#### DEPARTMENT OF ENVIRONMENTAL QUALITY AIR QUALITY DIVISION ACTIVITY REPORT: On-site Inspection

A233110003			
FACILITY: DIAMOND CHROME PLATING INC		SRN / ID: A2931	
LOCATION: 604 S MICHIGAN, HOWELL		DISTRICT: Lansing	
CITY: HOWELL		COUNTY: LIVINGSTON	
CONTACT: Scott Wright, Environmental Manager & Waste Treatment Manager		ACTIVITY DATE: 02/07/2024	
STAFF: Daniel McGeen COMPLIANCE STATUS: Non Compliance		SOURCE CLASS: MINOR	
SUBJECT: Unannounced inspection on 2/7 and 2/29/2024			
RESOLVED COMPLAINTS:			

On February 7, 2024, and February 29,2024, 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).

#### Facility description:

DCP is a *large hard chromium electroplater*, as defined in 40 CFR Part 63 Subpart N, and they also conduct cadmium and nickel plating. They are a job shop, and plate aircraft landing gear, commercial hydraulics, industrial dies, and miscellaneous parts.

#### Facility environmental contacts:

- Scott Wright, Environmental Manager & Waste Treatment Manager; 517-546-0150; <u>env@diamondchromeplating.com</u>
- Jennifer Reed, EH&S Specialist; 517-546-0150; <u>ehs@diamondchromeplating.com</u>
- Celeste Holtz, Senior Environmental Scientist/Project Manager, BB&E Consulting Engineers & Professionals; 517-673-1792; <a href="mailto:choltz@bbande.com">choltz@bbande.com</a>

#### EGLE, AQD contact:

Dan McGeen, inspector; 517-648-7547; mcgeend@michigan.gov

#### **Emission units:**

PTI, Rule, Or	Emission Unit	Control Device	Exhaust	Operating
Requirement	Description		Location	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. Cr-9 and 12 (Cr-10 and 13 have been removed, and Cr-11 is presently ducted to scrubber #4), aka Dept. 2	New scrubber system #3: KCH Spectra U-III a composite mesh pad (CMP) scrubber replacing scrubber destroyed in 4/27/2021 fire.	South scrubber on east roof	Compliance

		*Tank 8 now exhausts to scrubber #3		
PTI No. 367-83B; 40 CFR Part 63 Subparts A & N; FACD Case No. 03-1862-CE	Open surface chrome plating tank nos. Cr-1-4, 6, and 8*, aka Dept. 1, with tank Cr-11 recently ducted to it. *Tank Cr-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. Cr-5, 7, 15, 17; west side of plant, aka Dept. 3	Scrubber system #5; a Ceilcote vertical wet scrubber with Kimre mesh pad, fume suppressant	SW portion of bldg., inside plant, exhausts outdoors	Compliance
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/CMP scrubber with kimre mesh pad	NW of building, on outside ground	Has not been used in recent years
PTI No. 672-88 or MAPC Rule 285(2) (m)	Chrome redox tank	MAPCO mist eliminator	West plant, roof exhaust	Compliance
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
MAPC Rule 285(l)(iii); former PTI No. 676- 88 (now voided)	Two alkaline chrome strip tanks, S-1 and S-2	In-line mesh pad in stack, exhausts to outside air	East roof	Compliance
MAPC Rule 285(I)(iii)	S-3 strip tank			Compliance

		Uncontrolled, open tank in the general, in -plant environment	Inside west plant	
MAPC Rule 285(I)(iii)	S-4 long strip tank	Uncontrolled, open tank in the general, in -plant environment	Inside east plant	Compliance
PTI No. 677-88	Cooling tower	NA	East roof	Compliance
MAPC Rules 290 and 708	Vapor Engineering batch vapor degreaser, BACT- 72A	Freeboard refrigeration, dwell, reduced draft, working mode cover, idling mode cover	Plant interior	Compliance
MAPC Rule 285(u)	Solvent distillation unit	NA	NA	Not in use
MAPC Rule 285(r)	2 Oakite wash tanks	NA		Compliance
Grandfathered	Small sandblaster with wet scrubber	Exhaust to wet scrubber	SW portion of bldg.	Compliance; not operating
MAPC Rule 282	6 electric ovens	NA	NA	Compliance
MAPC Rule 291	Mechanical Vapor Recompression or MVR unit for evaporating process wastewater and contaminated groundwater	Granular activated carbon filter	Into interior of west plant	No longer capable of operation; no plans to reuse it
MAPC Rule 285 (g); 40 CFR Part 60 Subpart JJJJ, and 40 CFR Part 63 Subpart ZZZZ	Emergency generator; natural gas-fired;150 kW	NA	West roof	Compliance; not operating

#### **Regulatory overview:**

DCP 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.

The chrome plating processes are subject to 40 CFR Part 63 Subpart A, General Provisions, and Subpart N, National Emission Standards for Chromium Emissions from Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks. This is one of the federal National Emission Standards for Hazardous Air Pollutant (NESHAP) regulations. and is frequently referred to as the Chrome NESHAP. DCP considers their facility to be a *large hard chromium electroplating facility*, under Subpart N, and they plate in open surface chrome tanks.

In addition, DCP has six active air use permits, and various state and federal air regulations apply to a number of emission units.

The original 2006 multi-media Joint Consent Decree (JCD) for multi-media issues at DCP was 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, stormwater, and groundwater. The FACD is an updated document, reflecting changes in circumstances and regulations, since the JCD was written. The AQD is just one of the EGLE divisions which use the FACD as a regulatory tool. Vapor degreasing is not referenced in the FACD, as violations of air requirements for vapor degreasing were not known to exist at that time it was written. A Second Amended Consent Decree (SACD) is under development to address not only degreaser-related issues from 2019, but compliance issues identified by EGLE's Materials Management Division (MMD), Remediation & Redevelopment Division (RRD), and Water Resources Division (WRD).

#### Fee status:

Because it is subject to the area source Maximum Achievable Control Technology (MACT) standard 40 CFR Part 63, Subpart N, *National Emission Standards for Chromium Emissions From Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks*, DCP has been classified as a Category F fee source, and has paid an annual fee to the AQD.

The facility is required to report annual emissions each year to MiEnviro.

#### Location:

DCP is located south of downtown Howell. Immediately north of the plant are a small DCP parking lot, and a residential neighborhood. To the immediate east is another residential neighborhood. To the west is a community park, and a residential neighborhood. To the south is the CSX Transportation railroad line, with industrial and commercial facilities to the south and southeast.

#### Most recent stack testing:

- Results from 12/15/2021 stack test of new scrubber #3: Passed total chromium NESHAP limit and the PTI 67-83B chromic acid limit.
- Results from 6/24/2021 stack test of scrubber #4: Passed total chromium NESHAP limit and the PTI 67 -83B chromic acid limit.
- Results from 5/27/2020 stack test of scrubber #5 passed total chromium NESHAP limit and the PTI 386 -85A total chromium hourly and TPY limits.

#### Safety apparel required:

Safety glasses with side shields, hearing protection for some parts of the plant.

# NOTE: A respirator would be required to closely approach the cadmium plating processes, but the cadmium plating wet scrubber can be approached without a respirator.

#### **Odor evaluation:**

- Time of evaluation on 2/7/2024: 9:54 AM.
- Weather conditions: Mostly cloudy and 37 degrees F, with winds out of the SE at 0-5 miles per hour.
- Route taken: Northward on S. Michigan Ave., westward on W. Brooks Street, southward on Walnut, and east on Livingston.

## No odors were detected offsite.

#### Arrival:

#### The AQD was represented by inspector Dan

McGeeArrival on 2/7/2024: 9:56 AM.

- Visible emissions: None.
- Odors detected: A brief level 1 acidic odor in the parking lot north of the plant.
- Weather conditions: Mostly cloudy and 37 degrees F, with winds out of the SE at 0-5 miles per hour.

#### The AQD 0 to 5 odor scale is as follows:

- 0 Non-Detect
- 1 Just barely detectable
- 2 Distinct and definite odor
- 3 Distinct and definite objectionable odor
- 4 Odor strong enough to cause a person to attempt to avoid it completely
- 5 Odor so strong as to be overpowering and intolerable for any length of time

Upon entering the lobby, D. McGeen explained the reason for the visit. He brought identification, per procedure, but is well known at this facility. He met with Environmental Manager & Waste Treatment Manager Scott Wright, who accompanied him through the facility.

#### Checklist of requirements of FACD for chrome plating scrubbers #3, 4, and 5:

https://intranet.egle.state.mi.us/maces/WebPages/ViewActivityReport.aspx?ActivityID=24... 4/30/2024

FACD Paragraph	Summary Of Requirement	Comments	Complies?
5.3(a)	DCP shall have a plan that identifies current ductwork within the building from the chrome tanks to the rooftop ductwork and on the rooftop between the chrome tanks and the control [device]. DCP shall mark and maintain identifying descriptions or markings on each segment. The plan shall be updated, as necessary.	DCP has done and continues to do this. The AQD confirmed that segments are still being labeled whenever a new segment is added as part of a repair.	Yes
5.3(b)	DCP shall inspect all ductwork and control equipment at the Property each day of production to identify any release of an air contaminant that fails to be conveyed to the control equipment for control and removal. All releases must be repaired within 48 hours of being identified. DCP shall maintain a written record that identifies the person(s) conducting the inspection, any release(s), the ductwork segment for each release, and the date any release is repaired.	DCP has done and continues to do this. The last reported leak was 10/28/2021, on segment NH2. The AQD examined rooftop ductwork during the inspection but found no leaks,	Yes
5.3(c)	If the [Department] identifies on three separate dates within any three-year period that releases from the ductwork were not identified, documented, or repaired as required under Para. 5.3(b), within 90 days of receiving notice from the [Department] of the violations, DCP shall submit evidence that it has done one of the 3 following plans: i. installed demisters on all chrome plating processes associated with the ductwork where the release was; ii. is using surfactants on all chrome plating processes associated with the ductwork where the release was, or iii. replaced all ductwork for the chrome plating processes associated with the release(s).	Not applicable (NA) at this time, as this has not occurred.	NA
	DCP may propose an alternate control technology.		

5.3(d)	For each chrome plating tank where surfactant is used, DCP shall establish and maintain ongoing recordkeeping of quantities of surfactants purchased and used, and monitoring of surface tension consistent with NESHAP requirements.	NA at this time, as use of surfactants in the west plant was phased out from 2019-2020, and trial use of surfactants in the east plant's Tank 12 had ceased prior to that.	NA
5.3(e)	DCP shall replace each ductwork segment within 60 days for which 10 releases have been identified.	DCP has replaced ductwork sections several years ago before they could near 10 releases. Other ductwork is relatively new, having been replaced following the 4/27/2021 fire.	Yes
5.3(f)	Within 60 days of the Effective Date of FACD, DCP shall submit a professionally prepared plan identifying the current exit points of all process equipment to the ambient air through building sidewalls and roof. DCP shall mark and maintain identifying descriptions or markings on exit points, pipes, stacks, or vents. This plan shall be updated as necessary.	DCP has done this.	Yes
5.3(g)	Within 60 days after Effective Date, DCP shall submit an updated SOP to identify appropriate pressure drop for each scrubber, manufacturer recommendations on frequency of scrubber wash and acid wash cycles and outline preventative maintenance of the air pollution control equipment, ductwork, and chrome plating tanks.	DCP has done this.	Yes
5.3(h)	The AQD may require DCP to conduct acceptable performance tests at the operator's or owner's expense, as required by Mich Admin Code R 336.2001 and R 336.2003. The Defendant shall submit an acceptable stack test protocol not less than 60 days in advance of the proposed test date.	NA, as the AQD is not requiring stack testing at this time.	NA

5.3(i)	DCP shall notify the AQD Project Coordinator by phone or email not less than one business day in advance of any material change or alteration of DCP's air quality process, devices, control equipment, structures, or materials, and in writing within 7 business days, together with an explanation of same, addressing applicable Part 55 (air pollution control) rules and the chrome NESHAP requirements.	NA, as the AQD has not been informed of any material change or alterations as described	NA
5.3(j)	DCP shall comply with air use permits to install for chrome plating processes at the property.	DCP appeared to be meeting this requirement.	Yes

The air-related portions of the FACD focus on the chrome plating tanks and scrubbers at DCP. The east ductwork on the east roof was replaced in October 2015. It leads to the north scrubber, #4. The west ductwork on the east roof was replaced around October 2017. It leads to the south scrubber, #3. Following the 4/17/2021 fire which damaged the original scrubber #3, that scrubber and some of the associated rooftop ductwork were replaced.

The ducts and the new scrubber #3 have been coated with a white primer and a white topcoat, which is UV-resistant. This is said to protect the PVC plastic from degradation and prolong its service life.

#### 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. 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).

The east half of the plant is where aviation parts are plated. DCP's 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. Therefore, DCP does not use fume suppressant in the east plant.

See section above for FACD compliance checklist.

PTI 367- 83B SC	Requirement	Comments	Complies?
15			Yes

#### PTI 367-83B Special Conditions (SC) compliance check:

	The chromic acid emission from the chrome plating tanks shall not exceed 0.071 milligrams per cubic meter, corrected to 70° F and 29.92 inches Hg.	The new scrubber #3 results from the12/15/2021 stack test were 0.013 mg/m3, or 18.3% of limit. Scrubber #4 results from the 6/24/2021 stack test were 0.004 mg/m3, or 5.6% of limit.	
16	There shall be no visible emissions from the chrome plating operations.	There were no visible emissions from either scrubber #3 or 4.	Yes
17	Rules 1001, 1003 and 1004 - Verification of chromic [acid] emission rates from the chrome plating operations by testing, at owner's expense, in accordance with Commission requirements, may be required for operating approval. Verification of emission rates includes the submittal of a complete report of the test results. If a test is required, stack testing procedures and the location of stack testing ports must have prior approval by the District Supervisor, Air Quality Division, and results shall be submitted within 120 days of the written requirement for such verification.	NA, as stack testing is not required at this time.	NA
18	Applicant shall not operate the chrome plating tanks unless the wet scrubbers are installed and operating properly.	The wet scrubbers #3 and 4 appeared to be installed and operating properly.	Yes

#### While on the roof, data was collected as follows:

- Scrubber #3 (south scrubber) visible emissions: 0% opacity
- Scrubber #3 pressure drop:
  - Stage 1: 0.50", water column (w.c.)
  - Stage 2: 2.35", w.c.
  - Stage 3: 0.0", w.c. -- pressure drop gauge had moisture in it, the AQD requested corrective action.
  - Total pressure drop 3.4" w.c.
- Scrubber #3 acceptable pressure drop range: 2.02 + or 2.0", w.c., as determined during the 12/15/2021 compliance stack testing of the new scrubber #3.
- Scrubber #4 (north scrubber) visible emissions: 0% opacity
- Scrubber #4 pressure drop: 2.0", w.c.
- Scrubber #4 acceptable pressure drop range: 3.50 + or 2.0", w.c., as determined by the 6/24/2021 compliance stack testing pf scrubber #4.

#### Operating status of the east plant's chrome plating tanks (Depts. 1 and 2) at this time:

- Tank Cr-1 Plating.
- Tank Cr-2: Plating
- Tank Cr-3: Plating
- Tank Cr-4 Plating
- Tank Cr-6: Operating but not plating. Tank Cr-6 is made of titanium, which is more resistant to corrosion from chromic acid than ordinary steel.
- Tank Cr-8: Plating
- Tank Cr-9: Plating
- Tank Cr-11: Plating. Tank Cr-11 is a long, narrow titanium steel tank in the southeast corner of the east plant.
- Tank Cr-12: Plating. Tank C-12 had been used in the past as a trial tank for surfactants, but not in recent years.

#### Chromium NESHAP recordkeeping for east plant (which includes Depts. 1 and 2):

#### **NESHAP-required maintenance records:**

Note: The EQP 5708 form, Composite Mesh-Pad Systems or Combination Packed-Bed Scrubber/Composite Mesh-Pad Systems Operation and Maintenance Record was developed by the Michigan Department of Environmental Quality (DEQ), so facilities could document operation and maintenance activities on control devices for chrome plating tanks.

<u>Scrubber #3 EQP 5708 form</u>: Provided for 4th Quarter 2023. It listed maintenance inspections performed on 9/29 (within the 3rd Quarter) and 12/14/2023, including calibration of pressure drop gauges. No repairs were reported.

Note: The form for the new scrubber #3 lists the installation date as 10/10/1998, the date its predecessor was installed. At some point, this should be corrected to the date in 2021 when the new scrubber was installed.

<u>Scrubber #4 EQP 5708 form:</u> Provided for 4th Quarter 2023. It listed a maintenance inspection performed on 12/14/2023, including calibration of pressure drop gauges. No repairs were reported.

<u>NESHAP-required pressure drop records:</u> DCP has developed their own pressure drop recordkeeping form to capture data for all 3 scrubbers, in place of the EQP 5709 form which was developed by the DEQ. Please see attached.

Scrubber No. 3, south scrubber recordkeeping was provided for January 2024. 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 2.6-3.4 inches, w.c. The 12/15/2021 stack test results of the new scrubber #3 set a site-specific operating parameter for this scrubber of 3.20 + or - 2.0 inches, and DCP appeared to be within this range. This 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 sitespecific 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) recordkeeping was provided for the month of January 2024. The pressure drop readings on days of operation ranged from 2.0 to 2.9 inches, w.c. The 6/24/2021 stack test sets a site-specific operating range of 3.5 + or - 2.0 inches, w.c., and they appeared to be within this range. This appears to be in keeping with Sections 63.343(c)(ii) and (iii) of the 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).

Compliance status with chromium NESHAP, Subpart N emission limit:

Results from 12/15/2021 stack test of new scrubber #3:

New scrubber #3 (south scrubber	Total chromium NESHAP limit
Limit	0.011 mg/dscm
Results	0.007 mg/dscm
Pass?	Yes

# Results from 6/24/2021 stack test of scrubber #4:

Scrubber #4 (north scrubber),	Total chromium NESHAP limit
with the temporary addition of tank Cr-11	
Limit	0.011 mg/dscm
Results	0.002 mg/dscm
Pass?	Yes

#### Chrome plating PBS scrubber #5, 40 CFR Part 63, Subpart N; PTI No. 386-85A; FACD Case No. 03-1862 -CE

- Scrubber #5 associated with: Tanks 5, 7, 15, and 17, aka Dept. 3
- Use of fume suppressants: phased out 2019-2020

# See FACD section earlier in this report for FACD checklist.

#### PTI 386-85A compliance checks with special conditions:

PTI 386- 85A SC	Requirement	Comments	Complies?
13	The total chromium emission rate from the hard chrome plating operation shall not exceed 0.016 pounds per hour nor 0.06 tons per year.	<ul> <li>Results from 5/27/2020 stack test of scrubber #5 indicated:</li> <li>2.08 X 10-4 lbs/hr, below limit of 0.016 lbs/hr</li> <li>9.11 X 10-4 TPY, below limit of 0.06 tons per year (TPY)</li> </ul>	Yes
14	Visible emissions from the hard chrome plating operation shall not exceed 0% opacity.	Scrubber #5 had 0% opacity.	Yes

15	Applicant shall not operate the hard chrome plating operation unless the scrubbers are installed and operating properly.	Scrubber #5 appeared to be operating properly.	Yes
16	Applicant shall equip and maintain each scrubber with a liquid flow indicator as approved by the District Supervisor.	Water flow measuring devices for scrubber No. 5 have reportedly not lasted long in the past, due to corrosion or due to clogging. Since DCP can correlate 65.0 Hz to 280-320 gallons per minute of water, with changes in Hz corresponding to changes in water flow rate, this appears to be an acceptable surrogate. Additionally, the device that monitors Hz should not be at risk of failure due to corrosion or sediment build up.	Yes
17	Rules 1001, 1003 and 1004 - Verification of total chromium emission rates from the hard chrome plating operation by testing, at owner's expense.in accordance with Department requirements, may be required for operating approval. Verification includes the submittal of a complete report of the test results. If a test is required, stack testing procedures and the location of stack testing ports must have prior approval by the District Supervisor, Air Quality Division, and results shall be submitted within 120 days of the written requirement for such verification.	NA, as stack testing is not being required at this time.	NA
18	The exhaust gases from the hard chrome plating operation shall be discharged unobstructed vertically upwards to the ambient air from stacks with an exit point not less than 24 feet above ground level.	The permit application indicates the existing stack is 24.0 feet in height.	Yes

#### Scrubber #5 data was collected as follows:

- Scrubber #5 pressure drop: 2.7-2.8 inches, w.c.
- Posted acceptable range: 1.7 + or 2.0 inches, w.c, based on 5/27/2020 stack test.
- Water pump: 46.0 Hertz (surrogate from stack test for water flow, due to water flow meters frequently breaking down in corrosive environment, in the past).

# There is a small section of the west roof where the scrubber #5 ductwork and exhaust stack can be accessed.

- Visible emissions: 0% opacity.
- Condition of ductwork: Free of leaks. Rust on a steel band was from corrosion of metal, not chromic acid.
- Ducts labeled per Paragraph 5.3(a) of the FACD? Yes.

#### Operating status of west plant's chrome plating tanks:

- Tank Cr-5: Plating.
- Tank Cr-7: Plating
- Tank Cr-15: Operating but not yet plating, as a plated part was still drying above the tank.
- Tank Cr-17: Plating

#### Recordkeeping for west plant (which includes Dept. 3):

Recordkeeping example:

EQP 5708 form, Composite Mesh-Pad Systems or Combination Packed-Bed Scrubber/Composite Mesh-Pad Systems Operation and Maintenance Record was developed by the Michigan Department of Environmental Quality (DEQ), so facilities could document operation and maintenance activities on control devices for chrome plating tanks.

Scrubber #5 EQP 5708 form: Provided for 4th Quarter 2023.

<u>NESHAP-required pressure drop records:</u> DCP has developed their own pressure drop recordkeeping form to capture data for all 3 scrubbers, in place of the EQP 5709 form which was developed by the DEQ. Please see attached.

Scrubber No. 5 recordkeeping was provided for the month of January 2024. 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 2.5-3.5 inches, w.c. The most recent scrubber #5 stack test results set a site-specific operating parameter for this scrubber of 1.7 + or - 2.0 inches, and these values were within the range. This 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).

Emission limit under the chromium NESHAP, Subpart N:

# Results from 5/27/2020 stack test of scrubber #5:

Scrubber #5 (west plant scrubber)	Total chromium NESHAP limit
Limit	0.011 mg/dscm
Results	0.003 mg/dscm
Pass?	Yes

#### Chrome plating scrubber #6, 40 CFR Part 63, Subpart N; PTI No. 386-85A; FACD Case No. 03-1862-CE:

Chrome plating scrubber #6 is subject to the requirements of the chrome NESHAP, 40 CFR Part 60, Subpart N, as well as Michigan permit to install (PTI) No. 386-85A, and the FACD. However, it has not been used in many years, and is said to have provided spare parts for scrubber #5. The chrome plating tanks which would exhaust to it have also not been used in a number of years. A new air permit would be required if this scrubber were to operate again.

#### Chrome redox tank, PTI 672-88, or MAPC Rule 285(2)(m):

#### Control device: MAPCO mist eliminator

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 outside, through the west roof.

#### PTI 672-88 compliance checklist:

Requirement

Comments

Complies?

PTI 672- 88 SC			
14	There shall be no visible emissions from the chrome redox operation, hereinafter "equipment."	There were no visible emissions from the exhaust stack.	Yes
15	Applicant shall not operate the equipment unless the mist eliminator is installed and operating properly.	The mist eliminator appeared to be operating properly. Efficiency listed as 91% in DCP 10/26/1988 letter to the AQD.	Yes
16	The disposal of collected air contaminants shall be performed in a manner which minimizes the introduction of air contaminants to the outer air.	Collected metals are run through a filter and deposited in a gondola to be disposed of as hazardous waste.	Yes
17	The exhaust gases from the equipment shall be discharged unobstructed vertically upwards to the ambient air from a stack with a maximum diameter of 12 inches at an exit point not less than 28 feet above ground level.	The exhaust stack protruding from the west roof appeared to be of appropriate diameter and height. There was a rain cap on this stack, however, and the PTI requires it to be unobstructed. After the inspection, DCP was asked to remove the rain cap in order to avoid a VN. They indicated that they did not believe the chrome redox stack had a rain cap and would investigate. The rain cap was subsequently replaced with a rain sleeve, per a photo emailed to the AQD on 3/14/2024.	Yes
18	Applicant shall not substitute any raw materials or process for those described in this permit application which would result in an appreciable change in the quality or any appreciable increase in the quantity of the emission of an air contaminant without prior notification to and approval by the Air Quality Division.	S. Wright advised that DCP once added SO2 to the process, but replaced it with bisulfite and acid prior to his arrival 7-8 years ago, because the SO2 was a dirtier material to work with. It is not immediately clear if this substitution would result in appreciable change in the quality or any appreciable increase in the quantity of an air contaminant. BB&E submitted on 4/10/2024 a demonstration that the substitution of raw materials did not result in a meaningful change in the quality or quantity of a toxic air contaminant. This is undergoing review.	Undergoing review

The AQD is requesting a demonstration from DCP that the substitution of bisulfite and acid for the raw material sulfur dioxide which was originally used in the process has not resulted in an appreciable change in the quality or any appreciable increase in the quantity of an air contaminant. On 3/14/2024, D. McGeen emailed to S. Wright the MAPC Rule 285(2)(c) exemption for no meaningful change and the Rule 285(3) guidance on demonstrating "no meaningful change."

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

### Control: wet scrubber

#### PTI 673-88 compliance checklist:

PTI 673- 88 SC	Requirement	Comments	Complies?
14	The particulate emission rate from the metal cleaning and electroless nickel plating operation, hereinafter "equipment", shall not exceed .0167 pounds per hour nor .0613 tons per year.	A stack test would be necessary to determine compliance status.	Unknown
15	Visible emissions from the equipment shall not exceed a 6-minute average of 20% opacity, except as specified in Rule 301(1)(a).	Exhaust from the stack was at 0% opacity, as seen from the east roof on 27, and from ground level on 2/29.	Yes
16	Rules 1001, 1003 and 1004 - Verification of particulate emission rates from the equipment by testing, at owner's expense.in accordance with Department requirements, may be required for operating approval. Verification includes the submittal of a complete report of the test results. If a test is required, stack testing procedures and the location of stack testing ports must have prior approval by the District Supervisor, Air Quality Division, and results shall be submitted within 120 days of the written requirement for such verification.	NA, as stack testing is not being required at this time.	NA
17	Applicant shall not operate the equipment unless the wet scrubber is installed and operating properly.	The wet scrubber appeared to be installed and operating properly. It does not have a pressure drop gauge, but the PTI does not require one.	Yes
18	The disposal of collected air contaminants shall be performed in a manner which minimizes the introduction of air contaminants to the outer air.	The return visit to site on 2/29/2024 showed that there were pale, green stains from hatches on the nickel scrubber. These did not appear to be recent. The color appeared consistent with nickel oxide and indicated past release(s) of collected air contaminants from the wet scrubber.	No

19	19 The exhaust gases from the equip discharged unobstructed vertically ambient air from a stack with a ma of 30 inches at an exit point not les above ground level.	ment shall be v upwards to the ximum diameter as than 19 feet	The scrubber exhaust outlet appeared to meet these dimensions.	Yes
2(	20 Applicant shall not substitute any process for those described in this application which would result in a change in the quality or any appre the quantity of the emission of an without prior notification to and ap Quality Division.	raw materials or permit in appreciable ciable increase in air contaminant proval by the Air	The process is said to be unchanged.	Yes

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 were also nickel rinse tanks, which had no fugitive emissions.

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 the AQD does not have delegated authority from the Environmental Protection Agency to regulate this Area Source MACT

S. Wright advised that each year, they fill out a form for Subpart WWWWWW for the nickel plating process and keep the record onsite. There is said to be no change from year to year.

<u>Note:</u> on 2/29/2024, D. McGeen returned to the site to view the nickel scrubber and its ductwork from ground level, as this had been overlooked on 2/7. He arrived at 1:38 PM, signed in at the plant, and met with S. Wright. They walked around to the south outer wall of the plant, as the scrubber is located outdoors.

The nickel plating ductwork showed no signs of leakage. The nickel scrubber itself had dried, pale green stains of materials from the lower right corner of two access panels, one above the other. The stained areas also appeared to coincide with a corroded appearance to the painted finish of the scrubber. Please see attached photos, summarized below:

- Photo 1: Lower portion of nickel scrubber, with pale green stains indicative of nickel oxide.
- Photo 2: Nickel scrubber looking upwards, with stains from upper hatch/panel, and corrosion to painted surface.
- Photo 3: Middle elevation area of nickel scrubber.
- Photo 4: Nickel ductwork in foreground, with nickel scrubber in background.

The pale green staining was suspected by the AQD to be from nickel condensate or scrubber wastewater containing nickel. Nickel compounds are on the U.S. EPA list of HAPs. Per Water Resources Division's Carla Davidson, the pale green color is indicative of nickel oxide. This indicates a violation of MAPC Rule 370 and PTI 673-88, Special Condition (SC) 18, which both require that collected air contaminants be disposed of in such a way as to avoid introduction of the air contaminants to the outer air. This also violates MAPC Rule 910, which requires that an air-cleaning device shall be installed, maintained, and operated in a satisfactory manner.

A Violation Notice (VN) will be sent for MAPC Rules 370 and 910 as well as PTI 673-88, SC 18.

#### Cadmium plating, PTI 675-88A, 40 CFR Part 63, Subpart WWWWWW:

#### Control: wet scrubber

# <u>SAFETY NOTE:</u> Do not closely approach the cadmium plating processes without a respirator. The wet scrubber can be approached, however.

#### PTI 675-88A compliance checklist:

PTI 675- 88 SC	Requirement	Comments	Complies?
15	There shall be no visible emissions from the low embrittlement cadmium operation, hereinafter "equipment."	There were no visible emissions.	Yes
16	Applicant shall not operate the equipment unless the wet scrubber is installed and operating properly.	The wet scrubber appeared to be installed and operating properly. The wet scrubber appeared to be installed and operating properly. It does not have a pressure drop gauge, but the PTI does not require one.	Yes
17	The disposal of collected air contaminants shall be performed in a manner which minimizes the introduction of air contaminants to the outer air.	Wastewater is treated onsite, and waste solids are disposed of as hazardous waste, due to metals content.	Yes
18	The exhaust gases from the equipment shall be discharged unobstructed vertically upwards to the ambient air from a stack with a maximum diameter of 16 inches by 21 inches at an exit point not less than 11 feet above ground level.	The stack is considerably higher than 11 feet above ground level.	Yes

Inside the plant, the cadmium scrubber's 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. They do not appear to represent an actual leak in the exhaust stack. The cadmium scrubber uses water as the scrubbing solution.

The cadmium scrubber is located inside the plant, but some of the ductwork extends outside of the plant, for a short, horizontal run. The exterior ductwork has been painted with UV-resistant coatings.

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

S. Wright advised that each year, they fill out a form for Subpart WWWWWW for the cadmium plating process and keep the record onsite. There is said to be no change from year to year.

<u>Note:</u> On 2/29, D. McGeen returned to the site, to check the cadmium ductwork, which had been overlooked on 2/7. This ductwork must be observed from the south exterior side of the plant, as it

protrudes from the south wall. No signs of leakage were visible from the cadmium ductwork, which had been coated with white paint since the 2021 AQD inspection.

#### Cooling tower, PTI 677-88:

#### PTI 677-88 compliance checklist:

PTI 675-88 SC	Requirement	Comments	Complies?
14	There shall be no visible emissions from the cooling tower.	There was 0% opacity from the cooling tower.	Yes

#### BACT 72-A vapor degreaser, MAPC Rules 290 and 708:

S. Wright said they have been operating under burdensome restrictions with the batch vapor degreaser, even though they are no longer using trichlorethylene (TCE), and they would like to try to have those restrictions lifted. D. McGeen explained that since they are no longer using a one of the solvents identified in the applicability section of 40 CFR Part 63, Subpart T, they are no longer subject to those NESHAP requirements. He had brought tables showing the requirements of MAPC Rules 290 and 708, which the degreaser is currently subject to, so that DCP would be able to understand those regulatory obligations.

S. Wright advised that they have recently lowered the temperature of the degreaser's chiller system, to try to reduce evaporation of the NEXT® 5408 solvent which the degreaser uses. He said this appears to have been successful, as they are reducing the amount of solvent they need to add to the machine by about 1/3.

S. Wright advised that the manufacturer of the NEXT® 5408 solvent has announced plans to tweak the formula of this solvent slightly. It will still keep the same name, however. I advised S. Wright to document the use and emissions of the reformulated solvent like they have been doing with the current version, and to give the AQD a heads up prior to starting use of the reformulated version.

To reduce emissions from vapor degreasing with the NEXT® 5408 solvent, DCP has a daily operating schedule for the degreaser, where there are just two relatively narrow windows in which parts can be cleaned:

- 6:00 AM to 10:30 AM, and
- 3:30 PM to 5:30 PM.

During these two operating windows, which add up to 6.5 hours per day, the vapor degreaser can be used for up to 3.5 hours to clean parts. In these windows, the unit is said to be in either operating mode, when cleaning parts, or in idling mode. For the rest of the day, the degreaser is in chill mode; that is, the solvent is unheated, and the chiller system is in use, to control emissions.

#### There are 3 modes for running the degreaser:

• Operating mode: when the solvent in the degreaser is boiling, the chiller system is in use to control emissions, and the degreaser is cleaning parts.

- Idling mode: when the solvent is boiling, and the chiller system is in use to control emissions, but no parts are being cleaned.
- Chill mode: when the solvent is not being heated, and the chiller system is in use, to control emissions.

# At 10:25 AM, the unit was in chill mode, i.e. not heating the solvent or treating parts, but with the chiller system still turned on, to control emissions. There was an odor of NEXT® 5408 solvent detected at the perimeter of the curtained enclosure around the degreaser.

#### Data was collected as follows:

- Evaporator outlet plate temperature: 0 degrees F.
- Digital solvent sump process value (PV): 95 degrees F
- Digital solvent sump set value (SV): 101 degrees F
- Cooling water system: 39 degrees F.

Foam material used to improve the seal along the leading edges of the sliding doors had been cut away to allow installation of bolts, but these openings did not go all the way through the foam, i.e. there was no opening all the way through the seal, and it was not compromised. D. McGeen misinterpreted the openings as going all the way through the seal on the day of the inspection, but this was clarified by S. Wright during a 3/18/2024 phone conversation.

Photo 5 shows new chiller plates replacing condenser coils inside the BACT-72A vapor degreaser. The solvent was not boiling, as the unit was in chill mode.

Rule 290 Subrule	Summary Of Requirement	Comments	Complies?
290(1)	Rule 290 does not apply if prohibited by Rule 278 and unless requirements of Rule 278a have been met.	BACT-72A is not a major HAPS source.	Yes
290(2)	Rule 201 does not apply to emission units in 290(a) if conditions listed in 290(b), (c), (d), and (e) are met.	Conditions listed in 290(b), (c), (d), and (e) are met.	Yes
290(2)(a) (i)	Emission unit emitting only noncarcinogenic VOCs or noncarcinogenic materials listed in Rule 122(f) as not contributing appreciably to the formation of ozone, if total uncontrolled emissions are not more than 1,000 lbs/month.	Total uncontrolled emissions were < 1,000 lbs/month.	Yes
			Yes

#### MAPC Rule 290 checklist:

Emission unit must have CO2 equivalent (CO2e) emissions less than 6,250 tons/month, and uncontrolled emissions of all other air contaminants are less than 1,000 lbs/month.	Unit does not burn fossil fuel, and CO2e emissions are expected to be < 6,250 tons/month; Trans-DCE and all other air contaminants were < 1,000 lbs/month.	
TACs, excluding noncarcinogenic VOCs and noncarcinogenic materials listed in Rule 122 (f) as not contributing appreciably to the formation of ozone, with ITSL greater than or equal to 0.04 ug/m3 and less than 2.0 ug/m3, are limited to 20 lbs/month uncontrolled emissions.	No TACS in NEXT <sup>®</sup> 5408 with ITSL greater than or equal to 0.04 ug/m3 and less than 2.0 ug/m3.	NA
TACs with IRSLs greater than or equal to 0.04 ug/m3, uncontrolled emissions must be below 20 lbs/month.	Neither Trans-DCE nor Tetrafluoroethyl trifluoroethyl ether have IRSLs.	NA
No emissions allowed of TACs, excluding noncarcinogenic VOCs and noncarcinogenic materials listed in Rule 122(f) as not contributing appreciably to the formation of ozone with an ITSL or IRSL less than 0.04 ug/m3.	None of the compounds in NEXT <sup>®</sup> 5408 have an ITSL or IRSL less than 0.04 ug/m3.	NA
For total mercury, emissions shall not exceed 0.01 lbs/month.	No mercury is known to be in NEXT® 5408.	NA
For lead, emissions shall not exceed 16.7 lbs/month.	No lead is known to be in NEXT® 5408.	NA
Any emission unit emitting only particulates without iRSLS and other air contaminants exempted under Rue 290(2) (a)(i) or (ii) must comply with subrules (A) through (C).	NEXT <sup>®</sup> 5408 is not expected to be a source of particulate emissions.	NA
290(2)(b) requirements apply to emission units utilizing control equipment.	BACT-72A does not have add- on control equipment.	NA
	Emission unit must have CO2 equivalent (CO2e) emissions less than 6,250 tons/month, and uncontrolled emissions of all other air contaminants are less than 1,000 lbs/month. TACs, excluding noncarcinogenic VOCs and noncarcinogenic materials listed in Rule 122 (f) as not contributing appreciably to the formation of ozone, with ITSL greater than or equal to 0.04 ug/m3 and less than 2.0 ug/m3, are limited to 20 lbs/month uncontrolled emissions. TACs with IRSLs greater than or equal to 0.04 ug/m3, uncontrolled emissions must be below 20 lbs/month. No emissions allowed of TACs, excluding noncarcinogenic VOCs and noncarcinogenic materials listed in Rule 122(f) as not contributing appreciably to the formation of ozone with an ITSL or IRSL less than 0.04 ug/m3. For total mercury, emissions shall not exceed 0.01 lbs/month. For lead, emissions shall not exceed 16.7 lbs/month. Any emission unit emitting only particulates without iRSLS and other air contaminants exempted under Rue 290(2) (a)(i) or (ii) must comply with subrules (A) through (C). 290(2)(b) requirements apply to emission units utilizing control equipment.	Emission unit must have CO2 equivalent (CO2e) emissions less than 6,250 tons/month, and uncontrolled emissions of expected to be < 6,250 tons/month.Unit does not burn fossil fuel, and CO2e emissions are expected to be < 6,250 tons/month; Trans-DCE and all other air contaminants were < 1,000 lbs/month.TACs, excluding noncarcinogenic VOCs and noncarcinogenic materials listed in Rule 122 (f) as not contributing appreciably to the formation of ozone, with ITSL greater than or equal to 0.04 ug/m3 and less than 2.0 ug/m3, are limited to 20 lbs/month uncontrolled emissions must be below 20 lbs/month.No TACS in NEXT* 5408 with not account of use and to 20 lbs/month uncontrolled emissions must be below 20 lbs/month.No emissions allowed of TACs, excluding noncarcinogenic VOCs and noncarcinogenic romaterials listed in Rule 122(f) as not contributing appreciably to the formation of ozone with an ITSL or IRSL less than 0.04 ug/m3.No mercury is known to be in NEXT* 5408 have an ITSL or IRSL less than 0.04 ug/m3.For total mercury, emissions shall not exceed 0.01 lbs/month.No mercury is known to be in NEXT* 5408.For lead, emissions shall not exceed 16.7 lbs/month.No lead is known to be in NEXT* 5408.Any emission unit emitting only particulates without iRSLS and other air contaminants exempted under Rue 290(2) (a)(i) or (ii) must comply with subrules (A) through (C).NEXT* 5408 so not have add- on control equipment.290(2)(b) requirements apply to emission units utilizing control equipment.BACT-72A does not have add- on control equipment.

290(2)(c)	Description of emission unit must be maintained through life of equipment.	DCP maintaining description of emission unit including manufacturer's literature, and documentations of enhancements to degreaser.	Yes
290(2)(d)	Records of material use and calculations identifying quality, nature, and quantity of air emissions to demonstrate emissions limits in Rule 290 are met.	Records show compliance with emission limit of < 1,000 lbs/month.	Yes
290(2)(e)	Records shall be maintained on file for most recent 2-year period.	Records have been maintained since switch to NEXT <sup>®</sup> 5408.	Yes

# MAPC Rule 708 checklist for BACT-72A vapor degreaser:

Subrule	Requirement	Comments	Complies?
708(1)	It is unlawful for a person to operate a new open top vapor degreaser unless all of the provisions of the following subrules are met or unless an equivalent control method is approved by the department.	The BACT-72A appeared to be complying with all applicable provisions of Rule 708, please see below. There was not currently an equivalent control method approved by the department (EGLE).	Yes
708(2)	It is unlawful for a person to operate a new open top vapor degreaser unless at least 1 of the following conditions is met:	DCP was meeting more than the minimum requirement of one of the following conditions, as discussed below.	Yes
708(2) (a)	The degreaser is designed such that the ratio of the freeboard height to the width of the degreaser is equal to or greater than 0.75. And if the degreaser opening is more	As indicated by the manufacturer's literature, the BACT-72A had 125% freeboard. This indicates that the ratio of the freeboard height to the width of the BACT-72A vapor degreaser was 1.25, above the required minimum of 0.75. The surface area of the vapor degreaser	Yes

https://intranet.egle.state.mi.us/maces/WebPages/ViewActivityReport.aspx?ActivityID=24... 4/30/2024

	than 10 square feet, the degreaser shall be designed with a powered or mechanically assisted cover.	opening is more than 10 square feet, at 18 square feet, which equates to 1.67 square meters. DCP uses a mechanically assisted working mode cover, and a powered idling mode cover.	
708(2) (b)	The degreaser is equipped with a refrigerated freeboard device.	The vapor degreaser is equipped with a freeboard refrigeration device (FRD). The AQD observed the new chiller plates which DCP had installed to replace the condesner coils. The plates were said to lower the temperature further than the coils. The degreaser was in <i>chill mode</i> during the inspection, where the solvent was not boiling, due to no parts needing to be cleaned and the chiller system was still in use(24 hours/day, 7 days/week), to control emissions.	Yes
708(2) (c)	The degreaser is controlled by a carbon adsorption system with ventilation of more than 50 cubic feet per minute of air/vapor area when the cover is open and with exhaust of less than 25 parts of organic vapor per million parts of air averaged over 1 complete adsorption cycle.	This is nonapplicable (NA). DCP has not chosen this compliance option, as they are already complying with Rule 708(2)(a) and (b).	NA
708(2) (d)	The degreaser is controlled by an equivalent control method approved by the department.	This is NA. An equivalent control method is one of the Rule 708(2) requirements which a subject facility may choose to comply with. DCP has not chosen this compliance option, as they are already complying with Rule 708(2)(a) and (b).	NA
708(3)	It is unlawful for a person to operate a new open top vapor degreaser unless all of the following conditions are met:	DCP appears to be complying with all of the Rule 708(3) requirements, please see discussion below.	Yes
708(3) (a)	A cover shall be installed that is designed to be opened and closed easily without	The BACT-72A has a built-in idling mode cover consisting of bi-parting sliding doors. They cover the unit when it is in chill mode and	Yes

	disturbing the vapor zone. The cover shall be closed at all times, except when processing workloads through the degreaser.	idling mode. They are opened to allow for the parts basket to be lowered into the degreaser, whereupon the parts basket roof forms a working mode cover for the degreaser. Upon removal of the parts basket from the degreaser, the idling mode cover can again be closed.	
		Note: DCP still keeps records on cover condition with the EWI-008-B Working Cover (or Basket Cover) Recordkeeping Form, even though Subpart T, which required the records, no longer applies.	
708(3) (b)	A procedure shall be developed to minimize solvent carryout by doing all of the following:	DCP appears to be doing all of the following.	Yes
708(3) (b)(i)	Racking parts to allow complete drainage.	There were no parts left in the removable parts basket from this morning's operations, so it was not possible to check the orientation or racking of parts to see how they were arranged to facilitate drainage. The AQD was assured that they ensure proper draining of parts.	Yes
708(3) (b)(ii)	Moving parts in and out of the degreaser at a vertical speed of less than 11 feet per minute when a powered hoist is used to raise or lower the parts.	The speed is said to be kept below 11 feet per minute, complying with the above requirement. DCP is continuing to keep the hoist speed records which were required by 40 CFR Part 63, Subpart T, even though Subpart T no longer applies, since the removal of TCE from the degreaser.	Yes
708(3) (b)(iii)	Holding parts in the vapor zone not less than 30 seconds or until condensation ceases.	DCP has said that with the NEXT <sup>®</sup> 5408 solvent, parts are being held in the sump area, or vapor zone, for 2 minutes, above the minimum required 30 seconds.	Yes
708(3) (b)(iv)	Tipping or tumbling parts in a manner such that no pools of organic solvent remain on the cleaned parts before removal.	There were no parts left in the removable parts basket from this morning's operations, so it was not possible to check the orientation or racking of parts to see how they were	Yes

		arranged to facilitate drainage. The AQD was assured that they ensure proper draining of parts.	
708(3) (b)(v)	Allowing parts to dry within the degreaser for not less than 15 seconds or until visually dry.	The time in which parts are allowed to dry within the degreaser freeboard area is sometimes known as dwell time. The AQD was informed that 1 minute and 20 seconds is their standard. DCP was voluntarily keeping copies of the EWI-008C Halogenated Solvent Cleaner NESHAP Dwell Measurement Test Recordkeeping Form, although Subpart T, which required them, no longer applies.	Yes
708(3) (c)	The following control devices shall be installed:	Please see below.	Yes
708(3) (c) (i)	A condenser flow switch and thermostat that shut off the sump heat if the condenser coolant is either not circulating or is too warm.	The degreaser has the appropriate controls, which were identified in the manual. A condenser flow switch and thermostat which shut off the sump heat if the condenser coolant is either not circulating or is too warm are described in DCP's Process Work Instruction, Vapor Degrease, PWI-03 Rev. L document	Yes
708(3) (c)(ii)	If equipped with spray, a spray safety switch that shuts off the spray pump if the vapor level drops excessively.	There is said to be a spray safety switch that shuts off the spray pump if the vapor level drops excessively, documented in the Process Work Instruction: Vapor Degrease, PWI-03, Rev. L. As a safety feature, the spray wand only operates when a spray trigger and a foot pedal are depressed at the same time.	Yes
708(3) (c)(iii)	A vapor level control device that shuts off the sump heat if the solvent vapor level rises above the normal design level.	The vapor degrease is reportedly equipped with a vapor level control device that shuts off the sump heat if the solvent vapor rises above the normal design/operational level., per the PWI-03, Rev. L.	Yes
708(3) (d)	The total workload shall not occupy more than 1/2 of the degreaser's open top area.	There were no parts left in the removable parts basket from this morning's operations, so it was not possible to see if they occupied	Yes

		more than 1/2 of the degreaser's open top area. The AQD was assured that they occupy less than 50% of the area, because sometimes there are only one or a few large parts.	
708(3) (e)	Solvent shall not be sprayed above the vapor level.	Solvent is reportedly not sprayed above the vapor level within the vapor degreaser. The PWI-03, Rev. L states that the hand-held spray wand is only to be used within the confines of the degreaser itself, and always below the vapor level of degreaser solvent.	Yes
708(3) (f)	Solvent leaks shall be repaired immediately.	The AQD could not detect any solvent leaks from the degreaser, at this time. The PWI-03, Rev. L states that solvent leaks must be repaired immediately.	Yes
708(3) (g)	The degreaser shall be operated in such a manner that no water is visibly detectable in solvent exiting the water separator.	The water separator for the degreaser, which is a large metal box on the left end of the degreaser, was sealed shut. The AQD was advised that opening it would be a complex process and did not pursue this. The AQD was told that there was no reason that water should be detectable in the solvent exiting the water separator.	Yes
708(3) (h)	Exhaust ventilation shall not exceed 65 cubic feet per minute per square foot of degreaser open area, unless necessary to meet OSHA requirements.	The BACT-72A vapor degreaser does not have exhaust ventilation, so this requirement is NA. Note: DCP still does weekly tracking of indoor wind speed, in the vicinity of the degreaser, although Subpart T which required this no longer applies.	NA
708(3) (i)	Waste solvent shall be stored only in closed containers, unless demonstrated to be a safety hazard and disposed of in a manner such that not more than 20% by weight is	The AQD was shown a sealed 55-gallon drum in which waste NEXT® 5408 solvent was stored. No odor was detectable from the drum.	Yes

	allowed to evaporate into the atmosphere.		
708(4)	A person responsible for the provisions of this rule shall develop written procedures for the operation of all such provisions, and such procedures shall be posted in an accessible, conspicuous location near the vapor degreaser.	<ul> <li>DCP has posted, near the hoist controls, multipage, laminated documents, which provided instructions on proper start up and operation of the degreaser, as follows:</li> <li>Vapor Degreaser Set-Up &amp; Operation.</li> <li>Process Work Instruction: Vapor Degrease, PWI-03, Rev. L, dated 16/2020.</li> <li>Environmental Work Instruction: Vapor Degreaser Management, EWI-008, Rev. B, dated 12/20/2019.</li> </ul>	Yes
708(5)	The provisions of this rule shall not apply to an open top vapor degreaser having an air/vapor interface of less than 10 square feet, if the degreaser complies with the provisions of subrules (3) and (4) of this rule.	The BACT-72A vapor degreaser has an air/vapor interface of 18 square feet, so Rule 708(5) is NA.	NA
708(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.	Because the BACT-72A no longer uses TCE, it is not subject to Subpart T. Therefore, Rule 708 is applicable.	Yes

## **Departure:**

- Leave plant at: 12:43 PMOdors detected: None.
- Visible emissions detected: None.

#### **Compliance concerns:**

#### The compliance concerns identified from the inspection were:

- The AQD observed a rain cap on what appeared to be the exhaust stack for the chrome redox operation, whereas PTI 672-88, SC 17 requires the exhaust from the equipment to be discharged unobstructed vertically upwards. After the inspection, DCP was asked to remove the rain cap in order to avoid a Violation Notice. They indicated that they did not believe the chrome redox stack had a rain cap and would investigate.
- Over 7-8 years ago, DCP replaced SO2 in the chrome redox process with bisulfite and acid, as SO2 was said to be a dirtier material. It is not clear if the substitution has resulted in an appreciable change in the quality or an appreciable increase in the quantity of air contaminants. The AQD will request a demonstration of what effects, if any this had on emissions, although the company could also do a "no meaningful change" demonstration.
- The pressure drop gauge for the third stage of the new scrubber #3 read 0.0", w.c., and appeared to have water in the line and gauge. However, the total pressure drop reading for all 3 stages still appeared to be functioning properly. The AQD asked the company to follow up on this.
- The pale green stains on the side of the nickel scrubber are indicative of nickel oxide, and indicate noncompliance with MAPC Rules 370 and 910, as well as PTI 673-88, SC 18. A VN will be sent.

#### Post-inspection follow-up:

- On 3/14/2024, S. Wright emailed to D. McGeen a photo of the exhaust stack for the chrome redox mist eliminator or scrubber, showing that the rain cap has now been removed and replaced by a rain sleeve, which is acceptable. This satisfies the requirement of PTI 672-88, SC 18 for exhausting unobstructed vertically upwards.
- On 3/14, S. Wright emailed a photo of a new layer of foam seal for the leading edge of the vapor degreaser's sliding doors. On 3/18, during a phone call, he clarified for D. McGeen that foam which had been cut away to allow for bolt installation prior to the 2/7 inspection did not constitute an opening going all the way through the foam seal. Therefore, there were no actual openings through which fugitive solvent emissions could escape.
- On 3/14, S. Wright emailed pressure drop records for the entire 2023 calendar year for all 3 chrome plating scrubbers. These will be reviewed as time and resources allow.
- On 3/18, S. Wright described the efforts to clean the nickel scrubber exterior surface and apply fresh paint.

#### **Conclusion:**

One instance of noncompliance was identified, for pale green stains indicative of nickel oxide on the outside of the nickel scrubber. A VN was sent for PTI 673-88, SC 18, and for MAPC Rules 370 and 910.



**Image 1(1) :** Lower portion of nickel scrubber, with pale green stains indicative of nickel oxide.



**Image 2(2)**: Nickel scrubber looking upwards, with pale green stains and corrosion from upper hatch or panel.



Image 3(3) : Middle elevation area of nickel scrubber.



**Image 4(4) :** Nickel ductwork in right foreground, with nickel scrubber in background. Exhaust blower motor and newer ductwork (gray in color) reported to be installed in 2021.



Image 5(5): New chiller plates replacing condenser coils inside BACT-72A. Solvent was not boiling, as the unit was in chill mode.

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DATE 4/30/2024

SUPERVISOR ĊB