A2931
manila
Livingston

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

A293148716

FACILITY: DIAMOND CHROME PLATING INC		**SRN / ID:** A2931
LOCATION: 604 S MICHIGAN, HOWELL		**DISTRICT:** Lansing
CITY: HOWELL		**COUNTY:** LIVINGSTON
CONTACT: Scott Wright , Environmental Manager		**ACTIVITY DATE:** 04/30/2019
STAFF: Daniel McGeen	**COMPLIANCE STATUS:** Non Compliance	**SOURCE CLASS:** MINOR
SUBJECT: Unannounced, scheduled inspection, and review of recordkeeping.		
RESOLVED COMPLAINTS:		

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) Case No. 03-1862-CE	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 Case No. 03-1862-CE	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 Case No. 03-1862-CE	Open surface chrome plating tank nos. 5, 7, 15, 17; west side of plant, aka Dept. 3	Scrubber system #5; a Ceilcote packed bed scrubber with kimre mesh pad, fume suppressant	SW portion of bldg., inside plant, exhausts outdoors	Noncompliance, for dynes/cm exceedances of Subpart N
PTI No. 386-85A; 40 CFR Part 63 Subparts A and N; FACD Case No. 03-1862-CE	Not in use; open surface chrome plating tanks 19-21	Not in use; scrubber #6, a Ceilcote packed bed scrubber with kimre mesh pad	NW of building, on outside ground	Has not been used in recent years
40 CFR Part 63 Subparts A and T; Rule 285(r)(iv)	Autosonics batch vapor degreaser, removed	Freeboard refrigeration, dwell, reduced draft, working mode cover, idling mode cover		Removed from plant
40 CFR Part 63 Subparts A and T; Rule 285(2)(r)(iv)	New Vapor Engineering batch vapor degreaser, BACT-72A	Freeboard refrigeration, dwell, reduced draft, working mode cover, idling mode cover		Compliance
Rule 285(u)	Solvent distillation unit			Not in use, may be removed
PTI No. 672-88; Rule 285(2)(m)	Chrome redox tank	MAPCO mist eliminator	West plant, indoor exhaust	Compliance; 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			There are no tanks matching this description
PTI No. 677-88	Cooling tower			Compliance
Rule 285(r)	Pickling tanks			No pickling tanks currently in plant
Rule 285(r)	2 Oakite wash tanks			Compliance
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

Introduction:

On 4/30/2019, the Michigan Department of Environment, Great Lakes, and Energy (EGLE), Air Quality Division (AQD) conducted an unannounced, scheduled inspection of Diamond Chrome Plating, Inc. (DCP). Particular emphasis was applied to the new Vapor Engineering batch vapor degreaser, which was installed in November 2018 and replaced a used Autosonics batch vapor degreaser which had been installed in 1998.

Environmental contact:

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

Facility description:

DCP is a *large hard chromium electroplater*, as defined in 40 CFR Part 63 Subpart N, 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 all applicable state and federal air pollution requirements. Particular emphasis was placed on 40 CFR Part 63, Subpart T, *National Emissions Standards for halogenated Solvent Cleaning*. Recent sampling events by DCP and EGLE's Remediation & Redevelopment Division indicated values slightly above the residential Recommended Interim Action Screening Levels (RIASL) and the residential Time-Sensitive Recommended Interim Action Screening Levels (TSRIASL) for trichloroethylene (TCE). EGLE committed to conducting an inspection of the vapor degreaser for any compliance concerns, as it uses TCE.

Regulatory overview:

The 2006 multi-media Joint Consent Decree (JCD) for this facility has been replaced, as of 7/28/2015, by a First Amended Consent Decree (FACD), Case No. 03-1862-CE. 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 Emission 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.

The new Vapor Engineering batch vapor degreaser is subject to 40 CFR Part 63 Subpart T, the *National Emissions Standards for Halogenated Solvent Cleaning*. Like the Autosonics degreaser which it replaced in November of 2018, it is characterized as a *large machine*, under the NESHAP.

Additionally, 40 CFR Part 63 Subpart WWWWWW, - *NESHAP: 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 does not have delegation of authority for this Area Source MACT standard, at this time.

Fee status:

Because it is subject to 40 CFR Part 63, Subparts N and T, 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 has been plating at this location since 1953, as stated in the DCP brochure (attached); other documents have put the date at 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.

In January 2019, AQD was verbally informed by BB&E of a 2016 stack test which DCP had conducted on scrubber #5 (the west scrubber), for research purposes. AQD has been informed that the results indicated compliance. It is not yet known to me which pollutants were tested for, out of hexavalent chromium, total chromium, or chromic acid. DCP and their consulting firm, BB&E, have indicated a willingness to share this data with AQD. I have been informed that the test was conducted while fume suppressants were being utilized in the chrome plating tanks of Dept. 3 (the west half of the plant).

Dates of recent scheduled inspections*:

Dates	Inspector
8/29/2018	Daniel McGeen
8/30/2017	Daniel McGeen
9/19/2016	Daniel McGeen
9/16/2015	Daniel McGeen
7/28/2014	Daniel McGeen
4/9/2013	Daniel McGeen
11/1/2012	Daniel McGeen
7/11/2012	Brad Myott
3/19/2008	Ken Damrel

* The phrase *scheduled inspection* means that an inspection has been committed to at the start of the fiscal year by AQD, as part of the Compliance Monitoring Strategy (CMS) which AQD follows. It does not mean that the inspection is pre-arranged with the facility.

Dates of self-initiated inspections:

Dates	MACES Activity Type	Focus of inspection, as these are not complete inspections	Inspector
7/31/2018	Self initiated Inspection	Degreaser and east roof ductwork	Daniel McGeen
1/10/2018	Self Initiated Inspection	East roof ductwork	Daniel McGeen
10/16/2017	Other	East roof ductwork	Daniel McGeen
4/12/2017	Other	East roof ductwork, vapor degreaser	Daniel McGeen
6/8/2016	Other	East roof and south exterior wall ductwork	Daniel McGeen

Recent history:

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.

On 7/31/2018, AQD conducted an unannounced, self-initiated 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. Subsequent 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, however. A VN was sent on 12/20/2018. As of the 7/31/2018 inspection, the new Vapor Engineering degreaser was onsite, disassembled. DCP voluntarily purchased this unit with the verbally stated intent of lowering TCE use and emissions.

On 8/29/2018, AQD conducted an unannounced, scheduled inspection; please see associated activity report. 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 was sent on 12/20/2018, for this and other violations. Also cited were instances where leaks on east rooftop ductwork were cleaned, but did not appear to have been fixed or to have documentation of being fixed. As of the 8/29/2018 inspection, the new Vapor Engineering degreaser was not yet assembled, and the Autosonics unit was still in use.

EGLE's Remediation & Redevelopment Division (RRD) has been investigating vapor intrusion of trichloroethylene into the basements of three residences to the north and east of DCP. Please refer to RRD files for full details. The Michigan Department of Health & Human Services and the Livingston County Health Department are also actively involved. Air purifying equipment has been installed in the basements of the three residences. The main focus of this inspection was the current batch vapor degreaser at DCP, to determine its compliance status with state and federal air pollution requirements. It is not currently known what or how many pathways are facilitating the entry of TCE into the residences.

Safety attire required:

Safety glasses and steel-toed boots should be worn. Hearing protection is advisable, in case sand blaster units are running.

Arrival:

At 9:22 AM, I approached DCP's site, driving south on Michigan Avenue. I detected no odors from the plant. I drove around the block of land on which DCP is located, by going west on Mason Street, north

on Walnut street, and east on Livingston. On Livingston, I noticed a barely detectable oily odor, but I did not attribute this to DCP, as the wind was out of the north, and DCP was to the south of me. Weather conditions were cloudy, humid, and 44 degrees F, with wind out of the north at 5 miles per hour.

I repeated the above drive on the same streets, but detected no odors at all this time. I parked in the parking lot immediately north of DCP. No visible emissions were detected from DCP exhaust stacks or the roofline. I detected no odors as I walked to the plant.

This was an unannounced inspection. I provided my identification/credentials at the office, per AQD procedures, and signed in. I met with Mr. Scott Wright, Environmental Manager. I also met with Mr. Tanner Weekley of BB&E, and Ms. Kacie, also of BB&E. BB&E is DCP's environmental consulting firm, and is involved with managing air, water, waste, hazardous waste, and remediation issues at the facility.

PFOS and PFAS overview:

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. I was advised during the 8/29/2018 inspection that the last use of PFOS in the plant was in Tank 7 on 7/31/2015. The last purchase by DCP of a PFOS-containing fume suppressant, 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. The civilian customers reportedly do not object to the use of the mist suppressant.

Note: in previous AQD inspection reports of DCP, I had referred to fume suppressants as surfactants. However, fume suppressant appears to be a more accurate term than surfactant.

It is AQD's understanding that DCP may decide to move away from the use of any fume suppressants in the west side of the plant, and instead use their scrubber #5 as the control option under the chromium NESHAP. This would necessitate a stack test of scrubber #5 without the use of fume suppressants, if DCP pursues the scrubber as the sole method of compliance under Subpart N. Scrubber #5 is a Ceilcote vertical wet scrubber with a Kimre mesh pad. Descriptions of this unit in files are somewhat vague, but this appears to be a Packed Bed Scrubber (PBS) system.

On 5/2/2019, two days after the 4/30 inspection, I e-mailed DCP and BB&E to ask if DCP's fume suppressants have changed since the 8/29/2018 inspection. I included a copy of the Streamlined Subpart N Checklist from 8/29/2018 (copy attached for reference). I received a response on 5/7/2019, please see attached. Mr. Wright indicated that on 3/5/2019, they began using Fumetrol 21 LF2 from ATOTECH, as a fume suppressant., because MarTech was no longer able to produce the Mist Suppressant PF20 which DCP had been utilizing. He added that on 4/23/2019, they replaced Fumetrol 21 LF2 with a new product from MarTech called Mist Suppressant CP. He also provided a Safety Data Sheet (SDS) for the Mist Suppressant CP; please see attached.

Inspection:

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

Under the chrome NESHAP, there are two main options which regulated facilities may choose from, for compliance. These are the use of fume suppressants, or the use of a control device. As of 4/30/2019, DCP is using the mist suppressant MarTech Mist Suppressant CP 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).

It is my understanding 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.

The FACD refers to the term *surfactants*, instead of *fume suppressants*. 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 latest ductwork diagram for the east roof of the plant, dated 12/26/2018.

We began the inspection by walking out onto the plant's east roof. The chrome plating scrubbers and their associated ductwork showed no indications of any chromic acid leaks. Please see attached photos Nos. 001 to 005 of representative examples of ductwork. Some ducts can be seen to have a black, collar-like piece of material applied, as vibration dampeners. It is my understanding that this helps to accommodate the expansion and contraction of the ducts which takes place under hot and cold ambient temperatures.

Particular emphasis was paid today to examining vertical ducts, which emerg from the roof to join the horizontal ducts. The vertical ducts are older than the horizontal ones (which were installed in 2015 and 2017), and it is my understanding that older PVC is more likely to develop leaks than new PVC dis. I was unable to find any leaks, however.

The vertical and horizontal ducts have been coated with a white primer and a white topcoat, which I have been told is UV-resistant. It is my understanding that the intent of this is to protect the PVC plastic from degradation, and prolong its service life. All ducts that I observed had labels affixed to them, to identify each segment of ductwork. The priming and painting of the ducts had been in progress, during the 8/29/2018 inspection by AQD.

There were no visible emissions from either scrubber #3 or 4 at 11:01 AM. Please see photo No. 006. Scrubber pressure drop was as follows:

- Scrubber #3 (south scrubber): 3.1 inches, water column (w.c.)
- Scrubber #4 (north Scrubber): 2.0 inches, w.c.

Near the scrubbers are a few remaining segments of 54 inch diameter white PVC ductwork. These sections have catch trays underneath them, to catch any drips of chromic acid. The catch trays have hoses to route collected liquids into the plant and into the containment pits underneath the chrome plating tanks. Side shields or wind baffles along the ducts and catch trays had been installed in years past, to prevent wind and/or rain from re-entraining any collected chromic acid liquids that might be in the catch trays. There were no liquids in the catch trays today.

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 has recently been painted black. The sheen of any recent leaks of chromic acid would have been visible on the surface of the black paint. 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.

None of the ductwork for the tanks had fugitive emissions. There were no leaks of liquid visible, either. Status of the tanks at this time:

- Tank Cr-1 was plating parts.
- Tank Cr-2 was plating parts.
- Tank Cr-3 was plating parts.
- Tank Cr-4 was plating parts
- Tank Cr-6 was plating parts. Tank Cr-6 is made of titanium, which is more resistant to corrosion from chromic acid than ordinary steel.
- Tank Cr-8 was plating parts.
- Tank Cr-9 was plating parts.
- Tank Cr-11 was plating parts. It is a long, narrow titanium steel tank in the southeast corner of the east plant.
- Tank Cr-12 was plating parts. It 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.

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

Recordkeeping examples, attached for reference, were provided for the chrome plating scrubbers by Mr. Wright.

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 form was provided for the period 9/7/2018 through 4/22/2019 Quarterly maintenance inspection activities were documented on 9/7/2018, 12/18/2018, and 4/22/2019, for the CMP scrubber. Nothing unusual was noted.

Two scrubber #4 EQP 5708 forms were provided for the period 9/7/2018 through 4/22/2018 Quarterly maintenance activities were documented on 9/7/2018, 12/18/2018, and 4/22/2019. Nothing unusual was noted.

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: multiple examples were provided for the time period 9/4/2018 to 4/10/2019, i.e. since the last inspection by AQD, which was 8/29/2018. 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 to 3.1 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): multiple examples were provided , for the time period 9/4/2018 through 4/26/2019, i.e. since the last inspection by AQD, on 8/29/2018. The pressure drop readings on days of operation ranged from 2.0 to 2.9 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.

Note: In with scrubber No. 3 readings, I found a EQP 5709 form for scrubber No. 4, from 4/11 to 4/26/2019. It had readings ranging from 3.0 to 3.2 inches w.c.. A similar EQP 5709 form for scrubber No. 4 from 4/12/ to 4/26/2019, reviewed above, had readings ranging from 2.0 to 2.1. Because the readings from 4/11-26 with values of 3.0 to 3.2 were stapled together with scrubber No. 3 readings from 3/18 to 4/10/2019, I suspect scrubber No. 3 data was inadvertently mislabeled as scrubber No. 4 readings.

Recordkeeping under the FACD:

The FACD requires daily inspections of the chrome plating ductwork to check for leaks, and requires documentation of those inspections. For the 1st Quarter of 2019, BB&E e-mailed to me Roof Area Inspection Forms for the quarter. No leaks were identified on these records. Frequency of leaks has greatly decreased since replacement of older PVC ductwork in 2015 and 2017.

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

40 CFR Part 63, Subpart N, the chrome NESHAP, contains the following definition:

Perfluorooctane sulfonic acid (PFOS)-based fume suppressant means a fume suppressant that contains 1 percent or greater PFOS by weight.

The chrome NESHAP prohibits the addition of PFOS-containing fume suppressants to an affected open surface hard chromium electroplating tank after 9/21/2015. DCP reported ceasing the use of fume suppressants with PFOS in the west plant during 2015. I was advised today that DCP is now using a PFOS-free product, MarTech Mist Suppressant CP, in the west plant. This replaced ATOTECH Fumetrol 21 LF2, which had replaced MarTech Mist Suppressant PF20, I was told.

The west side of the plant is served by scrubber #5, which is located indoors, and exhausts outdoors. Scrubber #5 is a Ceilcote vertical wet Packed Bed Scrubber (PBS) with a Kimre mesh pad. Please see attached photo No. 007 of the scrubber #5 stack, taken earlier in the inspection, from the east plant roof.

Inside the plant, I examined the chrome plating tanks. Some foam was visible in the plating tanks, which is attributed to the use of fume suppressant. The vertical ductwork for the tanks had been recently painted black. Chromic acid would still leave a visible sheen if there was a leak, in my opinion, based on occasional splash patterns on the ducts, where water was used to rinse off parts emerging from the plating tanks. There were no actual leaks on the ducts, and there were no fugitive emissions visible

from the ducts.

- Tank Cr-5 was plating parts.
- Tank Cr-7 was plating. parts
- Tank Cr-15 was plating parts. It is a titanium tank.
- Tank Cr-17 was plating parts.

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

Scrubber #5 pressure drop was 1.7 inches, w.c. I was told that they do not record pressure drop from this scrubber, because their compliance option under the NESHAP is the use of fume suppressants. If DCP discontinues use of fume suppressants and relies only on the PBS scrubber with Kimre mesh pad for the west plant chrome plating tanks, they will be required to keep scrubber-related records under the NESHAP. They would also be required to conduct stack testing for total chromium under the NESHAP and the PTI.

We went on to the west plant roof to examine the ductwork for scrubber #5. The ductwork appeared intact, and free of leaks. The ductwork had two vibration dampeners installed. There were no visible emissions from the scrubber #5 exhaust stack. The ductwork is adjacent to DCP's emergency generator. The exhaust fan and fan housing appeared to be in good condition, and showed no signs of vibration or shaking. The roof area here is small, and there is no railing on the edge, so caution is advised.

Recordkeeping for chrome plating tanks of Dept. 3 and scrubber #5:

In the weeks following the inspection, I e-mailed DCP a request for surface tension records for the chrome plating tanks of the west side of the plant, also known as Dept. 3. These tanks are called Cr-5, Cr-7, Cr-15, and Cr-17, and are the only ones in the plant which currently use a fume suppressant.

As discussed earlier, under the chrome NESHAP, DCP originally chose the compliance option of using fume suppressant rather than the option of using a scrubber, for the west side of the plant, and the use of their scrubber #5 provides an additional level of control. However, it is AQD's understanding that DCP is considering stopping the use of fume suppressants. They would then need to abide by the NESHAP's control device compliance option, like in the east portion of the plant. It is my understanding that stopping use of the surfactants, and relying on the CMP scrubber alone, would trigger the need for a stack test under the NESHAP. Such a stack test would establish the pressure drop range at which the scrubber could operate and have emissions be considered to be in compliance.

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. It is my understanding that at least some of their subsequent fume suppressants have contained PFAS compounds, and that they are considering moving away from fume suppressants altogether.

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.

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.

Following the inspection, I requested year to date (YTD) fume surface tension records for the chrome plating tanks in DCP's west plant. I received these on 5/24/2019. Review of the records showed that all four tanks in the west plant had numerous exceedances of the 33 dynes/cm limit, as measured by a tensiometer. The values were especially high during January and February 2019, with some readings over 60 dynes/cm. Please see table below. The exceedances will be cited as a violation of the chromium NESHAP, in a Violation Notice (VN).

Surface tension records for chrome plating tanks of Dept. 3 for 2019, year to date:

Chrome plating tank using surfactant	Range of surface tension readings with tensiometer reading, dynes/cm	Are at least some reported values an exceedance of new (9/9/2014) limit of 33 dynes/cm?	Hours of operation reported?	Fume suppressant added?
Cr-5	28-63	Yes	TBD**	Yes*
Cr-7	30.5-64	Yes	TBD**	Yes*
Cr-15	28.5-58	Yes	TBD**	Yes*
Cr-17	25-44	Yes	TBD**	Yes*

*DCP advised that, as of 2019, they had been using MarTech Mist Suppressant PF 20, but on 3/5/2019 began using Fumetrol 21 LF2 from ATOTECH, because Mist Suppressant PF 20 was no longer being made. On 4/23/2019, they reportedly replaced the Fumetrol 21 LF2 product with a new product from MarTech, called Mist Suppressant CP.

**TBD - To be determined. AQD e-mailed DCP on 6/11/2019, to ask if the tank hours of operation are being recorded.

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.

<u>Chrome plating tanks 19-21 and scrubber system 6; PTI No. 386-85A; 40 CFR Part 63 Subpart N; FACD:</u>

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

<u>Autosonics batch vapor degreaser; Rule 285(r)(iv); 40 CFR Part 63 Subpart T, removed from plant:</u>

DCP solvent degreaser #1 has been removed from the plant, I visually confirmed. It was an Autosonics Model VS 6030E batch open-top vapor degreaser. It was purchased used, and installed at DCP in 1998. It exhausted into the general, in-plant environment, rather than directly outside, qualifying for the Rule 285(r)(iv) permit exemption.

DCP records appear to indicate the unit was last operated on or around 11/19/2018. Some time after it was removed from service, I called to check on the disposition of the unit. I was informed that it was cleaned, and disposed of properly. I conveyed this information to Mr. Bryan Grochowski of EGLE's Materials Management Division (MMD).

<u>New Vapor Engineering BACT-72A batch vapor degreaser; Rule 285(2)(r)(iv); 40 CFR Part 63, Subpart T:</u>

The new Vapor Engineering BACT-72A batch vapor degreaser replaced the now removed Autosonics unit. I was informed in 2018 that DCP had been going to replace the Autsonics degreaser, in part due to AQD's interest in reducing TCE emissions.

The new Vapor Engineering batch vapor degreaser is subject to 40 CFR Part 63 Subpart T, the *National Emissions Standards for Halogenated Solvent Cleaning.* Like the Autosonics degreaser which it replaced in November of 2018, it is characterized as a *large machine*, under the NESHAP.

Michigan Air Pollution Control Rule 708 applies to new, open top batch vapor degreasers, and contains requirements for operational practices. A "new source" is defined in the AQD Part 7 Rules as any process or process equipment which is placed into operation on or after 7/1/1979, or for which PTI application is made on or after 7/1/1979, except for any process or process equipment defined as an "existing source." However, the BACT-72A is not subject to Rule 708, because Rule 708(6) states:

(6) The provisions of this rule do not apply to a new open top vapor degreaser that is subject to the provisions of the halogenated solvent cleaner national emission standards for hazardous air pollutants (1995), which are adopted by reference in R 336.1651.

Since the BACT-72A is subject to 40 CFR Part 63, Subpart N, Rule 708 therefore does not apply to it. However, the NESHAP contains its own requirements for operational practices.

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 1998-installed Autosonics degreaser fell under the pre-revision Rule 285(r)(iv), but the new Vapor Engineering BACT-72A unit is under Rule 285(2)(r)(iv). The exemption criteria are unchanged, still specifying metal cleaning processes which exhaust into the general, in-plant environment. Because the new BACT-72A unit satisfies the exemption criteria, a permit to install is not required.

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.

On3/7/2019, I had e-mailed DCP, requesting an exemption demonstration and PTE demonstration for the degreaser. I mentioned this during today's inspection, and requested that the PTE demonstration be provided to AQD no later than 5/15/2019. On 5/14/2019, I received by e-mail from Mr. Weekley a PTE demonstration and exemption demonstration for the BACT-72A.

The 5/14/2019 PTE demonstration sent by Mr. Weekley indicates that. because the Solvent Air Interface area is the same (1.67 meters squared) as with the now-removed Autosonics unit, the PTE should be the same. This also appears to be because the BACT-72A uses the same kinds of control equipment and the same kinds of operating practices as the Autosonics unit did. Potential TCE emissions were calculated based on 3 different theoretical control efficiencies: minimum, mid-range, and maximum:

1. Minimum range control effiency results in TCE potential emissions of 18.9 TPY.
2. Mid-range control efficiency results in TCE potential emissions of 12.6 TPY.
3. Maximum control efficiency results in TCE potential emissions of 7.9 TPY.

Because DCP is using all of the control options in the PTE calculation example (from the AQD *PTE Workbook*), Mr. Weekley advised that they believe the 7.9 TPY TCE is the appropriate value to use.

I asked for a copy of the owner or operator's manual for the BACT-72A. The scanned copy of the BACT-72A vapor degreaser manual which was sent to me later that day has a page that says, "Arrived on our dock ~~17~~ 16 July 2018 With a damage chiller. And this manual". On 5/9/2019, I e-mailed DCP and BB&E to ask what the above-referenced damage entailed, and if the damaged chiller was repaired or replaced. On 5/14/2019, Mr. Wright e-mailed back to advise that the chiller was damaged beyond use, and the

manufacturer sent them a new chiller. It was conveyed to me that the new chiller replaced the damaged one, prior to the degreaser being installed.

The specification sheet from Vapor Engineering lists dimensions of various degreaser models in their BACT line. The vapor dimensions of the BACT-72A are given as 36 (inches) for the width, and 72 (inches) for the length. Solvent Air Interface (SAI) is determined by multiplying width by length, in units of meters or feet. Therefore, 3 feet X 6 feet = 18 square feet, or 1.67 meters squared. The NESHAP Subpart N classifies batch vapor cleaning machines according to SAI size. Under Subpart N, this BACT-72A unit appears to be classified as a *large machine*, because it is over the threshold of 1.21 square meters or 13 square feet. Under Subpart N, it is classified as a *new* unit, because it was manufactured after 11/29/1993.

Note: In my 8/29/2018 inspection activity report of DCP, I wrote down the model of the new degreaser when it was onsite, but not yet installed, as a BACT-98A. This is incorrect, as the unit is a BACT-72A. I wrote down the serial number as 062918, which is also incorrect . The serial number is actually 062718.

The freeboard for all the BACT models on the manufacturer's specification sheet states "125% FREEBOARD." Freeboard ratio therefore appears to be 1.25. This complies with 40 CFR Part 63, Subpart N, the Halogenated Solvent Cleaning NESHAP, which requires a freeboard ratio of at least 0.75.

I examined the BACT-72A during the inspection. It was not cleaning parts at the time of the inspection, but it was operating. Please see attached photo No. 008.

The boiling chamber temperature had a set point (SP) of 190 degrees F, while process value (PV) was actually 191 degrees F. The lower return pipe for the cooling system was 54 degrees F. The upper return pipe was 48 degrees F.

There were no leaks of liquid from the BACT-72A. I noticed a barely detectable odor of TCE about 10-12 feet away from the degreaser, however. I checked for odors immediately adjacent to the unit. When my nose was about 2-3 inches away from the boiling chamber temperature gauge. I detected a strong TCE odor. I advised Mr. Wright of this, and requested that DCP follow up, to identify and eliminate the emission source, and eliminate it, if at all possible.

Some days after the inspection, I e-mailed Mr. Wright to ask what their follow up had determined about the vapor leak. On 5/14/2019, Mr. Wright conveyed to me by e-mail that the odor detected was "from a bad caulk seal where the chiller lines go through the tank." He advised that it was subsequently repaired.

Note: RRD's Rebecca Taylor provided a printout of ATSDR information on TCE's odor threshold. (attached) It states, in part: The *recognition odor threshold for TCE is 110 ppm which is slightly higher than the OSHA PEL (100 ppm); thus odor generally provides an inadequate indication of hazardous concentrations.*

During the inspection, the built-in bi-parting sliding doors atop the unit were closed. Please see attached photo No. 009. These doors would be called the *idling mode cover* or *downtime mode cover*, under 40 CFR Part 63, Subpart T. The parts basket DCP uses to convey parts into the degreaser is the same one as was used for the now-removed Autosonics degreaser. This parts basket has a built-in metal roof, please see attached photo No. 010. When the parts basket is lowered into the degreaser, the parts basket roof becomes the *working mode cover* to the degreaser, under Subpart T.

The BACT-72A does not have superheated vapor as an operating feature, I was told. Therefore, compliance requirements under the NESHAP for superheated vapor units do not apply. The Vapor Engineering degreaser does not have a lip exhaust, I was advised. A carbon adsorber is therefore not required by the NESHAP.

I asked what TCE emissions had been from the BACT-72A degreaser since it started operating, around 11/26/2018. I received a copy of TCE purchase records, please see attached. 1,320 lbs were purchased in February 2019, and again in March. I was informed that 1,320 lbs should equal two 55 gallon drums. I

was advised that it does not equate directly to emissions, however.

Note: on 6/19/2019, by e-mail, I requested an estimate of TCE emissions for the BACT-72A, for the first 6 months of operation, now that it had been operating for over half a year. In the past, DCP has provided annual emission estimates based on solvent consumption, assuming that all consumed solvent has volatilized. AQD will review the emissions estimate upon receipt, and compare with historical emissions from the now-removed Autosonics batch vapor degreaser.

Review of Vapor Engineering BACT-72A 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.

Section 63.463(a):
§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.

Section 63.463(a)(1)(i):
(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: This unit appears to have a sliding cover consisting of two doors which slide to the left or right, and which meet in the middle when they are closed. This is described in the operator's manual as a bi-parting sliding cover. It appeared to be of a more advanced design that the cover on the previous degreaser. I could not detect any TCE odors when examining the cover from the raised catwalk. The cover appeared to be free of cracks, holes, and other defects, therefore complying with Section 63.463(a)(1)(i), above. Please refer to attached Photo No. 009.

Note: the raised catwalk next to the batch vapor degreaser has a sudden drop of roughly 12 inches at the left end of the catwalk, which could be a tripping or falling hazard if AQD staff are not aware of it.

Recordkeeping review:

- The attached 2019 DCP recordkeeping form EWI-008-B shows weekly checks done on the BACT-72A cover during the time period 1/7/2019 through 3/27/2019. The report indicates that the cover was opening and closing properly, completely covering the opening, and was free of cracks, holes, and other defects.
- The attached 2018 DCP recordkeeping form EWI-008B shows weekly checks done on the BACT-72A bi-parting sliding cover from 11/26/2018 to 12/31/2018. It indicates that the cover was opening and closing properly, completely covering the opening, and was free of cracks, holes, and other defects.

Section 63.463(a)(1)(ii):
(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 DCP on 4/30/2019. The records are reviewed below:

- The attached 2019 DCP recordkeeping form EWI-008-A shows weekly indoor wind speed measurements for the BACT-72A, for the time period 1/7/2019 to 3/27/2019, 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.
- The attached 2018 DCP recordkeeping form EWI-008-A shows weekly indoor wind speed measurements for BACT-72A, for the time period 11/26/2018 to 12/31/2019, ranging from 5 to 10 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.

Section 63.463(a)(2):
(2) Each cleaning machine shall have a freeboard ratio of 0.75 or greater.

AQD comment #4: The freeboard ratio of the new Vapor Engineering BACT-72A batch vapor degreaser is rated at 125%, or 1.25, therefore complying with Section 63.463(a)(2), above.

Section 63.463(a)(3):
(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 EWI-008-D on hoist speed, provided by Mr. Wright and Mr. Weekly.

- The attached 2019 DCP recordkeeping form EWI-008D Automated Parts Handling- Hoist Speed Recordkeeping Form for the BACT-72A, for the time period 1/7/2019 to 3/27/2019 indicates that hoist speed ranged from 3.1 to 3.4 feet per minute, well below maximum allowable speed under the NESHAP of 11 feet per minute. This complies with the NESHAP.
- The attached 2018 DCP recordkeeping form EWI-008D Automated Parts Handling- Hoist Speed Recordkeeping Form for the BACT-72A, for the time period 11/26/2018 to 12/31/2018 indicates that hoist speed ranged from 3.1 to 3.6 feet per minute, well below maximum allowable speed under the NESHAP of 11 feet per minute. This complies with the NESHAP.

Section 63.463(a)(4):
(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: The BACT-72A appears to indicate there are 3 heaters at 10 kilowatts each, so electricity rather than steam appears to be heat the solvent. The operator's manual indicates that there is a "low solvent cut out" feature. It states that: *Degreaser has a float switch connected to the boiling chamber to shut off al[l] heaters if the solvent level is too low for safe operation. A red indicator light will go on.* It explains that when solvent is added to the appropriate operating level, the heaters will turn on again and the red warning light will go off.

Subsequent to the inspection, I e-mailed DCP and BB&E to ask if it would be accurate to say that the above low solvent cut out feature shuts off sump heat if the sump liquid level drops to the sump heater coils. The response on 6/18/2019 from Ms. Celeste Holtz of BB&E was: *A low solvent cut out feature shuts off sump heat when the sump liquid solvent level drops to the sump heater coils. The BACT-72A*

***degreaser unit notifies the operator(s) when are turned off with the illumination of a red warning light. An audible alarm is also triggered to notify the operator(s). As described, t*he cut out feature appears to comply with 63.463(a)(4), above.**

Section 63.463(a)(5):
(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: Subsequent to the inspection, I e-mailed DCP and BB&E, to inquire if the BACT-72A 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. The response from Ms. Holtz of BB&E on 6/18/2019 was: *The BACT-72A degreaser unit is equipped with a vapor level control device that shuts off the sump heat if the vapor level in the degreaser rises above the height of the primary condenser. A red indicator light will illuminate and an audible alarm will sound to indicate the high vapor level. The audible alarm must be manually reset for the heaters to restart if this situation occurs.* As described, this complies with Section 63.463(a)(5), above.

Section 63.463(a)(6):
(6) Each vapor cleaning machine shall have a primary condenser.

AQD comment #8: The Vapor Engineering brochure for their BACT line of degreasers indicates that the BACT models have a primary vapor condenser, also known as a water jacket. DCP's BACT-72A therefore complies with Section 63.463(a)(6), above.

Section 63.463(a)(7):
(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 BACT-72A does not have a lip exhaust. Therefore, a carbon adsorber is not required under Section 63.643(a)(7), above.

Section 63.463(b)(1)(i):
(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 Vapor Engineering BACT-72A batch vapor degreaser, as the Solvent/Air Interface of their unit is greater than 1.21 square meters. The BACT-72A, with a SAI of 1.67 square meters is classified as a *large machine* under the NESHAP.

Section 63.463(b)(1)(ii):
(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 Vapor Engineering BACT-72A vapor degreaser, as the Solvent/Air Interface of their batch vapor cleaning unit, at 1.67 square meters, is greater than 1.21 square meters.

Section 63.463(b)(2)(i):
(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 Vapor Engineering BACT-72A 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 1/31/2019, for the 2018 operating year. Option 1 references superheated vapor, which is not a feature of the BACT-72A.

Section 63.463(b)(2)(ii):
(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 BACT-72A is not an in-line cleaning machine.

Section 63.463(d)(1)(i):
(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 Vapor Engineering BACT-72A batch vapor degreaser was observed to be in place, during the idling mode, complying with Section 63.463(d)(1)(i), above. This is called a bi-parting sliding cover, in the operator's manual.

Section 63.463(d)(1)(ii):
(ii) A reduced room draft as described in §63.463(e)(2)(ii).

AQD comment #16: Please see attached recordkeeping, discussed below:

- The attached 2019 DCP recordkeeping form EWI-008A, Reduced Room Draft Windspeed Measurements Recordkeeping Form shows weekly indoor windspeed measurements for the time period 1/7/2019 through 3/27/2019. The recorded windspeed varied 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(d)(1)(ii), above.
- The attached 2018 DCP recordkeeping form EWI-008A, Reduced Room Draft Windspeed Measurements Recordkeeping Form shows weekly indoor windspeed measurements for the time period 11/26/2018 through 12/31/2018 The recorded wind speed varied from 5-10 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(d)(1)(ii), above.

Section 63.463(d)(2):
(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: Subsequent to the inspection, I e-mailed DCP and BB&E to inquire if DCP complies with the above requirement. The response from Ms. Holtz of BB&E on 6/18/2019 indicated: *The solvent air interface of the BACT-72A unit is 1.67 m^2. The parts basket occupies less than 50% of the Solvent Air Interface area of the degreaser. Parts are never loaded to occupy more than 50% of the solvent air interface during regular operation.* As described, this complies with Section 63.463(d)(2), above.

Section 63.463(d)(3):
(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 BACT-72A is equipped with a wand, for manually spraying parts with TCE. The biparting sliding doors which are the idling and downtime mode cover were closed, and I could not see inside the unit. Subsequent to the inspection, I e-mailed DCP and BB&E to inquire about the above requirement. *On 6/18/2019, the response from Ms. Holtz advised: Yes, spraying operations with the wand are done within the vapor zone of the unit.* As described, this complies with the requirements of Section 63.463(d)(3), above.

Section 63.463(d)(4):
(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: Subsequent to the inspection, I e-mailed DCP and BB&E to ask about this. The response from Ms. Holtz of BB&E on 6/18/2019 indicated: *Yes, the operator(s) orient parts in the unit to ensure that solvent drains from them freely.* As described, this complies with Section 63.463(d)(4), above.

Section 63.463(d)(5):
(5) Parts baskets or parts shall not be removed from any solvent cleaning machine until dripping has stopped.

AQD comment #20: I e-mailed DCP and BB&E following the inspection, to inquire if they are meeting the above requirement. The response from BB&E's Ms. Holtz, on 6/18/2019, indicates: *Yes the dwell time for the BACT-72A unit is set so that the dripping from the parts ceases prior to the parts basket being removed from the degreaser.* This appears to be in compliance with Section 63.463(d)(5), above. The same minimum dwell time of 85.6 seconds is used for the BACT-72A degreaser as was used for the now-removed Autosonics degreaser.

- The attached 2019 DCP EWI-008C Halogenated Solvent Cleaner NESHAP Dwell Measurement Test Recordkeeping Form records weekly measurements on the BACT-72A, from 1/7/2019 to 3/27/2019. The readings range from 95 to 110 seconds, above the minimum required 85.6 seconds.

- The attached 2018 DCP EWI-008C Halogenated Solvent Cleaner NESHAP Dwell Measurement Test Recordkeeping Form records weekly measurements on the BACT-72A, from 11/26/2018 to 12/31/2018. The readings range from 95 to 120 seconds, above the minimum required 85.6 seconds.

Section 63.463(d)(6):
(6) During startup of each vapor cleaning machine, the primary condenser shall be turned on before the sump heater.

AQD comment #21: Following the inspection, I e-mailed DCP and BB&E to inquire about the above requirement. The response from BB&E's Ms. Holtz on 6/18/2019 indicates: *Yes, the primary condenser of the BACT-72A is turned on before the sump heater is turned on. The heater coils will not power up unless the primary condenser unit is running.* As described, this complies with Section 63.463(d)(6).

Section 63.463(d)(7):
(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: Following the inspection, I e-mailed DCP and BB&E to inquire about the above requirement. The response from BB&E's Ms. Holtz, on 6/18/2019, states that: *Under normal shutdown, the sump heater is turned off allowing the solvent vapor layer to collapse while the primary condenser continues to run. The primary condenser is only turned off after the vapor layer has collapsed.* As described, this complies with Section 63.463(d)(7), above.

Section 63.463(d)(8):
(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: Following the inspection, I e-mailed DCP and BB&E to inquire about the above requirement. The response from BB&E's Ms. Holtz, on 6/18/2019 states: *The BACT-72A unit is designed to pump out the sump using the sprayer pump. When the unit is eventually drained, threaded fittings will be used.* It appears that because the unit is so new, no solvent has been drained from the machine, yet. It is not clear how solvent was added to the degreaser, since threaded fittings have not been installed. However, leakproof couplings other than threaded ones are allowed under this section of the NESHAP. AQD will monitor this issue on future visits to the plant, and provide guidance, as needed

Section 63.463(d)(9):
(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: Following the inspection, I e-mailed DCP and BB&E to inquire about the above. The response from Ms. Holtz of BB&E on 6/18/2019 indicated: *A combination of both Vapor Engineering and facility developed alternative maintenance practices for the BACT-72A are followed. This ensures the same or better results as those recommended by the manufacturer are achieved. The machine is maintained as suggested by the manufacturer, as well as alternative maintenance practices learned from the facility's history of using vapor degreasers.* Section 63.463(d)(9) allows alternative practices. The single maintenance concern which was noted by AQD during the inspection was the small vapor leak which was discussed earlier in this report. The leak was brought to the attention of DCP staff at that time, and Mr. Wright informed me by e-mail that it was subsequently repaired.

Section 63.463(d)(10):
(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. I advised DCP staff that AQD may require this test in the future, and I encouraged them to have their operators become familiar with the NESHAP requirements.

Section 63.463(d)(11):
(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: Following the inspection, I asked DCP and BB&E by e-mail about the requirement above. It was my impression that the BACT-72A unit is new enough that no waste solvent or sump bottoms may have been removed from it yet. The response from Ms. Holtz of BB&E on 6/18/2019 was: *Yes, in the future, the NESHAP will be followed to allow for the proper collection and storage of still and/or sump bottoms in closed containers.* The solvent distiller unit is not currently in use, I learned during the inspection, but in years past, I was informed that still bottoms were collected and stored in closed containers. The stated plan to handle the still and/or sump bottoms appears to be in keeping with Section 63.463(d)(11).

Section 63.463(d(12):
(12) Sponges, fabric, wood, and paper products shall not be cleaned.

AQD comment #28: It has been my understanding that metal parts are the only items cleaned in DCP's previous Autosonics batch vapor degreaser. Following the inspection, I e-mailed DCP and BB&E to verify that only metal parts are cleaned in the new BACT-72A degreaser. The 6/18/2019 response from Ms. Holtz of BB&E stated: *Metal parts are the only item cleaned in the BACT-72A unit.* This is consistent with the requirement of Section 63.463(d)(12), above.

Section 63.463(e)(2)(i):
(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: The NESHAP requirement is that the freeboard refrigeration device (FRD) temperature is no greater than 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. Please refer to the attached representative examples of recordkeeping provided by DCP on 4/30/2019:

- The attached 2019 DCP recordkeeping form EWI-008-E, *FRD Recordkeeping Form*, shows FRD measurements for the BACT-72A, for the time period 1/7/2019, to 3/27/2019, ranging from 51.5 to 53.7 degrees F. This is below the maximum allowed 30% of the solvent's boiling point temperature, complying with Section 63.463(e)(1)(i), above.
- The attached 2018 DCP recordkeeping form EWI-008-E, *FRD Recordkeeping Form*, shows FRD measurements for the BACT-72A, for the time period 11/26/2018, to 12/317/2018, ranging from 50.2 to 51.7 degrees F. This is below maximum allowed 30% of the solvent's boiling point temperature complying with Section 63.463(e)(1)(i), above.

Section 63.463(e)(2)(ii):

(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, and is repeated below:

- The attached 2019 DCP recordkeeping form EWI-008A, Reduced Room Draft Windspeed Measurements Recordkeeping Form shows weekly indoor windspeed measurements for the time period 1/7/2019 through 3/27/2019. The recorded windspeed varied 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(d)(1)(ii), above.
- The attached 2018 DCP recordkeeping form EWI-008A, Reduced Room Draft Windspeed Measurements Recordkeeping Form shows weekly indoor windspeed measurements for the time period 11/26/2018 through 12/31/2018 The recorded wind speed varied from 5-10 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(d)(1)(ii), above.

Section 63.463(e)(2)(iii)(A):
(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: Although the Autosonics batch vapor degreaser was removed in November 2018, the parts basket which conveyed parts into the degreaser is still being used with the new BACT-72A degreaser. It is my understanding that the built-in metal roof of the parts basket essentially becomes the working mode cover, when it is lowered into the degreaser. Please see attached photo looking upwards towards the slightly peaked roof of the parts basket.

The Solvent Air Interface or SAI area of the BACT-72A appears to be the same as that of the previous Autosonics degreaser. I could not verify the fit of the working mode cover today, as the parts basket was off to the side of the unit, with no parts in it to be treated. However, I reviewed the attached recordkeeping provided by DCP.

- The 2019 DCP EWI-008-B Cover Recordkeeping Form shows that from 1/7/2019 through 3/27/2019, there were no cracks, holes, or other defects in the working mode cover.

- The 2018 DCP EWI-008-B Cover Recordkeeping Form shows that from 11/26/2018 through 12/31/2018, there were no cracks, holes, or other defects in the working mode cover.

Section 63.463(e)(2)(iii)(B):
(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 is roofed by the working mode cover, was not in the degreaser today. Instead, the parts basket was stationed next to the degreaser. This will be evaluated during a future visit to the site. For now, I reviewed the attached company recordkeeping.

- The 2019 DCP EWI-008-B Cover Recordkeeping Form shows that from 1/7/2019 through 3/27/2019, there were no cracks, holes, or other defects in the working mode cover.
- The 2018 DCP EWI-008-B Cover Recordkeeping Form shows that from 11/26/2018 through 12/31/2018, there were no cracks, holes, or other defects in the working mode cover.

Following the inspection, I e-mailed DCP and BB&E to confirm my understanding that the parts basket cover is the working mode cover, and the bi-parting sliding doors are the idling mode cover. The 6/18/2019 response by Ms. Holtz of BB&E indicated: *The EWI-008-B Cover Recordkeeping Form has been revised to note if any cracks, holes, or other defects have occurred in the BACT-72A unit's working mode cover (parts basket roof) and the idling mode cover (bi-parting sliding doors). This revision ensures the working mode cover is maintained free of cracks, holes, and other defects in accordance with the NESHAP. The revised recordkeeping form is attached for reference.* The revised form clarifies which cover is which, under the NESHAP.

Section 63.463(e)(2)(iv)(A):
(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: The bi-parting sliding doors atop the BACT-72A would qualify as the idling-mode cover, under the NESHAP. They were in place at this time, as no parts were being treated. The doors appeared to completely cover the degreaser's top opening. Please see attached photo No. 009.

Section 63.463(e)(2)(iv)(B):
(B) Ensure that the idling-mode cover is maintained free of cracks, holes, and other defects.

AQD comment #34: No visible defects were noted on the idling mode cover (the bi-parting sliding doors of the BACT-72A). I checked for TCE odors along the sliding doors, but could not detect any.

Section 63.463(e)(2)(v)(A):
(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: There is only one parts basket for the batch vapor degreaser. DCP determined the appropriate dwell time for it as 85.6 seconds minimum, with the now-removed Autosonics degreaser, in keeping with the requirements of Section 63.463(e)(2)(v)(A), above. The dwell time with the new

degreaser is also 85.6 seconds, minimum. Following the inspection, I e-mailed DCP and BB&E to discuss this. The 6/19/2019 response from Ms. Holtz of BB&E indicated: *The dwell time is the same for the parts basket being used for the BACT-72A unit that was used for the now-removed Autosonics unit.* This appears to comply with the NESHAP, as the parts basket is the exact same one, and the parts to be cleaned are similar to parts cleaned in the Autosonics unit.

Section 63.463(e)(2)(v)(B):
(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, based on the EWI-008-C *Dwell Measurement Test Recordkeeping Forms.* Please see below:

- The 2019 DCP EWI-008C *Dwell Measurement test Recordkeeping Form* shows that from the time period 1/7/2019 through 3/27/2019, the dwell time was above the 85.6 second minimum, ranging from 95 to 110 seconds. This complies with Section 63.463(e)(2)(v)(B), above.
- The 2018 DCP EWI-008C *Dwell Measurement test Recordkeeping Form* shows that from the time period 11/26/2018 through 12/31/2018, the dwell time was above the 85.6 second minimum, ranging from 95 to 120 seconds. This complies with Section 63.463(e)(2)(v)(B), above.

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 BACT-72A 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 the BACT-72A 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 BACT-72A 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 BACT-72A 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 BACT-72A 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 BACT-72A is not a web cleaning unit, nor does it have a combination squeegee and air knife system.

Section 63.463(e)(3):
(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 for the BACT-72A in the most recent 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 BACT-72A 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 BACT-72A is not a remote reservoir continuous web cleaning machine.

(End of Section 63.463.)

AQD comment #47: Section 63.468(h) requires each owner or operator of a batch vapor cleaning machine to submit an exceedance report to the Administrator semiannually, whether or not there has been an actual exceedance. If there has been an actual exceedance, these reports are required to be submitted quarterly, until a request to reduce reporting frequency is made under paragraph 63.468(i) and approved. Because of exceedances of the FRD temperature limit for the now-removed Autosonics batch vapor degreaser which were cited on 12/20/2018, DCP is now on a quarterly reporting schedule for exceedance reports. The exceedance report for Halogenated Solvent Cleaning received by AQD on 4/26/2019 indicates no exceedances have taken place in the 1st Quarter of 2019 with the BACT-72A batch vapor degreaser.

Section 63.471(b)(1):
Each owner or operator of an affected facility must maintain a log of solvent additions and deletions for each solvent cleaning machine.

AQD comment #48: The above requirement appears to apply to DCP. They are an area rather than a major source of TCE emissions, as discussed under Section 63.471(a), and for area sources, affected facility means all solvent cleaning machines except cold batch solvent cleaning machines. DCP's degreaser is heated, therefore they are subject to the requirement. I asked during the inspection if DCP is keeping a log of solvent additions and deletions (removals). It is my understanding that DCP will follow up with their lab, to find out if a log is being kept of solvent additions and deletions. I was advised that if they are not already keeping a log, they will begin immediately. They have been tracking TCE purchases on a monthly basis, I was shown, on the attached spreadsheet.

Section 63.471(2):

(2) Each owner or operator of an affected facility must ensure that the total emissions of perchloroethylene (PCE), trichloroethylene (TCE) and methylene chloride (MC) used at the affected facility are equal to or less than the applicable facility-wide 12-month rolling total emission limit presented in Table 1 of this section as determined using the procedures in paragraph (c) of this section.

Table 1—Facility-wide Emission Limits for Facilities With Solvent Cleaning Machines

Solvents emitted	*Facility-wide annual emission limits in kg—for general population degreasing machines*	*Facility-wide annual emission limit in kg for military depot maintenance facilities*
PCE only[a]	*4,800*	*8,000*
TCE only	*14,100*	*23,500*
MC only	*60,000*	*100,000*
Multiple solvents—Calculate the MC-weighted emissions using equation 1	*60,000*	*100,000*

[a] PCE emission limit calculated using CalEPA URE.

NOTE: In the equation, the facility emissions of PCE and TCE are weighted according to their carcinogenic potency relative to that of MC. The value of A is 12.5. The value for B is 4.25.

$$WE=(PCE\times A)+(TCE\times B)+(MC) \quad \text{(Eq. 9)}$$

Where:

WE = Weighted 12-month rolling total emissions in kg (lbs).

PCE = 12-month rolling total PCE emissions from all solvent cleaning machines at the facility in kg (lbs).

TCE = 12-month rolling total TCE emission from all solvent cleaning machines at the facility in kg (lbs).

MC = 12-month rolling total MC emissions from all solvent cleaning machines at the facility in kg (lbs).

AQD comment #49: The BACT-72A is not expected to have annual TCE emissions greater than the limit of 14,100 kg, which equates to 31,085.18 lbs, 15.54 tons. The now-removed Autosonics degreaser is not known to have ever approached this level of emissions. After the first calendar year of operating (2019) for the BACT-72A, annual solvent consumption will be reported by DCP in an annual solvent consumption report required by the NESHAP, and annual TCE use and emissions will be reported to AQD via MAERS. Reported emissions can be checked against this limit.

Solvent distiller unit; Rule 285(u):

Rule 285(u) and the Rule 285(2)(u) exemption which replaced it on 12/20/2016 both apply to solvent distillation and antifreeze reclamation equipment which has a rated batch capacity of not more than 55 gallons.

There were no visible emissions nor any visible leaks of solvent from the TCE distiller unit. This is the same unit which served the previous batch vapor degreaser (the Autosonics unit). I was informed that the distiller unit is currently empty of solvent, and that it is uncertain if DCP will keep the unit onsite, or remove it. The containment area underneath the distiller has 1.5 times the volume of the distiller unit itself, I have been told, during past inspections.

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. The MAPCO mist eliminator is the control device. It is located on a catwalk in the west plant,

from where it exhausts into the general, in-plant environment. I examined the process, and detected no odors and no fugitive emissions. There were no visible emissions from the MAPCO mist eliminator.

The process is permitted under PTI No. 672-88. It is my understanding 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. I advised the company of this. If they wish to void the PTI, I will make a permit void request to the AQD Permit Section.

Metal cleaning and electroless nickel plating operation with scrubber, PTI No. 673-88; 40 CFR Part 63, Subpart WWWWWW:

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, both the electrolytic and the electroless. types There are also nickel rinses, 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. Whether standing on the east roof or at ground level, I could not see any visible emissions from the nickel scrubber. Please see attached photo No. 011.

40 CFR Part 63 Subpart WWWWWW, *the NESHAP for Area Source Standards for Plating and Polishing Operations*, also known as 6W, applies to their nickel plating processes, but AQD does not have delegated authority from the Environmental Protection Agency to regulate this Area Source MACT.

On 5/24/2019, I e-mailed to DCP a link to 6W, so that they could determine if they are subject to 6W. 6W contains 12 work practice requirements which may potentially apply to DCP under Section 63.11507(g). These are:

(g) If you own or operate an affected new or existing plating and polishing process unit that contains, applies, or emits one or more of the plating and polishing metal HAP, you must implement the applicable management practices in paragraphs (g)(1) through (12) of this section, as practicable.
(1) Minimize bath agitation when removing any parts processed in the tank, as practicable except when necessary to meet part quality requirements.
(2) Maximize the draining of bath solution back into the tank, as practicable, by extending drip time when removing parts from the tank; using drain boards (also known as drip shields); or withdrawing parts slowly from the tank, as practicable.
(3) Optimize the design of barrels, racks, and parts to minimize dragout of bath solution (such as by using slotted barrels and tilted racks, or by designing parts with flow-through holes to allow the tank solution to drip back into the tank), as practicable.
(4) Use tank covers, if already owned and available at the facility, whenever practicable.
(5) Minimize or reduce heating of process tanks, as practicable (e.g., when doing so would not interrupt production or adversely affect part quality).
(6) Perform regular repair, maintenance, and preventive maintenance of racks, barrels, and other equipment associated with affected sources, as practicable.
(7) Minimize bath contamination, such as through the prevention or quick recovery of dropped parts, use of distilled/de-ionized water, water filtration, pre-cleaning of parts to be plated, and thorough rinsing of pre-treated parts to be plated, as practicable.
(8) Maintain quality control of chemicals, and chemical and other bath ingredient concentrations in the tanks, as practicable.
(9) Perform general good housekeeping, such as regular sweeping or vacuuming, if needed, and periodic washdowns, as practicable.
(10) Minimize spills and overflow of tanks, as practicable.
(11) Use squeegee rolls in continuous or reel-to-reel plating tanks, as practicable.
(12) Perform regular inspections to identify leaks and other opportunities for pollution prevention.

Cadmium plating line (two tanks) with wet scrubber, PTI No. 675-88A, 40 CFR Part 63, Subpart WWWWWW:

From atop the east roof of the plant, I observed the cadmium scrubber's vertical exhaust stack, which is labeled 64. 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. 012.

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. There were some whitish deposits on the PVC plastic, which appeared to be from the metal outer sleeve of the "no loss" style exhaust stack. I was advised that there may be some corrosion of the metal, and that the elements, such as rain or melting snow, cause it to drip onto the PVC plastic. It does not appear to represent an actual leak in the exhaust stack. The cadmium scrubber uses water as the scrubbing solution.

We did not approach the cadmium plating processes themselves, as additional personal protective gear (respirators) would be needed.

Note: 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.

The cadmium scrubber is located inside the plant, but some of the ductwork extends outside of the plant, for a short, horizontal run. We walked around the south side of the plant to examine this ductwork. At ground level, it could be seen that the exterior ductwork had been painted with UV-resistant coatings. The ductwork was free of leaks. There were no fugitive emissions from the ductwork.

40 CFR Part 63 Subpart 6W, the NESHAP for Area Source Standards for Plating and Polishing Operations applies to DCP's cadmium plating processes, but AQD does not have delegated authority from the Environmental Protection Agency to regulate this Area Source MACT. On 5/24/2019, following the inspection, I e-mailed information on 6W to DCP. If DCP is subject, under Section 63.11507(g), the 12 work practice requirements are:

(g) If you own or operate an affected new or existing plating and polishing process unit that contains, applies, or emits one or more of the plating and polishing metal HAP, you must implement the applicable management practices in paragraphs (g)(1) through (12) of this section, as practicable.
(1) Minimize bath agitation when removing any parts processed in the tank, as practicable except when necessary to meet part quality requirements.
(2) Maximize the draining of bath solution back into the tank, as practicable, by extending drip time when removing parts from the tank; using drain boards (also known as drip shields); or withdrawing parts slowly from the tank, as practicable.
(3) Optimize the design of barrels, racks, and parts to minimize dragout of bath solution (such as by using slotted barrels and tilted racks, or by designing parts with flow-through holes to allow the tank solution to drip back into the tank), as practicable.
(4) Use tank covers, if already owned and available at the facility, whenever practicable.
(5) Minimize or reduce heating of process tanks, as practicable (e.g., when doing so would not interrupt production or adversely affect part quality).
(6) Perform regular repair, maintenance, and preventive maintenance of racks, barrels, and other equipment associated with affected sources, as practicable.
(7) Minimize bath contamination, such as through the prevention or quick recovery of dropped parts, use of distilled/de-ionized water, water filtration, pre-cleaning of parts to be plated, and thorough rinsing of pre-treated parts to be plated, as practicable.
(8) Maintain quality control of chemicals, and chemical and other bath ingredient concentrations in the tanks, as practicable.
(9) Perform general good housekeeping, such as regular sweeping or vacuuming, if needed, and periodic washdowns, as practicable.
(10) Minimize spills and overflow of tanks, as practicable.
(11) Use squeegee rolls in continuous or reel-to-reel plating tanks, as practicable.
(12) Perform regular inspections to identify leaks and other opportunities for pollution prevention.

S-1; two alkaline chrome strip tanks; Rule 285(l)(iii); formerly under PTI 676-88, now voided:

The exhaust from S-1, 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. I could not detect any odors from it, even though I was only a few feet away from the horizontal exhaust outlet. It is my understanding that this has an in-line mesh pad in the exhaust system, prior to exhausting to the outside air.

The process is considered exempt under the Rule 285(l)(iii) exemption from the requirement to obtain a permit to install, please see below. 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.

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

I was informed that they currently do not have any strip tanks which exhaust indoors.

Cooling tower, PTI No. 677-88:

There were no visible emissions from the cooling tower, upon arrival. At 2:29 PM, I observed some emissions of steam. Weather conditions were overcast, and 51 degrees F, with winds out of the north at 10 miles per hour. Uncombined water vapor is not a regulated air contaminant.

Pickling tanks; Rule 285(r):

I was informed that there are no pickling tanks currently onsite.

Oakite (phosphate) wash tanks; Rule 285(r):

The 2 Oakite wash tanks, which exhaust into the interior plant environment, were observed during this inspection. These are exempt from the requirement of Rule 201 to obtain a PTI, because they are cleaning tanks which exhaust indoors. Previous inspection reports have referred to them as phosphate wash tanks. The Oakite cleaning solution does contain some phosphorous, I was told.

I observed Oakite tank C-1, which meets the Rule 285(r) exemption criteria. Temperature ranges between 160-180 degrees F, I was told. It is next to A-1, a sulfuric acid and hydrofluoric acid tank.

Sandblasting; grandfathered:

No sand blasting was initially taking place in 2 small sand blast booths, which are located near scrubber #5, although one appeared to be in operation at one point during the inspection. 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. In the past, DCP's Mr. John 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, 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):

The DCP brochure says there are 7 ovens, but Mr. Wright and I could only confirm the presence of 6. 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. I did not inquire, at the time, if a 7th oven could be in their onsite lab.

Note: DCP shuts down around 12 noon for lunch. I left the plant after the shut down, and returned to the DCP plant parking lot shortly after 1:00 PM. Because Mr. Wright had previous plans to meet with other visitors onsite, I reviewed degreaser records until 2:30 PM while sitting in the State vehicle. At 2:30 PM, I went to the plant office, to resume the inspection. That included examination of the west plant exterior chrome plating ductwork and scrubber exhaust stack, and the emergency generator.

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 on a small area of roof, and there is no railing there, so staff should be mindful of their location.

It is my understanding that the generator is "exercised" or operated, weekly, for purposes of operational readiness. Their recordkeeping requirements for the generator are under 40 CFR Part 60, Subpart JJJJ, Section 60.4243.

I requested and received date on hours of operation from January 2018 through the present date. Please see attached.

- The starting hours on 1/8/2019 were 521.5. I subtracted that from the cumulative YTD hours run as of 04/16/2019, which were 527.1. In 2019, 5.6 hours had been run so far.
- The starting hours on 1/2/2018 were 497.7, and the ending hours on 12/18/2018 were 521.5. In calendar year 2018, 23.8 hours were run.

The values above are well below the maximum limit of 100 hours per year for maintenance checks and readiness testing.

Conclusion:

No instances of noncompliance were initially observed, on 4/30/2019, but subsequent review of surface tension records for the chrome plating tanks in the west part of the plant showed exceedances of the 33 dynes/cm limit , as measured with a tensiometer. This is a violation of 40 CFR Part 63, Subpart N, the chromium NESHAP. A VN is being sent by AQD to document this, and to request a compliance plan.

Note:

- AQD detected a small vapor leak today, when in close proximity to the BACT-72A batch vapor degreaser. DCP reported subsequently that they identified the source of the leak, and repaired it.
- AQD is awaiting some responses from DCP on the BACT-72A's TCE emissions since it was installed, and on whether hours of operation are being recorded for the chrome plating tanks which use surfactant. work practices associated with the degreaser. Once AQD has received this information, it will be reviewed and evaluated, and compliance status determined.

Image 1(Photo 001) : SW corner of E roof.

Image 2(Photo 002) : Ductwork on E side of E roof.

Image 3(Photo 003) : Looking NW on E roof.

Image 4(Photo 004) : Vibration dampeners.

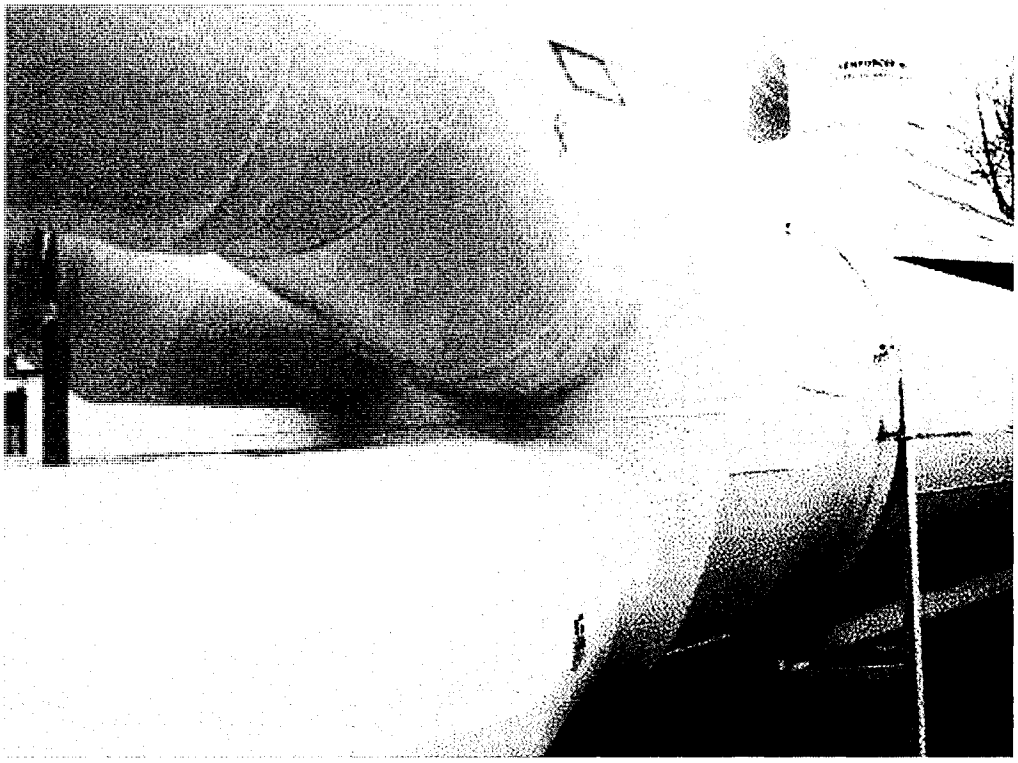


Image 5(Photo 005) : Four 24 in. ducts meeting 54 in. duct.

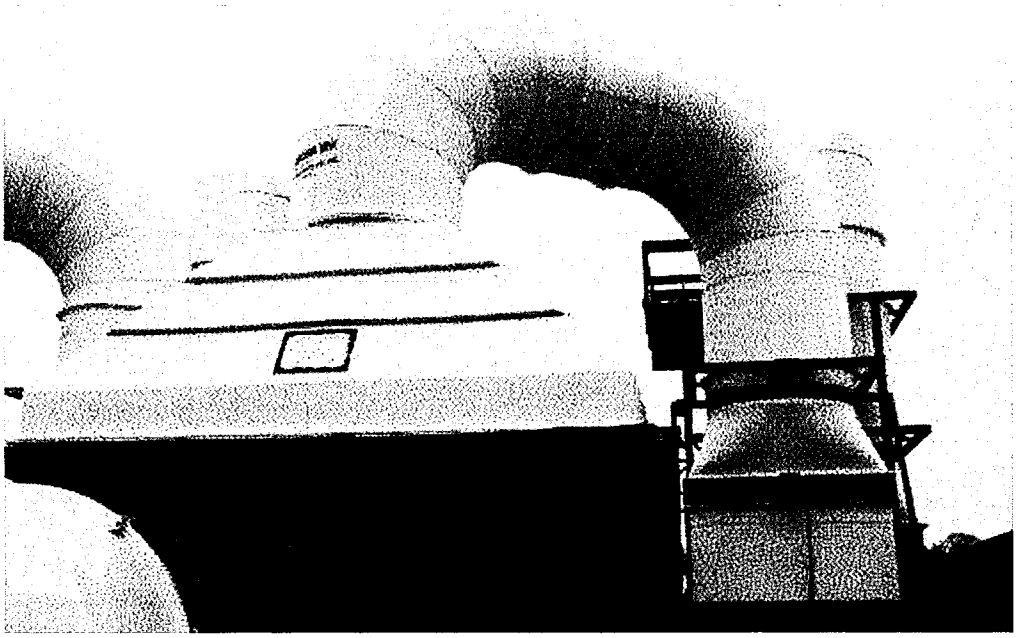


Image 6(Photo 006) : Scrubbers 3 and 4.

Image 7(Photo 007) : Scrubber 5 stack.

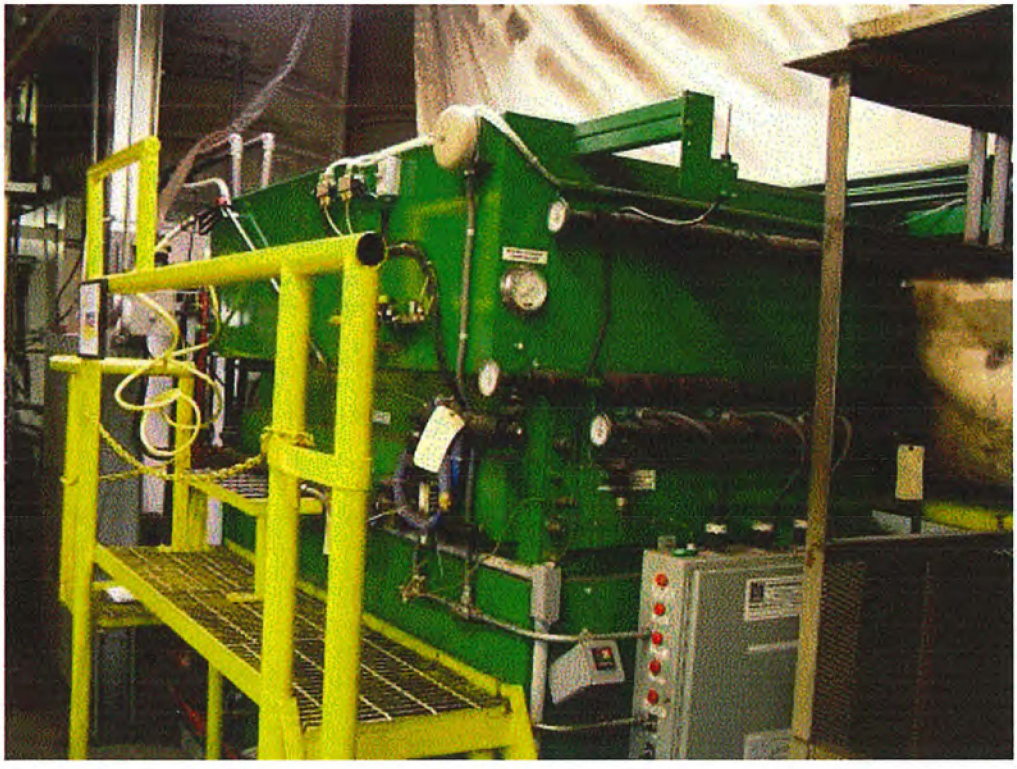
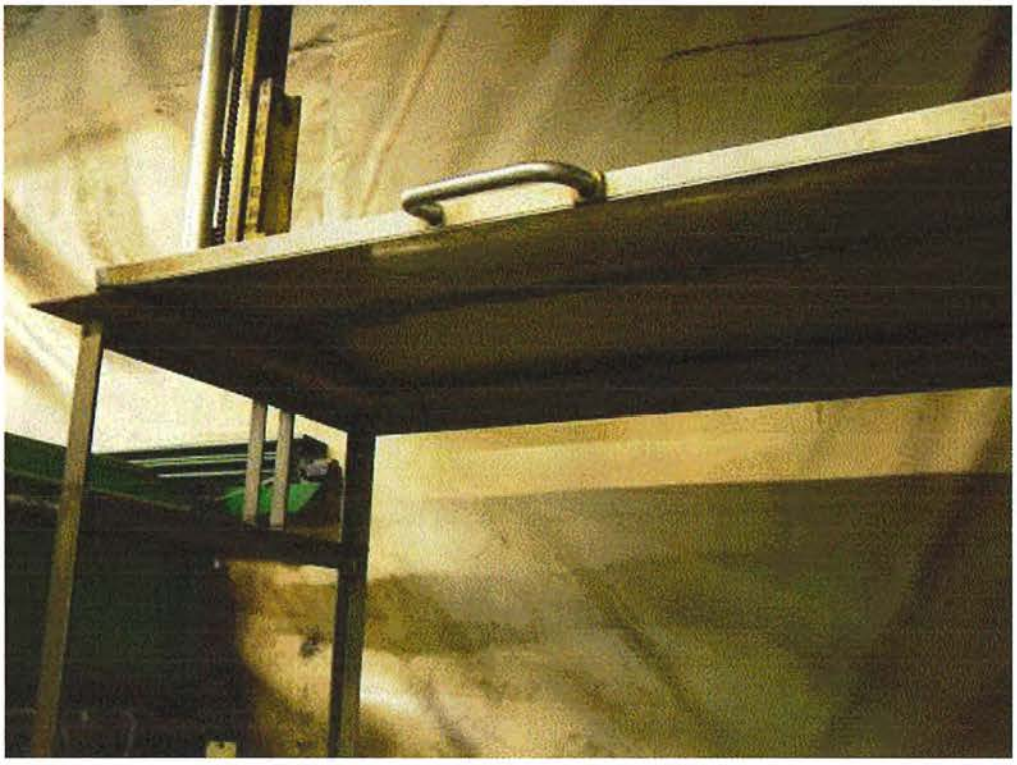


Image 8(Photo 008) : BACT-72A degreaser.

Image 9(Photo 009) : Bi-parting sliding doors.



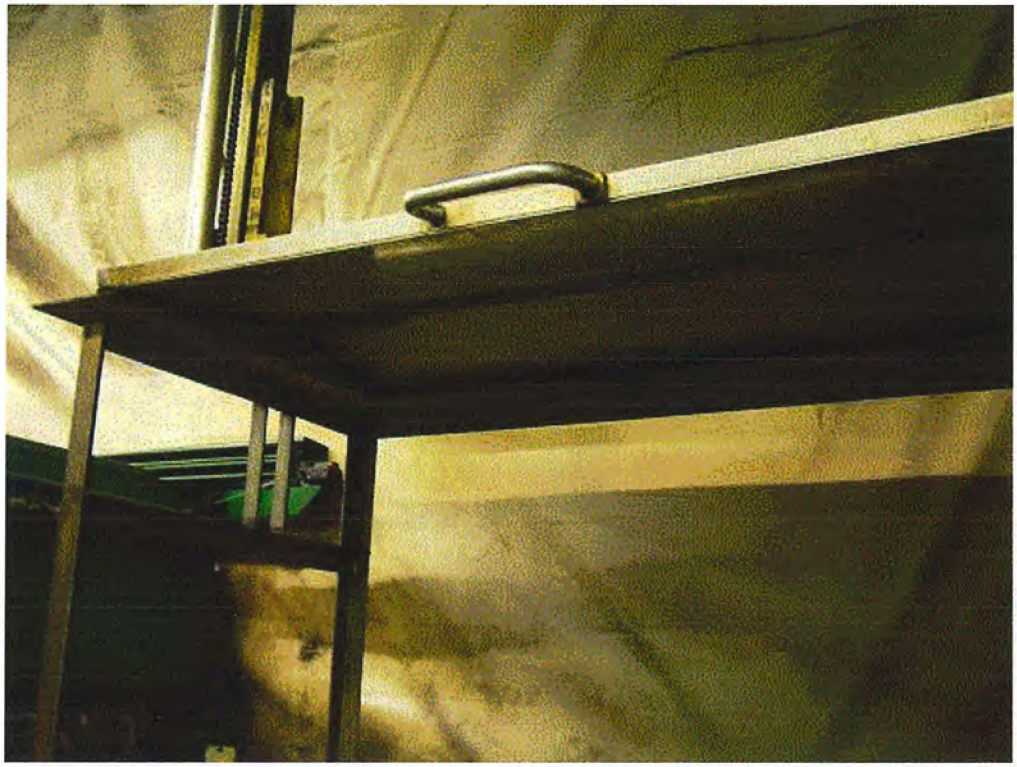


Image 10(Photo 010) : Parts basket roof.

Image 11(Photo 011) : Nickel scrubber stack.

Image 12(Photo 012) : Cad. scrubber exhaust at left.

NAME _____ DATE 6/25/2019 SUPERVISOR B.M.