppressants after 9/21/2015. DCP has indicated that they ceased using fume suppressants with PFOS in the west plant during the course of 2015. It is my understanding that DCP is now using a PFOS-free product, *MAR-Tech Mist Suppressant PF NF-20X*, in the west plant.

The west side of the plant is served by scrubber #5, which is located indoors, and exhausts outdoors. Scrubber pressure drop was fluctuating from 3.2 to 3.4 inches, w.c., at 3;55 PM. These values were within the range marked as from either 1.9 or 2.0 inches, to 4.0 inches, w.c. There were no visible

emissions from the exhaust outlet for scrubber #5, today, as seen from atop the east plant's roof., earlier in this inspection Please see attached photo No. 8.

We examined the chrome plating tanks. Mr. Wagner pointed out how the fume suppressant used in the west side of the plant builds a head of foam atop the chrome plating solution. This degree of foam was not seen in the east side of the plant, where no fume suppressant is used.

- Tank no. 5 was plating parts, at this time. There were no fugitive air emissions visible from the ductwork. The vertical ductwork for this tank was consistent with its 2016 appearance, other than a strip of blue, chemical resistant tape wrapped around the duct, at one location. There were no indication of leaks. There were minor splash patterns from rinsing of parts.
- Tank 7 was plating. parts There were no fugitive air emissions visible from the ductwork. The vertical ductwork appeared free of leaks.
- Tank no. 15 was plating parts. It is a titanium tank. There were no fugitive air emissions visible from the ductwork. There were no signs of leaks.
- Tank no. 17 was plating parts. There were no fugitive air emissions visible from the ductwork. There were no leaks visible on the ductwork.

It is my understanding that there is a shared containment pit for all four of the tanks in this department.

<u>Recordkeeping for chrome plating tanks of Dept. 3 and scrubber #5:</u>

As discussed above, under the chrome NESHAP, DCP chose the compliance option of using fume suppressant rather than the compliance option of using a scrubber, for the west side of the plant, also known as Dept. 3, and the use of their scrubber #5 provides an additional level of control.

EQP 5789 form, *Chrome NESHAP - Fume Suppressant - Tensiometer Daily Process Operations Record*:

Fume suppressant is only used in the west side of the plant. It is my understanding that the fume suppressant currently used, MAR-Tech PF-20X, is free of PFOS, as required by the chrome NESHAP. The company previously advised AQD that they ceased using PFOS-containing suppressants during the course of 2015.

The federal chrome NESHAP regulation, 40 CFR Part 63, Subpart N, requires measurement of the surface tension for facilities using a wetting agent or combination wetting agent-type/foam blanket fume suppressants. Method 306B (Surface Tension for Tanks Electroplating and Anodizing) is identified as the required testing method, under Section 63.343(c)(5)(i). Paragraph 12.1.2 of Method 306B requires that frequency of fume suppressant maintenance additions and the amount of fume suppressant added must be recorded in the log book, in addition to the surface tension measurements. Hours of tank operation are required to be monitored. DCP appears to be doing the required recordkeeping.

The EQP 5789 form was developed by the DEQ, for use by chrome platers to record surface tension readings, where a tensiomemter is the instrument used to measure. Readings must be taken each day on which a chrome plating tank using a suppressant is operated.

The current version of 40 CFR Part 63, Subpart N, on the e-CFR website, specifies a surface tension limit of 33 dynes/cm for open surface hard chromium electroplating tanks, under section 63.342(c)(1)(iii). The limit was previously 35 dynes/cm, but was changed to 33 on 9/19/2014, the implementation date set by the revised chrome NESHAP as published in the Federal Register on 9/19/2012.

The EQP 5789 form on the DEQ, AQD website has not been updated, regarding the above change to the NESHAP limit. It is still the 3/05 version, which lists the pre-9/19/2014 limit of 35 dynes/cm as the surface tension maximum limit for facilities which use a tensiometer, instead of the current limit of 33 dynes/cm. AQD is now looking into updating this form on our website.

I subsequently e-mailed DCP on 9/19/2018, to request an example of recordkeeping for each of the active plating tanks in the west plant; Tanks 5, 7, 15, and 17. On 9/20, I received August 2018 records for each of those tanks. Results are summarized below. Tanks 5, 7, and 15 all exceeded the current

NESHAP limit of 33 dynes/cm, as measured with a tensiometer. A VN will be sent.

Surface tension records for chrome plating tanks of Dept. 3 for August, 2018:

Chrome plating tank using surfactant	Range of surface tension readings with tensiometer reading, dynes/cm	Is reported value under old (pre-9/19/2014) limit of no more than 35 dynes/cm?	Is reported value under new (9/9/2014) limit of 33 dynes/cm?	Hours of operation reported?	Fume suppressant added?
5	34-36	No	No; exceedance	Yes	Yes; MAR-Tech PF-20X
7	33-37	No	No; exceedance	Yes	Yes; MAR-Tech PF-20X
15	31-35	Yes	No; exceedance	Yes	Yes; MAR-Tech PF-20X
17	29-31	Yes	Yes	Yes	Yes; MAR-Tech PF-20X

Note: there is a separate DEQ form for facilities which use a stalagmometer as the instrument to take measurements, the EQP 5788 form, *Chrome NESHAP - Fume Suppressant - Stalagmometer Daily Process Operations Record*. This form also needs to be updated, to reflect the current limit for facilities which use a stalagmometer, 40 dynes/cm. This replaced the previous limit of 45 dynes/cm, on 9/19/2014.

Chrome plating tanks 19-21 and scrubber system 6; PTI No. 386-85A:

The PBS/CMP scrubber system 6 is not in use, nor were the chrome plating tanks (numbers 19-21) associated with it.

Autosonics batch vapor degreaser; Rule 285(r)(iv), and 40 CFR Part 63 Subpart T:

DCP solvent degreaser #1 is an Autosonics Model VS 6030E batch open-top vapor degreaser. It may be considered a large unit, because under the NESHAP it is classified as a unit which has a Solvent Air Interface of over 1.21 square meters. The actual SAI size is 1.67 square meters.

The Autosonics degreaser exhausts into the general, in-plant environment, rather than directly outside. The parts basket has a built-in cover or lid, the working mode cover, which fits over the entire degreaser, when parts are being cleaned, to prevent emissions. There is a drip pan, installed under the parts basket, in the event of drippage. There is a rolling door, the idling mode cover, which covers the top of the degreaser, when parts are not being cleaned. A curtain is behind the degreaser, to block wind from blowing over the degreaser.

The table below shows DCP's Autosonics batch vapor degreaser VOC emissions, as reported to MAERS for the 2014-2017 operating years, with the VOC emissions being comprised of TCE. The reported values were based upon the annual *Halogenated Solvent Cleaner NESHAP: Annual Report* or *Solvent Use Report* which DCP prepared each year, pursuant to 40 CFR Part 63, Subpart T. As can be seen, the VOC emissions have gotten lower with each successive year, to almost half of the 2014 value. Enhanced maintenance activities have been the reason for the reduced emissions, I was informed in 2017.

Summary of TCE use and VOC emissions from DCP Autosonics batch vapor degreaser, from 2014-2017:

Operating year	TCE solvent use in lbs, from annual Subpart T report	VOC (TCE) emissions in lbs, as reported to MAERS	VOC (TCE) emissions in tons, as reported to MAERS
2014	17,627	17,627.00	8.81
2015	13,148	13,148.00	6.57
2016	9,865	9,865.00	4.93
2017	9,226	9,627.00	4.81

Note: I was informed that for 2016 and 2017, DCP did not meet the 10,000 lb threshold for triggering reporting of TCE to the TRI reporting system.

Michigan Air Pollution Control Rule 285(2)(r)(iv) exempts metal cleaning processes which exhaust only into the general, in-plant environment from the requirement of Rule 201 to obtain a permit to install. This exemption was originally known as Rule 285(r)(iv), but was revised on 12/20/2016. The Autosonics degreaser falls under the pre-revision Rule 285(r)(iv), but the exemption criteria are the same as the revised version. Based on examination of the batch vapor degreaser today and in the past, it exhaust sinto the general, in-plant environment.

Michigan Air Pollution Control Rule 278 would preclude a major HAP source from using permit exemptions. Because DCP is not classified as a major source of HAPs, it is eligible to use the above exemption, rather than obtain a permit to install. A major source of HAPs has the Potential to Emit (PTE) of 10 tons per year (TPY) or more of a single HAP, or 25 TPY or more of all HAPs combined. AQD received an updated PTE demonstration for the Autosonics batch vapor degreaser in March of 2015, showing that PTE was below the major source threshold.

Review of Autosonics degreaser compliance with Section 63.463 of 40 CFR Part 63, Subpart T:

Please see requirements copied and pasted from Section 63.463 of the Halogenated Solvent Cleaner NESHAP, and the AQD comments following each relevant requirement, below.

§63.463 Batch vapor and in-line cleaning machine standards.
(a) Except as provided in §63.464 for all cleaning machines, each owner or operator of a solvent cleaning machine subject to the provisions of this subpart shall ensure that each existing or new batch vapor or in-line solvent cleaning machine subject to the provisions of this subpart conforms to the design requirements specified in paragraphs (a)(1) through (7) of this section. The owner or operator of a continuous web cleaning machine shall comply with the requirements of paragraph (g) or (h) of this section, as appropriate, in lieu of complying with this paragraph.

AQD comment #1: Please see Section 63.463(a)(1) through (7), below. This batch vapor degreaser is not a continuous web cleaning machine.

(1) Each cleaning machine shall be designed or operated to meet the control equipment or technique requirements in paragraph (a)(1)(i) or (a)(1)(ii) of this section.
(i) An idling and downtime mode cover, as described in §63.463(d)(1)(i), that may be readily opened or closed, that completely covers the cleaning machine openings when in place, and is free of cracks, holes, and other defects.

AQD comment #2: Because the unit was not operating at the time of the inspection, I did not go up on the catwalk to observe the idling and downtime mode cover covering the degreaser, today. However, I recently observed it less than one month ago, on 7/31/2018. It appeared to be free of cracks, holes, and other defects, therefore complying with Section 63.463(a)(1)(i), above. Please see AQD 7/31/2018 activity report. The attached DCP recordkeeping form EWI-008-B shows weekly checks done on the cover during the time period 7/23/2018 through 7/30/2018. The report showed that the cover was opening and closing properly, completely covering the opening, and was free of cracks, holes, and other defects.

Also attached are handwritten recordkeeping forms titled, "HALOGENATED SOLVENT CLEANER NESHAP: COVER RECORDKEEPING FORM." They cover the time period from 1/15/2018 through 7/2/2018, and show that the cover was opening and closing properly, completely covering openings, and that it was free of cracks, holes, and other defects.

(ii) A reduced room draft as described in §63.463(e)(2)(ii).

AQD comment #3: Please refer to the attached representative example of recordkeeping provided by Ms. Revoir on 7/31/2018. A DCP form, designated EWI-008-A, shows weekly indoor wind speed measurements for the time period 7/23 through 7/30/2018, ranging from 10 to 20 feet per minute. This is below the limit of 15.2 meters per minute or 50 feet per minute, specified in Section 63.463(e)(2)(ii)(A)

and (B), complying with Section 63.463(a)(1)(ii), above.

Additional, handwritten forms titled "HALOGENATED SOLVENT CLEANER NESHAP: REDUCED ROOM DRAFT WINDSPEED MEASUREMENTS RECORDKEEPING FORM", indicate indoor wind speed measurements from 9/5/2017 through 7/2/2018. They range from 10-25 feet per minute, below the limit of 15.2 meters per minute or 50 feet per minute.

(2) Each cleaning machine shall have a freeboard ratio of 0.75 or greater.

AQD comment #4: The freeboard ratio of DCP's Autosonics batch vapor degreaser is rated at 1.0, therefore complying with Section 63.463(a)(2), above.

(3) Each cleaning machine shall have an automated parts handling system capable of moving parts or parts baskets at a speed of 3.4 meters per minute (11 feet per minute) or less from the initial loading of parts through removal of cleaned parts.

AQD comment #5: Please see the attached DCP recordkeeping form WWI-008-D on hoist speed, provided by Ms. Revoir. The hoist speed was reported weekly, during the time period 7/23 through 7/30/2018. Measurements ranged from 3.2 to 3.6 feet per minute. These speeds are well below the maximum allowed speed of 11 feet per minute under Section 63.463(a)(3), above.

Please also see the handwritten recordkeeping forms titled, "HALOGEANTED SOLVENT CLEANER NESHAP: AUTOMATED PARTS HANDLING - HOIST SPEED RECORDKEEPING FORM". They cover the time period 11/27/2017 to 7/2/2018, and show speeds ranging from 2.9 to 4.3 feet per minute, well below the maximum allowed speed of 11 feet per minute under the NESHAP.

(4) Each vapor cleaning machine shall be equipped with a device that shuts off the sump heat if the sump liquid solvent level drops to the sump heater coils. This requirement does not apply to a vapor cleaning machine that uses steam to heat the solvent.

AQD comment #6: It is my understanding that the batch vapor degreaser has a device to shut off the sump heat if the sump liquid level drops to the coils, and that the unit is heated with electricity, complying with Section 63.463(a)(4), above.

(5) Each vapor cleaning machine shall be equipped with a vapor level control device that shuts off sump heat if the vapor level in the vapor cleaning machine rises above the height of the primary condenser.

AQD comment #7: It is my understanding that the batch vapor degreaser is equipped with a vapor level control device that shuts off sump heat if the vapor level in the vapor cleaning machine rises above the height of the primary condenser, as required by Section 63.463(a)(5), above.

(6) Each vapor cleaning machine shall have a primary condenser.

AQD comment #8: DCP's Autosonics batch vapor degreaser has a condenser, therefore complying with Section 63.463(a)(6), above.

(7) Each cleaning machine that uses a lip exhaust shall be designed and operated to route all collected solvent vapors through a properly operated and maintained carbon adsorber that meets the requirements of paragraph (e)(2)(vii) of this section.

AQD comment #9: DCP's Autosonics batch vapor degreaser does not have a lip exhaust. Therefore, a carbon adsorber is not required under Section 63.643(a)(7), above.

(b) Except as provided in §63.464, each owner or operator of an existing or new batch vapor cleaning machine shall comply with either paragraph (b)(1) or (b)(2) of this section.
(1) Each owner or operator of a batch vapor cleaning machine with a solvent/air interface area of 1.21 square meters (13 square feet) or less shall comply with the requirements specified in either paragraph (b)(1)(i) or (b)(1)(ii) of this section.
(i) Employ one of the control combinations listed in table 1 of this subpart or other equivalent methods of control as determined using the procedure in §63.469, equivalent methods of control.

Table 1—Control Combinations for Batch Vapor Solvent Cleaning Machines With a Solvent/Air Interface Area of 1.21 Square Meters (13 Square Feet) or Less

Option
Control combinations
1 Working-mode cover, freeboard ratio of 1.0, superheated vapor.
2 Freeboard refrigeration device, superheated vapor.
3 Working-mode cover, freeboard refrigeration device.
4 Reduced room draft, freeboard ratio of 1.0, superheated vapor.
5 Freeboard refrigeration device, reduced room draft.
6 Freeboard refrigeration device, freeboard ratio of 1.0.
7 Freeboard refrigeration device, dwell.
8 Reduced room draft, dwell, freeboard ratio of 1.0.
9 Freeboard refrigeration device, carbon adsorber.
10 Freeboard ratio of 1.0, superheated vapor, carbon adsorber.

Note: Unlike most of the control techniques available for complying with this rule, carbon adsorbers are not considered to be a pollution prevention measure. Use of such units may impose additional cost and burden for a number of reasons. First, carbon adsorption units are generally more expensive than other controls listed in the options. Second, these units may present cross-media impacts such as effluent discharges if not properly operated and maintained, and spent carbon beds have to be disposed of as hazardous waste. When making decisions about what controls to install on halogenated solvent cleaning machines to meet the requirements of this rule, all of these factors should be weighed and pollution prevention measures are encouraged wherever possible.

AQD comment #10: The requirements of Section 63.463(b)(1)(i) Table 1, above, do not apply to DCP's Autosonics batch vapor degreaser, as the Solvent/Air Interface of their unit is greater than 1.21 square meters.

(ii) Demonstrate that their solvent cleaning machine can achieve and maintain an idling emission limit of 0.22 kilograms per hour per square meter (0.045 pounds per hour per square foot) of solvent/air interface area as determined using the procedures in §63.465(a) and appendix A to this part.

AQD comment #11: The requirements of Section 63.463(b)(1)(ii), above, do not apply to DCP's Autosonics batch vapor degreaser, as the Solvent/Air Interface of their unit is greater than 1.21 square meters.

(2) Each owner or operator of a batch vapor cleaning machine with a solvent/air interface area greater than 1.21

square meters (13 square feet) shall comply with the requirements specified in either paragraph (b)(2)(i) or (b)(2)(ii) of this section.
(i) Employ one of the control combinations listed in table 2 of this subpart or other equivalent methods of control as determined using the procedure in §63.469, equivalent methods of control.

Table 2—Control Combinations for Batch Vapor Solvent Cleaning Machines With a Solvent/Air Interface Area Greater than 1.21 Square Meters (13 Square Feet)

Option
Control combinations
1 Freeboard refrigeration device, freeboard ratio of 1.0, superheated vapor.
2 Dwell, freeboard refrigeration device, reduced room draft.
3 Working-mode cover, freeboard refrigeration device, superheated vapor.
4 Freeboard ratio of 1.0, reduced room draft, superheated vapor.
5 Freeboard refrigeration device, reduced room draft, superheated vapor.
6 Freeboard refrigeration device, reduced room draft, freeboard ratio of 1.0.
7 Freeboard refrigeration device, superheated vapor, carbon adsorber.

Note: Unlike most of the control techniques available for complying with this rule, carbon adsorbers are not considered to be a pollution prevention measure. Use of such units may impose additional cost and burden for a number of reasons. First, carbon adsorption units are generally more expensive than other controls listed in the options. Second, these units may present cross-media impacts such as effluent discharges if not properly operated and maintained, and spent carbon beds have to be disposed of as hazardous waste. When making decisions about what controls to install on halogenated solvent cleaning machines to meet the requirements of this rule, all of these factors should be weighed and pollution prevention measures are encouraged wherever possible.

AQD comment #12: With a Solvent/Air Interface of 1.67 square meters, this applies to DCP's Autosonics batch vapor degreaser. Note in Table 2, above, DCP's actual chosen control option is option 2. Option 1 was mistakenly identified as their option in the annual Solvent Use Report which was submitted on 3/28/2018, for the 2017 operating year. The NESHAP requires that this solvent use report be submitted no later than 2/1/2018. Therefore, a VN was sent to DCP to identify the late submittal of the report. Mr. Wagner indicated that he created an electronic reminder for his computer calendar to ensure that this does not get submitted late in future years.

(ii) Demonstrate that their solvent cleaning machine can achieve and maintain an idling emission limit of 0.22 kilograms per hour per square meter (0.045 pounds per hour per square foot) of solvent/air interface area as determined using the procedures in §63.465(a) and appendix A of this part.

AQD comment #13: The requirements of Section 63.463(b)(2)(ii), above, do not apply, as DCP chose the option of complying with Section 63.463(b)(2)(i) Table 2, instead.

AQD comment #14: Section 63.463(c) requirements are not listed in this report, as they only apply to in-line cleaning machines. The DCP unit is not an in-line cleaning machine.

(d) Except as provided in §63.464 for all cleaning machines, each owner or operator of an existing or new batch vapor or in-line solvent cleaning machine shall meet all of the following required work and operational practices specified in paragraphs (d)(1) through (12) of this section as applicable. The owner or operator of a continuous web cleaning machine shall comply with the requirements of paragraph (g) or (h) of this section, as appropriate, in lieu of complying with this paragraph.
(1) Control air disturbances across the cleaning machine opening(s) by incorporating the control equipment or techniques in paragraph (d)(1)(i) or (d)(1)(ii) of this section.
(i) Cover(s) to each solvent cleaning machine shall be in place during the idling mode, and during the downtime mode unless either the solvent has been removed from the machine or maintenance or monitoring is being performed that requires the cover(s) to not be in place.

AQD comment #15: A cover to the batch vapor degreaser is in place, during the idling mode or downtime mode, complying with Section 63.463(d)(1)(i), above. This is a rolling cover. Please see 7/31/2018 AQD activity report for observations.

(ii) A reduced room draft as described in §63.463(e)(2)(ii).

AQD comment #16: Based on review of recordkeeping (attached), a reduced room draft, as described in Section 63.463(e)(2)(ii), is being maintained at levels below the allowed maximum wind speed of 15.2 meters per second or 50 feet per minute, complying with Section 63.463(d)(1)(ii), above. Please refer to the attached representative example of recordkeeping provided by Ms. Revoir on 7/31/2018. A DCP form, designated EWI-008-A, shows weekly indoor wind speed measurements for the time period 7/23 through 7/30/2018, ranging from 10 to 20 feet per minute. This is below the limit of 15.2 meters per minute or 50 feet per minute, specified in Section 63.463(e)(2)(ii)(A) and (B), complying with Section 63.463(a)(1)(ii), above.

Additional, handwritten forms titled "HALOGENATED SOLVENT CLEANER NESHAP: REDUCED ROOM DRAFT WINDSPEED MEASUREMENTS RECORDKEEPING FORM", indicate indoor wind speed measurements from 9/5/2017 through 7/2/2018. They range from 10-25 feet per minute, below the limit of 15.2 meters per minute or 50 feet per minute.

(2) The parts baskets or the parts being cleaned in an open-top batch vapor cleaning machine shall not occupy more than 50 percent of the solvent/air interface area unless the parts baskets or parts are introduced at a speed of 0.9 meters per minute (3 feet per minute) or less.

AQD comment #17: It is my understanding that parts occupy no more than 50% of the interface area, and that 63% of the interface remains open, and that DCP staff use visual checks to confirm. It is also my understanding that the hoist speed is 0.9 meters per minute. DCP is therefore voluntarily doing both options, more than the single option required by Section 63.463(d)(2), above.

(3) Any spraying operations shall be done within the vapor zone or within a section of the solvent cleaning machine that is not directly exposed to the ambient air (i.e., a baffled or enclosed area of the solvent cleaning machine).

AQD comment #18: The vapor degreaser is equipped with a wand, for manually spraying parts with TCE. There are no baffles within the degreaser, based on observation and discussion with the company. It is my understanding that the use of the wand ensures that spraying is done within the vapor zone. This appears to be in keeping with the requirements of Section 63.463(d)(3), above.

(4) Parts shall be oriented so that the solvent drains from them freely. Parts having cavities or blind holes shall be tipped or rotated before being removed from any solvent cleaning machine unless an equally effective approach has been approved by the Administrator.

AQD comment #19: From discussions with DCP, it is my understanding that parts being cleaned are oriented so that the solvent drains from them freely, complying with Section 63.463(d)(4), above.

(5) Parts baskets or parts shall not be removed from any solvent cleaning machine until dripping has stopped.

AQD comment #20: From past observation and discussion, it is my understanding that the dwell time on the degreaser is set so that dripping from parts is ceased, prior to parts and/or the parts basket being removed from the degreaser. I have not observed any drips of solvent from the parts or parts basket, in person. This appears to be in compliance with Section 63.463(d)(5), above.

The attached DCP recordkeeping form EWI-008-C records dwell time from 7/23 to 7/30/2018, ranging from 90 to 100 seconds. These are above the minimum required 85.6 seconds of dwell time.

Also, the attached handwritten forms titled, "HALOGENATED SOLVENT CLEANER NESHAP: DWELL MEASUREMENT TEST RECORDKEEPING FORM" document dwell time from 7/24/2017 to 7/2/2018. They show dwell times ranging from 90 seconds to 120 seconds, above the 85.6 minimum seconds dwell time.

(6) During startup of each vapor cleaning machine, the primary condenser shall be turned on before the sump heater.

AQD comment #21: It is my understanding that DCP staff turn on the primary condenser before the sump heater, as required by Section 63.463(d)(6).

(7) During shutdown of each vapor cleaning machine, the sump heater shall be turned off and the solvent vapor layer allowed to collapse before the primary condenser is turned off.

AQD comment #22: It is my understanding that the condenser is turned off after the sump heater is turned off and solvents have cooled down appropriately.

(8) When solvent is added or drained from any solvent cleaning machine, the solvent shall be transferred using threaded or other leakproof couplings and the end of the pipe in the solvent sump shall be located beneath the liquid solvent surface.

AQD comment #23: I have been informed that this is being done, consistent with the requirement of Section 63.463(d)(8).

(9) Each solvent cleaning machine and associated controls shall be maintained as recommended by the manufacturers of the equipment or using alternative maintenance practices that have been demonstrated to the Administrator's satisfaction to achieve the same or better results as those recommended by the manufacturer.

AQD comment #24: it is my understanding that the manufacturer, Autosonics, is no longer in business, but that all of DCP's service and maintenance practices are to repair or replace in kind such the unit remains operating as intended by the manufacturer.

(10) Each operator of a solvent cleaning machine shall complete and pass the applicable sections of the test of solvent cleaning procedures in appendix A to this part if requested during an inspection by the Administrator.

AQD comment #25: The definition of Administrator, from Section 63.461, Definitions, is as follows: *Administrator* means the Administrator of the United States Environmental Protection Agency or his or her authorized representative (e.g. State that has been delegated the authority to implement the

provisions of this part).

AQD comment #26: To the best of my knowledge, AQD staff have not required DCP operators of the batch vapor degreaser to undergo this test, in the past. AQD reserves the right to require this test. Because AQD has been delegated authority to enforce 40 CFR Part 63, Subpart T, AQD may be considered the Administrator, for this subpart.

(11) Waste solvent, still bottoms, and sump bottoms shall be collected and stored in closed containers. The closed containers may contain a device that would allow pressure relief, but would not allow liquid solvent to drain from the container.

AQD comment #27: I have been advised that waste solvent and sump bottoms are collected, stored, and sent offsite in closed containers, which is consistent with the requirement of Section 63.463(d)(11), above.

(12) Sponges, fabric, wood, and paper products shall not be cleaned.

AQD comment #28: It is my understanding that metal parts are the only items cleaned in the batch vapor degreaser, consistent with the requirement of Section 63.463(d)(12), above.

(e) Each owner or operator of a solvent cleaning machine complying with paragraph (b), (c), (g), or (h) of this section shall comply with the requirements specified in paragraphs (e)(1) through (4) of this section.
(1) Conduct monitoring of each control device used to comply with §63.463 of this subpart as provided in §63.466.
(2) Determine during each monitoring period whether each control device used to comply with these standards meets the requirements specified in paragraphs (e)(2)(i) through (xi) of this section.
(i) If a freeboard refrigeration device is used to comply with these standards, the owner or operator shall ensure that the chilled air blanket temperature (in °F), measured at the center of the air blanket, is no greater than 30 percent of the solvent's boiling point.

AQD comment #29: During the 7/31/2018 mid-year inspection of the batch vapor degreaser by AQD, copies of DCP's FRD Recordkeeping Form were obtained. They covered the time period from 8/14/2017 to 7/2/2018, and were subsequently reviewed.

The NESHAP requirement is that the freeboard refrigeration device (FRD) temperature is 30% of the boiling point of the solvent used. AQD's *Hawley's Condensed Chemical Dictionary Twelfth Edition* indicates the boiling point of TCE is 86.7 deg. C, or 188.06 deg. F. The 30% limit corresponds to 56.4 deg. F, in this case. DCP uses as their limit 30% of the 190 deg. F sump temperature for the degreaser, which equates to 57 degrees F. AQD will use the most literal interpretation of the NESHAP limit, in this case, 56.4 deg. F.

In the provided records, there were 14 instances where the NESHAP limit, which in this case is 56.4 deg. F, was exceeded. These will be cited by AQD in a pending VN.

1. 10/09/2017: 57.6 deg. F
2. 10/16/2017: 58.4 deg. F
3. 10/23/2017: 57.5 deg. F
4. 10/30/2017: 58.2 deg. F
5. 11/07/2017: 57.6 deg. F
6. 11/13/2017: 58.4 deg. F
7. 11/20/2017: 57.3 deg. F
8. 11/27/2017: 56.9 deg. F

9. 12/04/2017: 57. 6 deg. F
10. 01/22/2018: 56.8 deg. F
11. 02/12/2018: 56.6 deg. F
12. 03/12/2018: 56.5 deg. F
13. 03/26/2018: 57.2 deg. F
14. 06/11/2018: 56.6 deg. F

(ii) If a reduced room draft is used to comply with these standards, the owner or operator shall comply with the requirements specified in paragraphs (e)(2)(ii)(A) and (e)(2)(ii)(B) of this section.
(A) Ensure that the flow or movement of air across the top of the freeboard area of the solvent cleaning machine or within the solvent cleaning machine enclosure does not exceed 15.2 meters per minute (50 feet per minute) at any time as measured using the procedures in §63.466(d).
(B) Establish and maintain the operating conditions under which the wind speed was demonstrated to be 15.2 meters per minute (50 feet per minute) or less as described in §63.466(d).

AQD comment #30: Recordkeeping on reduced room draft is discussed earlier in this report, under AQD comment #16. The reduced room draft recorded on the photocopied example of their records ranged from 10 to 20 feet per minute, below the maximum allowed wind speed of 15.2 meters per minute or 50 feet per minute, complying with Section 63.463(e)(2)(ii).

(iii) If a working-mode cover is used to comply with these standards, the owner or operator shall comply with the requirements specified in paragraphs (e)(2)(iii)(A) and (e)(2)(iii)(B) of this section.
(A) Ensure that the cover opens only for part entrance and removal and completely covers the cleaning machine openings when closed.

AQD comment #31: The working-mode cover appears to be an integral part of the parts basket, so that whenever the parts basket is lowered into place within the degreaser, the working-mode cover is lowered into place at the open top of the degreaser, resembling a roof with a slight peak. When the parts basket is lifted and removed from within the degreaser, the working mode cover is likewise lifted and removed from the open top of the degreaser. Since the unit was not turned on/operating today, I did not see the parts basket placed in the degreaser today. However, observation in the past has shown the working mode cover did in fact cover the cleaning machine openings, when it was put into place. Please see AQD's 4/12/2017 mid-year inspection report.

(B) Ensure that the working-mode cover is maintained free of cracks, holes, and other defects.

AQD comment #32: I was not able to see the working mode cover in place today, because the parts basket, which it is an integral part of, was not in the degreaser today. Instead, the parts basket was stationed next to the degreaser.

(iv) If an idling-mode cover is used to comply with these standards, the owner or operator shall comply with the requirements specified in paragraphs (e)(2)(iv)(A) and (e)(2)(iv)(B) of this section.
(A) Ensure that the cover is in place whenever parts are not in the solvent cleaning machine and completely covers the cleaning machine openings when in place.

AQD comment #33: It is my understanding that the rolling cover atop the batch vapor degreaser is the idling-mode cover. When the unit was turned on, though not cleaning parts, during my visit of 7/31/2018, I observed the idling mode cover in place, and verified it completely covered the cleaning machine

opening. Please see AQD 7/31/2018 activity report for observations.

(B) Ensure that the idling-mode cover is maintained free of cracks, holes, and other defects.

AQD comment #34: No visible defects were noted. There was a fugitive odor of TCE, distinct and definite, near the machine. I was informed that because the unit was not turned on/being operated at this time, the chiller unit was off, and so TCE vapors were rising from the machine. I looked at piping for the chiller and saw an absence of ice crystals that normally form on the piping when the chiller is running. The chiller is not required to be on when the unit is not operating. Please see AQD 7/31/2018 activity report for observations on the unit when it was turned on/operating.

(v) If a dwell is used to comply with these standards, the owner or operator shall comply with the requirements specified in paragraphs (e)(2)(v)(A) and (e)(2)(v)(B) of this section.
(A) Determine the appropriate dwell time for each type of part or parts basket, or determine the maximum dwell time using the most complex part type or parts basket, as described in §63.465(d).

AQD comment #35: I have been informed that there is only one parts basket for the batch vapor degreaser, and that DCP has determined the appropriate dwell time for it, in keeping with the requirements of Section 63.463(e)(2)(v)(A), above.

(B) Ensure that, after cleaning, each part is held in the solvent cleaning machine freeboard area above the vapor zone for the dwell time determined for that particular part or parts basket, or for the maximum dwell time determined using the most complex part type or parts basket.

AQD comment #36: It is my understanding that the parts basket is held in the freeboard area above the vapor zone for the dwell time that DCP determined is appropriate for the parts basket.

AQD comment #37: Section 463(e)(2)(vi) is nonapplicable and has not been included in this report, because it addresses superheated vapor systems, which the DCP batch vapor degreaser does not have.

AQD comment #38: Section 63.463(e)(2)(vii) is nonapplicable and has not been included in this report, because it references a carbon adsorber, which DCP's Autosonics batch vapor degreaser does not have.

AQD comment #39: Section 463(e)(2)(viii) is nonapplicable and has not been included in this report, because it addresses continuous web cleaning units with a superheated part system. The DCP batch vapor degreaser is not a web cleaning unit, nor does it have a superheated part system.

AQD comment #40: Section 463(e)(2)(ix) is nonapplicable and has not been included in this report, because it addresses continuous web cleaning units with a squeegee system. The DCP batch vapor degreaser is not a web cleaning unit, nor does it have a squeegee system.

AQD comment #41: Section 463(e)(2)(x) is nonapplicable and has not been included in this report, because it addresses continuous web cleaning units with an air knife system. The DCP batch vapor degreaser is not a web cleaning unit, nor does it have an air knife system.

AQD comment #42: Section 463(e)(2)(xi) is nonapplicable and has not been included in this report, because it addresses continuous web cleaning units using a combination squeegee and air knife system. The DCP batch vapor degreaser is not a web cleaning unit, nor does it have a combination squeegee and air knife system.

(3) If any of the requirements of paragraph (e)(2) of this section are not met, determine whether an exceedance has occurred using the criteria in paragraphs (e)(3)(i) and (e)(3)(ii) of this section.
(i) An exceedance has occurred if the requirements of paragraphs (e)(2)(ii)(B), (e)(2)(iii)(A), (e)(2)(iv)(A), (e)(2)(v), (e)(2)(vi)(B), (e)(2)(vi)(C), (e)(2)(vii)(B), or (e)(2)(vii)(C) of this section have not been met.
(ii) An exceedance has occurred if the requirements of paragraphs (e)(2)(i), (e)(2)(ii)(A), (e)(2)(iii)(B), (e)(2)(iv)(B), (e)(2)(vi)(A), or (e)(2)(vii)(A) of this section have not been met and are not corrected within 15 days of detection. Adjustments or repairs shall be made to the solvent cleaning system or control device to reestablish required levels. The parameter must be remeasured immediately upon adjustment or repair and demonstrated to be within required limits.
(4) The owner or operator shall report all exceedances and all corrections and adjustments made to avoid an exceedance as specified in §63.468(h).

AQD comment #43 : DCP reported no exceedances in the annual solvent consumption report required by the NESHAP.

AQD comment #44: Section 63.463(f) is not applicable, and has not been included in this report, because it relates to batch vapor or in-line solvent cleaning machines which are using the compliance option of complying with the idling emission limit emission standards specified in Section 63.463(b)(1)(ii) and b(2)(ii), (c)(1)(ii), or (c)(2)(ii). DCP did not select the compliance option of complying with the idling emission standards.

AQD comment #45: Section 63.463(g) is not applicable, and has not been included in this report, because it relates to continuous web cleaning machines. DCP's degreaser is not a continuous web cleaning machine.

AQD comment #46: Section 63.463(h) is not applicable, and has not been included in this report, because it relates to a remote reservoir continuous web cleaning machines. DCP's degreaser is not a remote reservoir continuous web cleaning machine.

(End of Section 63.463.)

As mentioned earlier in this report, the Autosonics batch vapor degreaser #1 was turned off/not operating at this time. There were no visible emissions of TCE from the unit, nor were there any leaks of liquid. There was a distinct and definite odor of TCE, within several feet of the unit. The chiller was turned off, as evidence by the lack of frost or ice on a pipe associated with the chiller. It is my understanding that the NESHAP does not require the chiller to be in use when a batch vapor degreaser is not operating.

A placard on the side of the degreaser identifies the routine operating temperature as 187-194 degrees F. It is my understanding that the sump, which contains the liquid TCE, is electrically heated. Temperature of the degreaser is monitored automatically by thermocouples, I have been informed, but temperature is periodically checked manually, with a lab thermometer, to verify the accuracy of the thermocouples. I have previously been informed that the heater is turned off when the unit is not operating.

There were no visible emissions nor any visible leaks of solvent from the TCE distiller unit. It is my understanding that reclaimed solvent is put back into the degreaser, while the collected oil is sent offsite as still bottoms. The containment area underneath the distiller has 1.5 times the volume of the distiller unit itself, I have been told, during past inspections.

New batch vapor degreaser (not yet installed); Rule 285(2)(r)(iv) and 40 CFR Part 63, Subpart T:

We were shown the new batch vapor degreaser, which is inside the plant, but has not been installed. Many of the components were still in crates. It is my understanding that this unit will exhaust into the general, in-plant environment, and will therefore satisfy the exemption criteria of Rule 285(2)(r)(iv), which exempts metal-cleaning processes which exhaust into the general in-plant environment. It will replace the Autosonics degreaser, although AQD is not aware of a specific date for this to occur.

The new degreaser was built by Vapor Engineering Inc. The name plate read:

- Model: BACT-98A
- Serial #: 062918
- Volts: 460
- Amp: 45
- pH: 3

It is my understanding that the new batch vapor degreaser will utilize TCE. It is not possible to review the new unit's compliance with 40 CFR, Part 63, Subpart T, because it has not begun operating yet. AQD will check compliance with this regulation during the 2019 Fiscal Year.

Chrome redox tank, PTI No. 672-88; Rule 285(2)(m):

The chrome redox tank converts hexavalent chromium in process wastewater to less toxic trivalent chromium. Mr. Wagner initially believed the MAPCO mist eliminator, originally installed for odor control, had been removed, but it still operates onsite. It is located on a catwalk in the west plant, from where it exhausts into the general, in-plant environment. Due to a shortage of time, we did not examine it today.

The process is permitted under PTI No. 672-88. Mr. Wagner has previously explained that the process has undergone some changes over the years, such as when the company stopped using sulfur dioxide (SO2) in the process. It is not being operated in the same way as when the permit was first issued, decades ago. It does, however, clearly meet the exemption criteria for Rule 285(2)(m), for process wastewater treatment tanks. Therefore, the PTI can be voided. AQD will advise the company of this, and make a permit void request to the AQD Permit Section.

Metal cleaning and electroless nickel plating operation with scrubber, PTI No. 673-88:

The nickel plating operation was in use, at the time of the inspection. There were no fugitive emissions visible from the two nickel plating processes, the electrolytic and the electroless. types There are also nickel rinses, we were shown, which had no fugitive emissions.

The nickel scrubber is physically located outside of the plant, on the south side, and has a conical exhaust outlet. At ground level, the ductwork leading to the scrubber appeared to have no leaks or fugitive emissions. As seen from the east roof, during the morning, the nickel scrubber exhaust outlet showed a barely perceptible amount of what I believed to be steam, against the contrasting background of dark green trees. Against he hazy sky above the trees, I could not see any signs of tail-off or of a steam plume breakoff point. Please see attached photo No. 9. The steam is too faint to be visible in the photo.

40 CFR Part 63 Subpart WWWWWW, the NESHAP for Area Source Standards for Plating and Polishing Operations applies to their nickel plating processes, but AQD does not have delegated authority from the Environmental Protection Agency to regulate this Area Source MACT.

Cadmium plating line (two tanks) with wet scrubber, PTI No. 675-88A:

From atop the east roof of the plant, Mr. Wagner showed me the vertical exhaust stack, which is labeled 64. It appears to be gray PVC plastic., and was free of stains. Please see attached photo, taken from atop the east roof. There were no visible emissions from the stack. The permit requires the exhaust be discharged unobstructed vertically upwards from an exit point not less than 11 feet above ground level, and this requirement appears to be met. Please see attached photo No. 10.

Inside the plant, the metal ductwork which had led from the cadmium scrubber to the exhaust outlet was replaced with PVC plastic, at some point after the September 2016 inspection. The PVC ductwork leads to the vertical exhaust stack. We did not approach the cadmium plating processes themselves, as additional personal protective gear (respirators) would be needed. Mr. Wagner explained the operations of one of the cadmium plating processes, a vacuum-cadmium process, which is entirely enclosed, and does not have air emissions.

There are two mushroom shaped vents atop the east roof which are used to bring makeup air into the plant. These vents are numbered 37 and 38, in the DCP rooftop diagram and numbered key. They are therefore not emission exhaust outlets. They appear in the foreground of photo No. 10.

The cadmium scrubber is located inside the plant, but some of the ductwork extends outside of the plant, for a short, horizontal run. Near the end of the inspection, we walked around the south side of the plant. At ground level, it could be seen that the exterior horizontal stretch of ductwork leading from the cadmium plating processes to the cadmium plating scrubber was free of any leaks. There were no fugitive emissions. There was a strip of chemical-resistant blue tape around one part of the duct. This is one of the chemical-resistant tapes which are used inside the plant to mask off areas of metal parts where chrome plating is not wanted, we were told, prior to immersion in a chrome plating tank. It is my understanding that the chemical-resistant tape is sometimes used to make repairs quickly, and that other methods may be used over time for long term repairs. Mr. Wagner explained that this tape is actually rated to be used on underground lines.

40 CFR Part 63 Subpart WWWWWW, the NESHAP for Area Source Standards for Plating and Polishing Operations applies to their cadmium plating processes, but AQD does not have delegated authority from the Environmental Protection Agency to regulate this Area Source MACT.

Two alkaline chrome strip tanks; Rule 285(l)(iii); formerly under PTI 676-88, now voided:

The exhaust from two alkaline strip tanks passes through an in-line mesh pad, before being released to the atmosphere, through exhaust outlet #44. No visible emissions could be seen from it, from a close up vantage point on the east roof of the plant. It is my understanding that this has an in-line mesh pad in the exhaust system, prior to exhausting to the outside air.

The above process was once covered by PTI No. 676-88. The process is considered exempt under the Rule 285(l)(iii) exemption from the requirement to obtain a permit to install, please see below.

Note: Rule 285(l)(iii) was revised as Rule 285(2)(l)(iii) on 12/20/2016, but the pre-12/20/2016 version of the rule would apply to a process installed before 12/20/2016, such as the chrome strip process. The exemption criteria is the same for both versions of the rule, however, and reads as follows:

(l) The following equipment and any exhaust system or collector exclusively serving the equipment:
(iii) Equipment for surface preparation of metals by use of aqueous solutions, except for acid solutions.

On 1/10/2018, AQD received an e-mailed exemption demonstration for the chrome strip process, which met the Rule 285(2)(l)(iii) exemption criteria.

Note: the PTI referenced more than one stack ("stacks as indicated in the permit application"), although the 9/29/1988 permit application referenced a single "vent" for three alkaline strip tanks. A 10/26/1988 letter providing supplemental information to the permit application referenced a single "vent" for two tanks. It was therefore not entirely clear what the original configuration of the tanks and exhaust outlet (s) were.

Strip tanks which exhaust indoors; Rule 285(r):

These exhaust into the general, in-plant environment, rather than to the outside air. No visible emissions were observed from a strip tank in the east plant's Department 1.

Cooling tower, PTI No. 677-88:

There were no visible emissions from the cooling tower, other than steam. Faint traces of steam were seen upon our arrival at the site, and from atop the east plant roof. , during the inspection. Uncombined water vapor is not a regulated air contaminant.

Pickling tanks; Rule 285(r):

The pickling tanks, which exhaust into the interior plant environment, were not observed during this inspection. These are exempt from the requirement of Rule 201 to obtain a PTI.

Phosphate wash tanks; Rule 285(r):

The phosphate wash tanks, which exhaust into the interior plant environment, were not observed during this inspection. These are exempt from the requirement of Rule 201 to obtain a PTI.

Sandblasting; grandfathered:

No sand blasting was taking place in the small sand blast booths, which are located near scrubber #5. These have been considered exempt by AQD from the requirement of Rule 201 to obtain a PTI, in past inspection reports. However, because they exhaust to the outside air after a wet scrubber, they may not qualify for the Rule 285(l)(vi)(B) exemption (now Rule 285(2)(l)(vi)(B), which specifies a fabric filter preceded by a mechanical collector for operations which work with metal. I indicated that if the wet scrubber is 99% efficient, it might be considered equivalent to a baghouse. Mr. Wagner informed me that the sandblasting is actually grandfathered from needing a permit to install, because this process was installed prior to 8/15/1967. If the process is modified in the future, however, I cautioned that the grandfathered status would be lost., and it would need to qualify for a permit exemption, or obtain a permit.

6 electric ovens; Rule 282(a):

These are used to heat parts, to remove hydrogen, as that could cause hydrogen embrittlement. They are electric, and do not burn any fuel. These are therefore exempt from the requirement of Rule 201 to obtain a PTI under Rule 282(a), for processes installed prior to the 12/20/2016 revisions to the exemption rules. There were no visible emissions from any of the ovens.

Emergency generator; Rule 285(g), 40 CFR Part 60, Subpart JJJJ, and 40 CFR Part 63, Subpart ZZZZ:

The natural gas-fired generator is emergency backup for the storm water pumps onsite. It is exempt from the requirement to obtain a PTI. The generator was not running, at this moment. It is my understanding that the generator is "exercised" or operated, weekly, for purposes of operational readiness. It is my understanding that their recordkeeping requirements for the generator are under 40 CFR Part 60, Subpart JJJJ, Section 60.4243.

I was e-mailed data on 9/7/2018, which showed the hours run year to date (YTD), please see attached. The starting hours on 1/2/2018 were 497.7. I subtracted that from the cumulative hours run as of 9/4/2018, which were 516.6. Please see below.

516.6 hours - 497.7 hours = 18.9 hours run in 2018

Therefore, a total of 18.9 hours were run in 2018, well below the maximum limit of 100 hours per year for maintenance checks and readiness testing.

Miscellaneous:

I inquired about a process which had a tank(s) of nitric acid and sodium dichromate. Mr. Wagener referred to this as a passivate tank, to pacify plating so it does not react with other chemistry. He

informed me that this is associated with the exhaust stack #44. In the future, I will seek clarification on this, as the DCP numbered key to exhaust stacks describes stack #44 as serving a nickel and chrome strip process.

We left the plant at 3:07 PM.

Conclusion:

A new instance of noncompliance resulted from this inspection. Recordkeeping for August 2018 showed that surface tension for chrome plating tanks 5, 7, and 15, in the west plant, had exceeded the chrome NESHAP surface tension limit of 33 dynes/cm, for facilities which monitor with a tensiometer, as DCP does. A VN will be sent. As Mr. Wagner retired from DCP on 9/7/2018, AQD will work with Mr. Wright, as the new Environmental Manager for DCP.

Note: review of batch vapor degreaser records obtained during the 7/31/2018 mid-year inspection of the Autosonics degreaser indicated exceedances of the FRD temperature limit. These will be included in the pending AQD VN referenced above.

As of the date of this inspection, WRD was preparing a VN EN to document a violation of the FACD and the Storm Water Pollution Prevention Plan (SWPPP) for not having records kept for past inspections of the scrubber #5 ductwork on the west roof of the plant. During today's inspection, we were shown that DCP has already implemented corrective action, recordkeeping for the daily inspections of the scrubber #5 ductwork on the west roof. The WRD's VN EN was subsequently sent to DCP on 9/4/2018.

Image 1(1) : South scrubber (No. 3)..

Image 3(3) : Ductwork in primer.

Image 4(4) : Painted ducts with ID Nos.

Image 5(5) : Painted ducts.

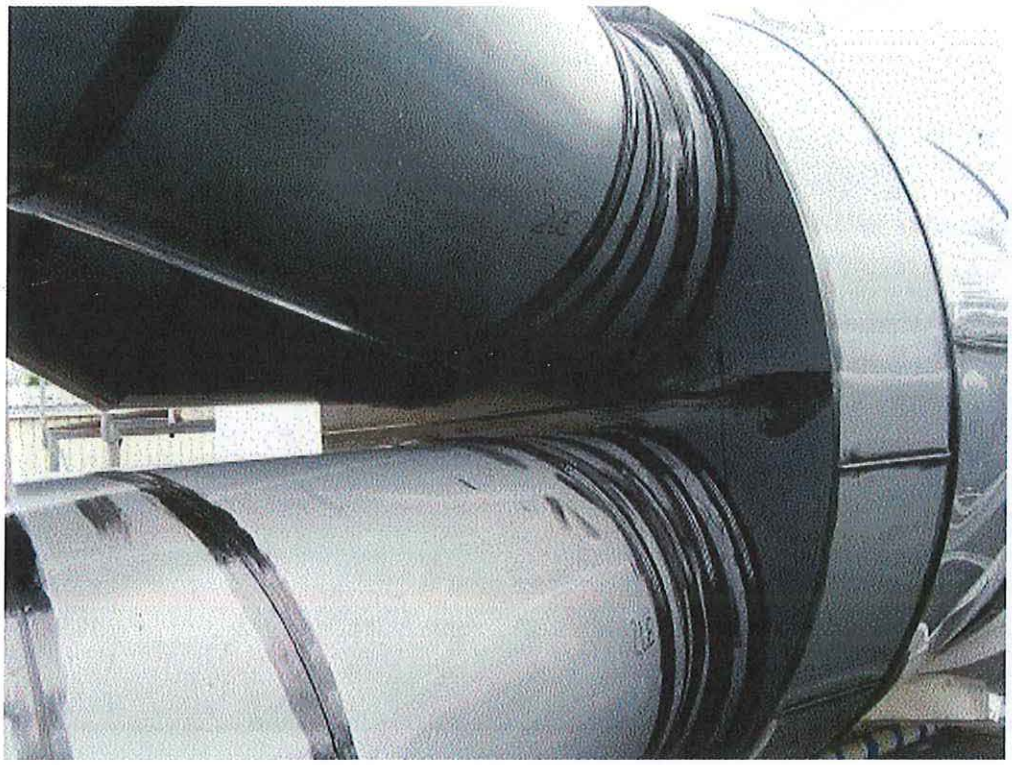

Image 6(6) : Gray PVC with sealer.

Image 7(7) : Sealer on gray PVC.

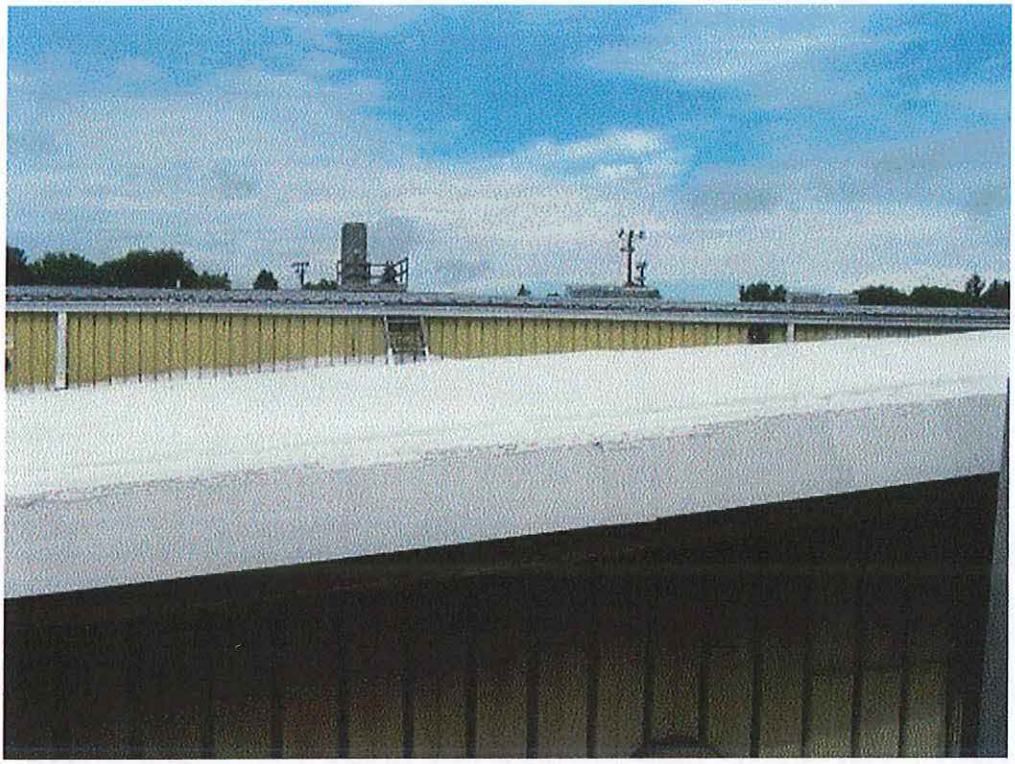

Image 8(8) : Scrubber #5 stack.

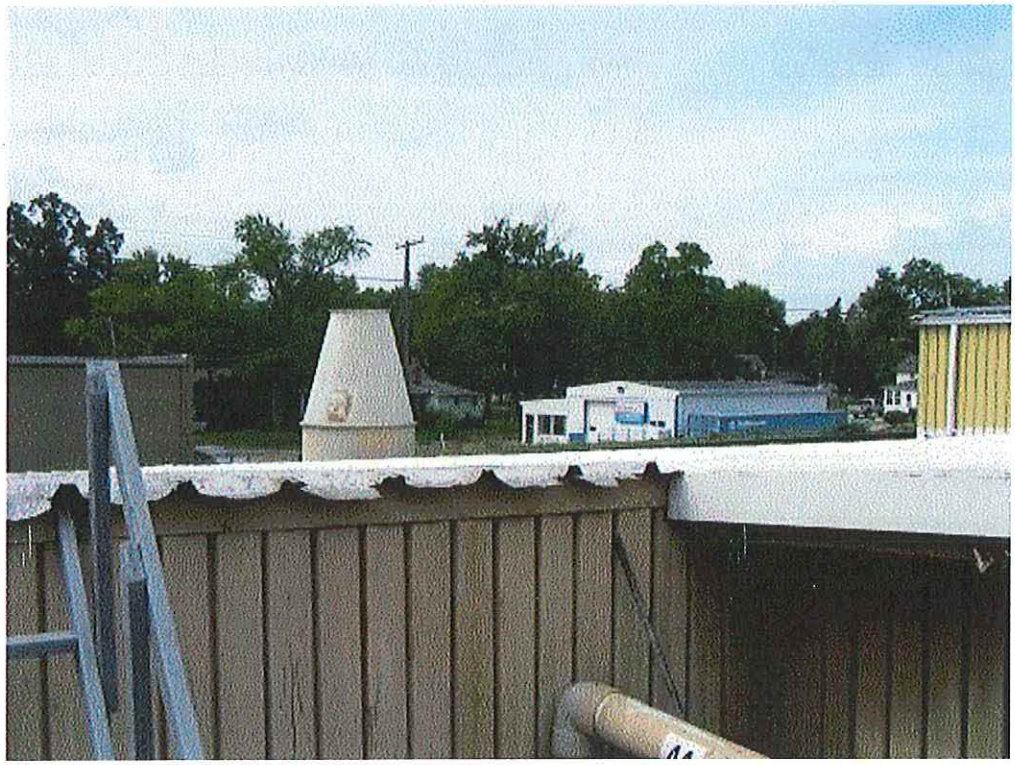

Image 9(9) : Nickel scrubber.

Image 10(10) : Cadmium scrubber stack (in background).

NAME _____ DATE 12/14/2018 SUPERVISOR _____