Statement of Basis

Permit to Construct No. P-2012.0031
Project ID 61060

Northwest Chrome, Inc.
New Plymouth, Idaho

Facility ID 075-00017

Final

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Shawnee Chen, P.E.
Senior Air Quality Engineer

The purpose of this Statement of Basis is to satisfy the requirements of IDAPA 58.01.01.et seq, Rules for the Control of Air Pollution in Idaho, for issuing air permits.

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ACRONYMS, UNITS, AND CHEMICAL NOMENCLATURE

AAC	acceptable ambient concentrations
AACC	acceptable ambient concentrations for carcinogens
acfm	actual cubic feet per minute
ASTM	American Society for Testing and Materials
BACT	Best Available Control Technology
BMP	best management practices
Btu	British thermal units
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CAS No.	Chemical Abstracts Service registry number
CBP	concrete batch plant
CEMS	continuous emission monitoring systems
cfm	cubic feet per minute
CFR	Code of Federal Regulations
CI	compression ignition
CMS	continuous monitoring systems
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	CO_2 equivalent emissions
COMS	continuous opacity monitoring systems
DEQ	Department of Environmental Quality
dscf	dry standard cubic feet
EL	screening emission levels
EPA	U.S. Environmental Protection Agency
FEC	Facility Emissions Cap
GHG	greenhouse gases
gph	gallons per hour
gpm	gallons per minute
gr	grains (1 lb = 7,000 grains)
HAP	hazardous air pollutants
HHV	higher heating value
HMA	hot mix asphalt
hp	horsepower
hr/yr	hours per consecutive 12 calendar month period
ICE	internal combustion engines
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
iwg	inches of water gauge
km	kilometers
lb/hr	pounds per hour
lb/qtr	pound per quarter
m	meters
MACT	Maximum Achievable Control Technology
mg/dscm	milligrams per dry standard cubic meter
MMBtu	million British thermal units
MMscf	million standard cubic feet
NA	not applicable or not available
NAAQS	National Ambient Air Quality Standard
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO_2	nitrogen dioxide
NO_x	nitrogen oxides

NSPS	New Source Performance Standards
O&M	operation and maintenance
O_2	oxygen
PAH	polyaromatic hydrocarbons
PC	permit condition
PCB	polychlorinated biphenyl
PERF	Portable Equipment Relocation Form
PM	particulate matter
$PM_{2.5}$	particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers
PM_{10}	particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
POM	polycyclic organic matter
ppm	parts per million
ppmw	parts per million by weight
PSD	Prevention of Significant Deterioration
psig	pounds per square inch gauge
PTC	permit to construct
PTC/T2	permit to construct and Tier II operating permit
PTE	potential to emit
PW	process weight rate
RAP	recycled asphalt pavement
RFO	reprocessed fuel oil
RICE	reciprocating internal combustion engines
Rules	*Rules for the Control of Air Pollution in Idaho*
scf	standard cubic feet
SCL	significant contribution limits
SG	Specific gravity
SIP	State Implementation Plan
SM	synthetic minor
SM80	synthetic minor facility with emissions greater than or equal to 80% of a major source threshold
SO_2	sulfur dioxide
SO_x	sulfur oxides
T/day	tons per calendar day
T/hr	tons per hour
T/yr	tons per consecutive 12 calendar month period
T2	Tier II operating permit
TAP	toxic air pollutants
TEQ	toxicity equivalent
T-RACT	Toxic Air Pollutant Reasonably Available Control Technology
ULSD	ultra-low sulfur diesel
U.S.C.	United States Code
VOC	volatile organic compounds
yd^3	cubic yards
$\mu g/m^3$	micrograms per cubic meter

FACILITY INFORMATION

Description

Northwest Chrome electroplates and polishes various automobile and motorcycle accessories, such as automobile bumpers and wheels and motorcycle gas tanks and tailpipes. The process involves stripping incoming articles of material (i.e. paint, oil and dirt residue), polishing (where parts are sanded and polished by machine and prepared for plating), and finally decorative electroplating (where all parts are plated with copper, nickel and/or chrome). The facility will also have a wheel polishing area, where wheels are delivered, polished, and picked up in the same area. The wheel polishing process does not involve emissions. The facility will utilize two small natural gas-fired space heaters for temperature control in the polishing and electroplating areas, respectively.

Permitting History

This is an initial PTC for the facility thus there is no permitting history. This facility moves from Fruitland, Idaho under the name of Treasure Valley Chrome Plating, LLC to New Plymouth, Idaho under the name of Northwest Chrome, Inc.

Application Scope

This permit is the initial PTC for the facility.

Application Chronology

May 21, 2012	DEQ received an application.
May 22, 2012	DEQ received an application fee.
May 30 – June 14, 2012	DEQ provided an opportunity to request a public comment period on the application and proposed permitting action.
June 18, 2012	DEQ determined that the application was complete.
June 22 and 29, 2012	DEQ received supplement material.
July 31, 2012	DEQ made available the draft permit and statement of basis for peer and regional office review.
August 6, 2012	DEQ made available the draft permit and statement of basis for applicant review.
August 13, 2012	DEQ received the permit processing fee.
August 15, 2012	DEQ issued the final permit and statement of basis.

TECHNICAL ANALYSIS

Emissions Units and Control Equipment

Table 1 EMISSIONS UNIT AND CONTROL EQUIPMENT INFORMATION [1]

Source ID No.	Sources	Control Equipment	Emission Point ID No.
1 (Department 1, Strip Area)	Hot Strip Tank (Caustic Based with Sodium Hydroxide): Manufacturer: PPG Industries Model: NA Tank temperature: 180 °F Tank Dimensions: 8 ft x 4 ft x 4 ft Tank Size: 850 gallons (approximately)	None	Ventilation stack for the electroplating room (VENTSTK) Exit height: 35 ft Exit diameter: 1.33 ft Exit flow rate: 511 acfm (calculated using information from modeling report in the application)

Source ID No.	Sources	Control Equipment	Emission Point ID No.
	In the electroplating room		Exit temperature: 70 °F
3 (Department 1, Strip Area)	Acid Tank (Hydrochloric Acid): Manufacturer: Univar USA Inc. Model: NA Tank temperature: Room temperature Tank Dimensions: 3'6" x 2'6" x 2'6" Tank Size: 150 gallons (approximately) In the electroplating room	None Electroplating room	Same ventilation stack for the electroplating room (VENTSTK)
5 (Department 1, Strip Area)	Acid Tank (Hydrochloric Acid): Manufacturer: Univar USA Inc. Model: NA Tank temperature: Room temperature Tank Dimensions: 3'6" x 2'6" x 2'6" Tank Size: 150 gallons (approximately) In the electroplating room	None	Same ventilation stack for the electroplating room (VENTSTK)
1A (Department 2, Polishing Room)	Polishing Stage 1A (Sanding Parts): Manufacturer: 3M Model: NA 3 inch x 133 inch abrasive (Aluminum Oxide) belt with a grit of 80, 120, or 180, used on a manual lathe machine that is 10 hp, three-phase with 1,740 revolutions per minute. Inside the polishing room with two doors to the adjacent electroplating room	None	None
1 (Department 3, Plating Line)	Cleaner Tank Manufacturer: Enthone-OMI-Inc. Model: NA Tank temperature: 160 °F Tank Dimensions: 8 ft x 4 ft x 4 ft Tank Size: 850 gallons (approximately) In the electroplating room Alkaline soap cleaner where all parts are cleaned for the plating process.	None	Same ventilation stack for the electroplating room (VENTSTK)
3 (Department 3, Plating Line)	Acid Dip Tank Manufacturer: Atotech USA Inc. Model: NA Tank temperature: Room Temperature Tank Dimensions: 8ft x 4ft x 4ft Tank Size: 850 gallons (approximately) In the electroplating room Acid salt or acid. Parts are dipped to neutralize cleaner film.	None	Same ventilation stack for the electroplating room (VENTSTK)

Source ID No.	Sources	Control Equipment	Emission Point ID No.
5 (Department 3, Plating Line)	Cyanide Copper Tank Manufacturer: Dupont chemicals Model: NA Tank temperature: 110 °F Tank Dimensions: 8ft x 4ft x 4ft Tank Size: 850 gallons (approximately) Proposed rectifier limit: 1,500 amperes In the electroplating room Parts are copper striken for good adhesion (15 seconds to 2 minutes)	None	Same ventilation stack for the electroplating room (VENTSTK)
7 (Department 3, Plating Line)	Acid Copper Tank Manufacturer: Univertical Model: NA Tank temperature: Room temperature Tank Dimensions: 8ft x 4ft x 4ft Tank Size: 850 gallons (approximately) Allowable rectifier limit: 1,500 amperes In the electroplating room Parts are copper plated anywhere from 15 to 30 minutes.	None	Same ventilation stack for the electroplating room (VENTSTK)
9 (Department 3, Plating Line)	Nickel Tank Manufacturer: Atotech USA Model: NA Tank temperature: 135°F Tank Dimensions: 8ft x 4ft x 4ft Tank Size: 850 gallons (approximately) Proposed rectifier limit: 2,200 amperes In the electroplating room Parts are bright nickel plated anywhere from 15 to 30 minutes.	Wetting agent to control nickel emissions	Same ventilation stack for the electroplating room (VENTSTK)
11 (Department 3, Plating Line)	Chrome Tank Manufacturer: Atotech USA Inc. Model: NA Tank temperature: 105°F Tank Dimensions: 8ft x 4ft x 4ft Tank Size: 850 gallons (approximately) Proposed rectifier limit: 5,000 amperes In the electroplating room Parts are chromed plated anywhere from 15 second to 2 minutes.	Wetting agent with Cr^{6+} control efficiency of 99.815%	Same ventilation stack for the electroplating room (VENTSTK)

Source ID No.	Sources	Control Equipment	Emission Point ID No.
13 (Department 3, Plating Line)	Chrome Strip Tank (Caustic based) Manufacturer: PPG Industries Inc. Model: NA Tank temperature: Room temperature Tank Dimensions: 8ft x 4ft x 4ft Tank Size: 850 gallons (approximately) Allowable rectifier limit: 2,000 amperes In the electroplating room With reverse current. Any parts that are rejected need to have chrome removed for rework to take place.	None	Same ventilation stack for the electroplating room (VENTSTK)
ELECTROHRT	Electroplating Area Natural Gas Heater Manufacturer: LUXAIRE Model: M# UH175LC Manufacture Date: Unknown Heat input rating: 0.175 MMBtu/hr Fuel: Natural gas	None	Exit height: 20 ft Exit diameter: 0.83 ft Exit flow rate: 69 acfm (calculated using information from modeling report in the application) Exit temperature: 350 °F
POLHTR	Polishing Area Natural Gas Heater Manufacturer: LUXAIRE Model: M# UH175LC Manufacture Date: Unknown Heat input rating: 0.175 MMBtu/hr Fuel: Natural gas	None	Exit height: 20 ft Exit diameter: 0.83 ft Exit flow rate: 69 acfm (calculated using information from modeling report in the application) Exit temperature: 350 °F

[1] According to the application, no drains are located in the plating department - zero discharge. All water in the rinse tanks are added back to process tank. There is no waste water discharge from the facility.

Emissions Inventories

Potential to Emit

IDAPA 58.01.01 defines Potential to Emit as the maximum capacity of a facility or stationary source to emit an air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the facility or source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is state or federally enforceable. Secondary emissions do not count in determining the potential to emit of a facility or stationary source.

Northwest Chrome submitted the emissions inventory including the facility-wide PTE. The emissions were estimated based on several assumptions due to lack of emissions factors/information for electroplating processes. DEQ staff has reviewed, revised, and verified the emissions calculations. The EI calculation can be found in Appendix A of this document. For future permitting, if better emissions data become available, emissions need to be recalculated using better emissions data.

Polishing

The polishing operations consist of sanding and buffing the metal and aluminum alloys, etc. prior to electroplating, to create a shiny mirror-like finish. The polishing operation begins with sanding machines that sand the product to smooth out the surface that will be electroplated. The process is in an enclosed room with two doors opening to the adjacent electroplating room. The air born particulate emissions from the sanding process are hard to quantify and believed to be low. The permit requires Northwest Chrome to keep the doors closed when they are not in use to reduce particulates moving to the electroplating room where the ventilation stack locates.

The permit also requires the facility to operate the sanding machine in accordance with the manufacturer's recommendations.

Cyanide Copper Tank and Acid Copper Tank

- Emissions of copper compounds

  Emissions factor for copper compounds from copper electroplating is not readily available. Therefore, EF of 0.033 grains/A-hr (AP-42, Table 12.20-1, 7/96) for chromium compounds from decorative chromium electroplating is used. Because the cathode efficiency for copper plating (30-60%) is higher than that for chromium plating (10-20%), using EF for chromium plating might be conservative. According to the facility, maximum 750 amperes was used at the previous location. To be conservative, 1,500 amperes is used as copper electroplating tanks rectifier limit. The emissions of copper compounds are estimated as: 2 copper tanks (cyanide copper tank and acid copper tank) * 0.033 grains/A-hr * 1,500 A * (1 lb/7,000 grains) = 1.41×10^{-2} lb/hr.

- Particulate emissions

  Emissions factor for PM/PM_{10} from copper electroplating is not readily available. Therefore, PM/PM_{10} EF of 0.069 grains/A-hr (AP-42, Table 12.20-1, 7/96) for decorative chromium electroplating is used. Because the cathode efficiency for copper plating (30-60%) is higher than that for chromium plating (10-20%), using EF for chromium plating might be conservative. According to the facility, maximum 750 amperes was used at the previous location. To be conservative, 1500 amperes is used as copper electroplating tanks rectifier limit. Particulate emissions are estimated as: 2 copper tanks * 0.069 grains/A-hr * 1,500 A * (1 lb/7,000 grains) = 2.96×10^{-2} lb/hr. Annual PM/PM_{10} emissions are calculated as: 2.96×10^{-2} lb/hr * 8,760 hr/hr / (2000 lb/T) = 0.13 T/yr.

Nickel Tank

- Emissions of nickel compounds

  Nickel EF of 0.0327 mg/A-hr or 0.000504 gr/A-hr was taken from a technical document titled "Characterization of Emissions from Nickel Plating" Vol. I, Technical Report, June 21, 1999. This emissions factor was originally reported from the South Coast Air Quality Management District (SCAQMD) in 1996. The facility has proposed 2,200 amperes as nickel electroplating tanks rectifier limit. The emissions of nickel compounds are estimated as: 0.000504 grains/A-hr * 2200 A * (1lb/7,000 grains) = 1.58×10^{-4} lb/hr.

- HAPs

  Nickel compounds are HAPs. Annual emissions of nickel compounds are calculated as: 1.58×10^{-4} lb/hr * 8,760 hr/hr / (2000 lb/T) = 6.94×10^{-4} T/yr.

- Particulate emissions

  Emissions factor for particulate emissions from nickel electroplating is not available. Because EF for particulates is about 2.1 times of EF for Cr^{6+} compounds for chromium electroplating, it is assumed that same ratio applies to nickel electroplating. The facility has proposed 2,200 amperes as nickel electroplating tanks rectifier limit. The particulate emissions from nickel tank are estimated as: 2.1 * 0.000504 grains/A-hr * 2200 A * (1 lb/7,000 grains) =3.31×10^{-4} lb/hr.

  Annual PM/PM_{10} emissions are calculated as: 3.31×10^{-4} lb/hr * 8,760 hr/hr / (2000 lb/T) = 1.46×10^{-3} T/yr.

Chrome Tank and Chrome Strip Tank (with reverse current)

- Emissions of chrome compounds

  EF for chromium compounds of 0.033 gr/A-hr is taken from AP-42 Table 12.20-1, 7/96 rev. The facility has proposed 5,000 amperes as a limit for chrome electroplating tank's rectifier and 2000 amperes for chrome strip tank's rectifier. The facility uses wetting agent with 99.815% chrome control efficiency in Chrome Tank. The emissions of chromium compounds from Chrome tank and Chrome Strip tank are estimated as: 1 Chrome tank * 0.033 grains/A-hr * 5,000 A * (1 lb/7,000 grains) * (1-99.815%) + 1 Chrome Strip tank * 0.033 grains/A-hr * 2,000 A * (1 lb/7,000 grains) = $4.36 \times 10^{-5} + 2.36 \times 10^{-2}$ lb/hr = 2.36×10^{-2} lb/hr.

- HAPs

  Chromium compounds are HAPs. Annual emissions of chromium compounds are calculated as: 2.36×10^{-2} lb/hr * 8,760 hr/hr / (2000 lb/T) = 0.103 T/yr.

- Particulate emissions

  Particulate EF of 0.059 gr/A-hr is taken from AP-42 Table 12.20-1, 7/96 rev. Assume the wetting agent has same control efficiency of 99.851% for particulate emissions. The particulate emissions from Chrome tank and Chrome Strip tank are estimated as: 1 Chrome tank * 0.069 grains/A-hr * 5,000 A * (1 lb/7,000 grains) * (1-99.815%) + 1 Chrome Strip tank * 0.069 grains/A-hr * 2,000 A * (1 lb/7,000 grains) = 9.12×10^{-5} + 1.97×10^{-2} lb/hr = 1.98×10^{-2} lb/hr.

  Annual emissions of PM/PM_{10} are calculated as: 1.98×10^{-2} lb/hr * 8,760 hr/hr / (2000 lb/T) = 8.67×10^{-2} T/yr.

  The uncontrolled PM/PM_{10} emissions are calculated as: 1 Chrome tank * 0.069 grains/A-hr * 5,000 A * (1 lb/7,000 grains) + 1 Chrome Strip tank * 0.069 grains/A-hr * 2,000 A * (1 lb/7,000 grains) = 4.93×10^{-2} + 1.97×10^{-2} lb/hr = 6.90×10^{-2} lb/hr and 0.302 T/yr (assume 8,760 operating hours/yr).

All Tanks

The facility provided annual chemicals consumptions in the application. These chemicals are added to the tanks in an annual or semi-annual basis. Small amount of solid chemicals are assumed to be emitted in PM form when the solid chemicals are dumped into the tanks. For TAPs/HAPs emissions estimation, TAPs/HAPs in the consumed chemicals are assumed to be emitted to the air in mist form from the tanks year around. The assumption is considered conservative because some TAPs/HAPs are consumed in the chemical reactions.

- PM/PM_{10}

  PM/PM_{10} emissions from dumping solid chemicals into tanks are calculated using EF of 1.5 lb/T taken from AP-42, Table 11.17-4, the best available EF at this time. Hourly PM/PM_{10} emissions are calculated as: (1,550 lb/yr total solids) / (2,000 lb/T) * 1.5 lb/T / (2 times a year)/ 24 hr average period = 0.024 lb/hr, 24-hr average. No EF available for condensable. It is assumed that only PM/PM_{10} emissions are generated from dumping the solid chemicals into the tanks.

- $PM/PM_{10}/PM_{2.5}$

  No EFs for $PM/PM_{10}/PM_{2.5}$ from strip tanks are available. Chemicals consumed in the strip tanks after neutralization are assumed to be emitted in mist form and as $PM_{2.5}$. This approach is considered conservative because the chemicals could also react with other things on the parts. Sodium Hydroxide (NaOH) is assumed to react with Phosphoric Acid (H_3PO_4), Hydrogen Chloride (HCl), Hydrofluoric acid (HF) and Sulfuric Acid (H_2SO_4) in the strip tanks completely. Excess H^+ of 8.28×10^{-4} lb mole per hour is available after neutralization. Assume it is emitted as H_2SO_4 mist and as $PM_{2.5}$: 8.28×10^{-4} lb mole/hr x 98 lb/lb mole = 0.078 lb/hr. Ethylene glycol monobuthy ether is completely soluble in water. Its vapor pressure is 0.76 mmHg at 68 °F. It is assumed to be emitted in mist form and as $PM_{2.5}$.

  $PM/PM_{10}/PM_{2.5}$ emissions from electroplating tanks have been discussed previously under each electroplating tank.

- HAPs

  Nickel chloride used in nickel tank is an HAP. Its annual emissions from being dumped into the tank are calculated as: 200 lb/yr/(2000 lb/T) * (1.5 lb/T, EF) * 54% / (2000 lb/T) = 4.05×10^{-5} T/yr.

  Emissions of nickel compounds from nickel tank have been discussed previously under t Nickel Tank.

  Hydrofluoric acide (HF) in strip tanks is an HAP. Its annual emission is calculated as: 50 gal/yr * (10%+15%)/2 *1.25 SG * 8.34 lb/gal / (2,000 lb/T) = 0.033 T/yr.

- TAPs listed as follows:

- Sodium Hydroxide (NaOH) in BN cleaner tank, hot strip tank, and chrome strip tank (electro-cleaner tank)

Emitted in mist form + emitted as PM when dumped to tanks =[(600 to BN cleaner tank) lb/yr * 30 wt% + (200 to hot strip tank) lb/yr* 98.2% + (200 to electro-cleaner tank or chrome strip tank) lb/yr * 25%)] / 8760 hrs/yr + [(600*30% + 200 * 98.2% +200*25%)] lb/yr / (2,000 lb/T) * (1.5 lb/T) / (2 time/yr) / (24 hr/day) = ($4.64 \times 10^{-2} + 6.35 \times 10^{-3}$) lb/hr = 5.27×10^{-2} lb/hr, 24-hour average.

- Sulfuric Acid (H_2SO_4) in various tanks

  Assume emitted in mist form: (200 gal/yr * 93.2% * 1.835 specific gravity * 8.34 lb/gal + 50 gal/yr for strip* 20% * 1.25 SG * 8.34 lb/gal) / 8,760 hr/yr = 0.338 lb/hr (greater than EL of 0.067 lb/hr, 24-hour average)

- Potassium Hydroxide (KOH) in cyanide copper tank (copper strike) and acid copper tank

  Assume emitted in mist form: (20 gal/yr * 1.30 SG * 8.34 lb/gal *30%) / 8,760 hr/hr = 7.43×10^{-3} lb/hr, 24-hour average (same as annual average).

- Hydrogen Peroxide (H_2O_2) in nickel tank

  Assume emitted in mist form: (50 gal/yr * 1.19 SG * 8.34 lb/gal * 50%) / (8760 hr/yr) = 0.0283 lb/hr, 24-hour average (same as annual average).

- Cristobalite (14464-46-1) in nickel tank

  Emitted in mist form + emitted as PM when dumped to Nickel Tank = 50 lb/yr * 40% / 8760 hr/yr + (50 lb/yr * 40%)/ (2,000 lb/T) * (1.5 lb/T, EF) / (2 times/yr) / (24 hours/day) = 2.60×10^{-3} lb/hr, 24-hour average.

- Quartz in Nickel Tank

  Emitted in mist form + emitted as PM when dumped to Nickel Tank = (50 lb/yr * 4% / 8760 hr/yr) + (50 lb/yr * 4%)/ (2,000 lb/T) * (1.5 lb/T, EF) / (2 times/yr) / (24 hours/day) = 2.60×10^{-4} lb/hr, 24-hour average.

- Ethylene glycol monobuthy ether (2-Butoxyethanol (EGBG), CAS No. 111-76-2) in strip tanks

  Assume emitted in mist form: [(50 gal/yr * 15% * 1.25 SG * 8.34 lb/gal) + (20 gal/yr * 15% * 8.34 lb/gal)] / (8760 hr/yr) = 1.18×10^{-2} lb/hr, 24-hour average (same as annual average.)

- Phosphoric Acid in strip tanks

  Assume emitted in mist form: (50 gal/yr * 50% * 1.25 SG * 8.34 lb/gal) / (8760 hr/yr) = 2.98×10^{-2} lb/hr, 24-hour average (same as annual average.)

- Hydrogen Chloride in strip tanks

  Assume emitted in mist form: (50 gal/yr * 36% * 9.83 lb/gal) / (8760 hr/yr) = 2.02×10^{-2} lb/hr, 24-hour average (same as annual average.)

Electroplating Area Natural Gas Heater and Polishing Area Natural Gas Heater

Emissions from two heaters are calculated using EFs taken from AP-42, Table 1.4-2, rev.7/98. 8760 hours per year is used for annual emissions calculation.

Uncontrolled Potential to Emit

Using the definition of Potential to Emit, uncontrolled Potential to Emit is then defined as the maximum capacity of a facility or stationary source to emit an air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the facility or source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall not be treated as part of its design since the limitation or the effect it would have on emissions is not state or federally enforceable.

The uncontrolled Potential to Emit is used to determine if a facility is a "Synthetic Minor" source of emissions. Synthetic Minor sources are facilities that have an uncontrolled Potential to Emit for regulated air pollutants or HAP above the applicable Major Source threshold without permit limits.

The uncontrolled emissions from this facility are way below major source threshold for all regulated air pollutants. The facility is a natural minor source.

Pre-Project Potential to Emit

Pre-project Potential to Emit is used to establish the change in emissions at a facility as a result of this project.

This is a new facility. Therefore, pre-project emissions are set to zero for all criteria pollutants.

Post Project Potential to Emit

Post project Potential to Emit is used to establish the change in emissions at a facility and to determine the facility's classification as a result of this project. Post project Potential to Emit includes all permit limits resulting from this project.

The following table presents the post project Potential to Emit for criteria and GHG pollutants from all emissions units at the facility as reviewed and revised by DEQ staff. See Appendix A for a detailed presentation of the calculations of these emissions for each emissions unit.

Table 2 POST PROJECT POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS

	Pounds per Hour								
Description	**NOx Emissions (lb/hr)**	**CO Emissions (lb/hr)**	**CO_2e (GHG) Emissions (lb/hr)**	**PM Emissions (lb/hr)**	**PM-10 Emissions (lb/hr)**	**PM-2.5 Emissions (lb/hr)**	**SOx Emissions (lb/hr)**	**VOC Emissions (lb/hr)**	**Lead Emissions (lb/hr)**
Combustion Sources	0.0343	0.0288	41.1765	0.0026	0.0026	0.0026	0.0002	0.0015	0.0000002
Electroplating Process	n/a	n/a	n/a	0.1639	0.1639	0.1396	n/a	0.0029	n/a
TOTAL	3.43E-02	2.88E-02	4.12E+01	1.66E-01	1.66E-01	1.42E-01	2.06E-04	4.39E-03	1.72E-07
	Tons per Year								
Description	**NOx Emissions (T/yr)**	**CO Emissions (T/yr)**	**CO_2e (GHG) Emissions (T/yr)**	**PM Emissions (T/yr)**	**PM-10 Emissions (T/yr)**	**PM-2.5 Emissions (T/yr)**	**SOx Emissions (T/yr)**	**VOC Emissions (T/yr)**	**Lead Emissions (T/yr)**
Combustion Sources	0.1503	0.1262	180.3529	0.0114	0.0114	0.0114	0.0009	0.0067	0.0000008
Electroplating Process	n/a	n/a	n/a	0.6770	0.6770	0.6116	n/a	0.0125	n/a
TOTAL	1.50E-01	1.26E-01	1.80E+02	6.88E-01	0.69	0.62	9.02E-04	1.92E-02	7.51E-07

a) Controlled average emission rate in pounds per hour is a daily average, based on the proposed daily operating schedule and daily limits.
b) Controlled average emission rate in tons per year is an annual average, based on the proposed annual operating schedule and annual limits.

Change in Potential to Emit

The change in facility-wide potential to emit is used to determine if a public comment period may be required and to determine the processing fee per IDAPA 58.01.01.225. The change in facility-wide potential to emit is the same as Post project Potential to Emit because this is a new facility and pre-project PTE is zero.

Non-Carcinogenic TAP Emissions

A summary of the estimated PTE for emissions increase of non-carcinogenic toxic air pollutants (TAP) is provided in the following table.

Table 3 POST PROJECT POTENTIAL TO EMIT FOR NON-CARCINOGENIC TOXIC AIR POLLUTANTS

Pollutant	**Hourly Emissions 24-hour average**	**Screening Level (EL)**	**Modeling?**
	(lb/hr)	**(lb/hr)**	**(Y/N)**
Antimony	0.00E+00	3.3E-02	No
Barium	1.51E-06	3.3E-02	No
Chromium	4.80E-07	3.3E-02	No
Cobalt	2.88E-08	3.3E-03	No

Pollutant	Hourly Emissions 24-hour average	Screening Level (EL)	Modeling?
	(lb/hr)	(lb/hr)	(Y/N)
Copper	2.07E-02	6.7E-02	No
Cristobalite	2.60E-03	3.3E-03	No
Ethylbenzene	0.00E+00	2.9E+01	No
Ethylene glycol monobuthy ether (2-Butoxyethanol (EGBG), CAS No. 111-76-2) in strip tanks	1.18E-02	8.E+00	No
Fluoride	0.00E+00	1.67E-01	No
Hexane	6.18E-04	1.2E+01	No
Hydrogen Chloride	2.02E-02	5.0E-02	No
Hydrogen Peroxide	2.83E-02	1.0E-01	No
Manganese	1.30E-07	3.33E-01	No
Mercury	8.92E-08	3.E-03	No
Molybdenum	3.77E-07	6.67E-01	No
Naphthalene [a]	2.09E-07	2.0E-06	No
Pentane	8.92E-04	1.18E+02	No
Phosphoric Acid	2.98E-02	6.70E-02	No
Phosphorous	0.00E+00	7.0.E-03	No
Potassium Hydroxide	7.43E-03	1.3.E-01	No
Quartz	2.60E-04	6.7.E-03	No
Selenium	8.24E-09	1.3E-02	No
Sodium Hydroxide	5.27E-02	1.3E-01	No
Sulfuric Acid	3.38E-01	6.7E-02	Yes
1,1,1 - Trichlorethane (Methyl Chloroform)	0.00E+00	1.3E+02	No
Toluene	1.17E-06	2.5E+01	No
o-Xylene	0.00E+00	2.9E+01	No
Vanadium	7.89E-07	3.0E-03	No
Zinc	9.95E-06	6.67E-01	No

[a] Although listed as a noncarcinogen in the Rules, DEQ has determined that naphthalene is a possible/probable carcinogen. Compliance for naphthalene emissions should be based on the EL or AACC listed in Section 586 for PAH.

Sulfuric acid emissions of this new facility exceed 24-hour average non-carcinogenic screening EL identified in IDAPA 58.01.01.586. Therefore, modeling is required for sulfuric acid emissions.

Carcinogenic TAP Emissions

A summary of the estimated PTE for emissions increase of carcinogenic toxic air pollutants (TAP) is provided in the following table.

Table 4 POST PROJECT POTENTIAL TO EMIT FOR CARCINOGENIC TOXIC AIR POLLUTANTS

Pollutant	Hourly Emissions	Screening Level (EL)	Modeling?
	(lb/hr)	(lb/hr)	(Y/N)
Arsenic	6.86E-08	1.5E-06	No
Benzene	7.21E-07	8.0E-04	No
Beryllium	4.12E-09	2.8E-05	No
Cadmium	3.77E-07	3.7E-06	No
Chromium VI compounds [a]	0	5.6E-07	No (See footnote)
Formaldehyde	2.57E-05	5.1E-04	No
Nickel Compounds [b]	7.21E-07	2.7E-05	No (See footnote)
Benzo(a)pyrene	4.12E-10	2.0E-06	No
Benz(a)anthracene	6.18E-10	NA	NA
Benzo(b)fluoranthene	6.18E-10	NA	NA
Benzo(k)fluoranthene	6.18E-10	NA	NA
Chrysene	6.18E-10	NA	NA
Dibenzo(a,h)anthracene	4.12E-10	NA	NA
Indeno(1,2,3-cd)pyrene	6.18E-10	NA	NA
Total POHs [c]	3.91E-09	2.00E-06	No

[a] Chrome tank is subject to MACT 40 CFR Part 63, Subpart N. As such, so long as the facility complies with the MACT standards, no further procedures for demonstrating preconstruction compliance will be required for chromium and chromium compounds emitted from chrome tank (IDAPA 58.01.01.210.20). Chromium VI emissions from the heaters are zero.
[b] The nickel tank is subject to MACT 40 CFR Part 63, Subpart WWWWWW. As such, so long as the facility complies with the MACT standards, no further procedures for demonstrating preconstruction compliance will be required for nickel and nickel compounds from nickel tank(IDAPA 58.01.01.210.20). Nickel and nickel compounds emissions from the heaters are below the EL.
[c] Polycyclic Organic Matter (POM) is considered as one TAP comprised of: benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene dibenzo(a,h)anthracene, chrysene, indeno(1,2,3-cd)pyrene, benzo(a)pyrene. The total is compared to benzo(a)pyrene.

Post Project HAP Emissions

The following table presents the post project potential to emit for HAP pollutants from all emissions units at the facility as submitted by the applicant and reviewed and revised by DEQ staff. See Appendix A for a detailed presentation of the calculations of these emissions for each emissions unit.

Table 5 HAZARDOUS AIR POLLUTANTS EMISSIONS POTENTIAL TO EMIT SUMMARY

Pollutant	Emissions (T/yr)
Arsenic	3.01E-07
Benzene	3.16E-06
Beryllium	1.80E-08
Cadmium	1.65E-06
Formaldehyde	1.13E-04
Chromium compounds	1.03E-01
Hydrofluoric acide (HF)	3.26E-02
Mercury	3.9E-07
Naphthalene	9.2E-07
Nickel Compounds	7.37E-04

Pollutant	Emissions (T/yr)
Xylene	0.0E+00
Selenium	3.6E-08
Toluene	5.1E-06
Hexane	2.71E-03
Total	**0.14**

Ambient Air Quality Impact Analyses

As presented in the Modeling Memo in Appendix B, the estimated emission rates of PM_{10}, SO_2, NO_x, CO, VOC, and TAP except for sulfuric acid from this project were below applicable screening emission levels (EL) and published DEQ modeling thresholds established in IDAPA 58.01.01.585-586 and in the State of Idaho Air Quality Modeling Guideline[1]. Refer to the Emissions Inventories section for additional information regarding emissions rates.

The estimated emission rates of $PM_{2.5}$ exceed the modeling threshold for 24-hr and annual NAAQS for $PM_{2.5}$. The $PM_{2.5}$ emissions are modeled. The annual and 24-hour ambient impact based on modeling are less than the respective NAAQS. Emissions of sulfuric acid are also modeled; its impact is less than the AAC.

The applicant has demonstrated pre-construction compliance to DEQ's satisfaction that emissions from this facility will not cause or significantly contribute to a violation of any ambient air quality standard. The applicant has also demonstrated pre-construction compliance to DEQ's satisfaction that the emissions increase due to this permitting action will not exceed any acceptable ambient concentration (AAC) or acceptable ambient concentration for carcinogens (AACC) for toxic air pollutants (TAP). A summary of the Ambient Air Impact Analysis for TAP is provided in Appendix B).

An ambient air quality impact analyses document has been crafted by DEQ based on a review of the modeling analysis submitted in the application. That document is part of the final permit package for this permitting action (see Appendix B).

REGULATORY ANALYSIS

Attainment Designation (40 CFR 81.313)

The facility is located in Payette County, which is designated as attainment or unclassifiable for $PM_{2.5}$, PM_{10}, SO_2, NO_2, CO, and Ozone. Refer to 40 CFR 81.313 for additional information.

Facility Classification

"Synthetic Minor" classification for criteria pollutants is defined as the uncontrolled Potential to Emit for criteria pollutants are above the applicable major source thresholds and the Potential to Emit for criteria pollutants fall below the applicable major source thresholds. Therefore, the following table compares the uncontrolled Potential to Emit and the Potential to Emit for criteria pollutants to the Major Source thresholds to determine if the facility will be "Synthetic Minor."

[1] Criteria pollutant thresholds in Table 1, State of Idaho Air Quality Modeling Guideline, Doc ID AQ-011, rev. 1, December 31, 2002.

Table 6 UNCONTROLLED PTE AND PTE FOR REGULATED AIR POLLUTANTS COMPARED TO THE MAJOR SOURCE THRESHOLDS

Pollutant	Uncontrolled PTE (T/yr)	PTE (T/yr)	Major Source Thresholds (T/yr)	Uncontrolled PTE Exceeds the Major Source Threshold and PTE Exceeds the Major Source Threshold?
$PM_{10}/M_{2.5}$	0.84	0.69	100	No
$PM_{2.5}$	0.84	0.62	100	No
SO_2	9.02E-04	9.02E-04	100	No
NO_x	1.50E-01	1.50E-01	100	No
CO	1.26E-01	1.26E-01	100	No
VOC	1.92E-02	1.92E-02	100	No
CO_2e	1.80E+02	1.80E+02	100,000	No

"Synthetic Minor" classification for HAP pollutants is defined as the uncontrolled Potential to Emit for HAP pollutants are above the applicable major source thresholds and the Potential to Emit for HAP pollutants fall below the applicable major source thresholds. Therefore, the following table compares the uncontrolled Potential to Emit and the Potential to Emit for HAP pollutants to the Major Source thresholds to determine if the facility will be "Synthetic Minor."

Table 7 UNCONTROLLED PTE AND PTE FOR HAZARDOUS AIR POLLUTANTS COMPARED TO THE MAJOR SOURCE THRESHOLDS

Pollutant	Emissions (T/yr)
Arsenic	3.01E-07
Benzene	3.16E-06
Beryllium	1.80E-08
Cadmium	1.65E-06
Formaldehyde	1.13E-04
Chromium compounds	1.03E-01
Hydrofluoric acide (HF)	3.26E-02
Mercury	3.9E-07
Naphthalene	9.2E-07
Nickel Compounds	7.37E-04
Xylene	0.0E+00
Selenium	3.6E-08
Toluene	5.1E-06
Hexane	2.71E-03
Total	**0.14**

As demonstrated in Table 6, the facility has an uncontrolled potential to emit for PM_{10}, $PM_{2.5}$, SO_2, NO_x, CO, GHG, and VOC emissions are less than the Major Source thresholds for each pollutant. In addition, as demonstrated in Table 7 the facility has uncontrolled potential HAP emissions of less than the Major Source threshold of 10 T/yr and for all HAP combined less than the Major Source threshold of 25 T/yr. Therefore, this facility is not designated as a Synthetic Minor facility. It is a minor source.

Permit to Construct (IDAPA 58.01.01.201)

IDAPA 58.01.01.201 .....Permit to Construct Required

The permittee has requested that a PTC be issued to the facility. The facility is required by Air Rules to obtain a PTC. Therefore, a permit to construct is required to be issued in accordance with IDAPA 58.01.01.220. This permitting action was processed in accordance with the procedures of IDAPA 58.01.01.200-228.

Tier II Operating Permit (IDAPA 58.01.01.401)

IDAPA 58.01.01.401 .....Tier II Operating Permit

The applicant did not request a Tier II operating permit and is not required by Air Rules to obtain a Tier II operating permit. This requirement does not apply to this permitting action.

Grain Loading Standard

IDAPA 58.01.01.677 .....Standards for Minor and Existing Sources

The heaters are subject to grain loading standard of 0.015 gr/dscf @ 3% O_2 in accordance with IDAPA 58.01.01.677. The heaters will meet the standard as long as they are fired by natural gas. Natural gas as only fuel for the heaters is included in the permit as a permit condition.

Visible Emissions (IDAPA 58.01.01.625)

IDAPA 58.01.01.625 .....Visible Emissions

The sources of PM/PM_{10} emissions at this facility are subject to the State of Idaho visible emissions standard of 20% opacity. As long as the facility is operated in accordance with manufacturer's recommendations and General Provision No.2, the facility would be in compliance with this standard.

Particulate Matter – New Equipment Process Weight Limitations (IDAPA 58.01.01.701)

IDAPA 58.01.01.701 .....Particulate Matter – New Equipment Process Weight Limitations

IDAPA 58.01.01.700 through 703 set PM emission limits for process equipment based on when the piece of equipment commenced operation and the piece of equipment's process weight (PW) in pounds per hour (lb/hr). IDAPA 58.01.01.701 and IDAPA 58.01.01.702 establish PM emission limits for equipment that commenced operation on or after October 1, 1979 and for equipment operating prior to October 1, 1979, respectively.

The facility is not a significant source for particulate emissions. The total PM emissions are less than 1 lb/hr. No specific monitoring is required in the permit.

Title V Classification (IDAPA 58.01.01.300, 40 CFR Part 70)

IDAPA 58.01.01.301 .....Requirement to Obtain Tier I Operating Permit

Post project facility-wide emissions from this facility do not have a potential to emit greater than 100 tons per year for $PM_{10}/PM_{2.5}$, SO_2, NOx, CO, 100,000 tons per year for GHG, and VOC or 10 tons per year for any one HAP or 25 tons per year for all HAP combined as demonstrated previously in the Emissions Inventories Section of this analysis. Therefore, the facility is not a Tier I source in accordance with IDAPA 58.01.01.006. The requirements of IDAPA 58.01.01.301 do not apply.

PSD Classification (40 CFR 52.21)

40 CFR 52.21 .....Prevention of Significant Deterioration of Air Quality

The facility is not a major stationary source as defined in 40 CFR 52.21(b)(1), nor is it undergoing any physical change at a stationary source not otherwise qualifying under paragraph 40 CFR 52.21(b)(1) as a major stationary source, that would constitute a major stationary source by itself as defined in 40 CFR 52. Therefore in accordance with 40 CFR 52.21(a)(2), PSD requirements are not applicable to this permitting action. The facility is not a designated facility as defined in 40 CFR 52.21(b)(1)(i)(a), and does not have facility-wide emissions of any criteria pollutant that exceed 250 T/yr.

NSPS Applicability (40 CFR 60)

The facility is not subject to any NSPS requirements 40 CFR Part 60.

NESHAP Applicability (40 CFR 61)

The facility is not subject to any NESHAP requirements in 40 CFR 61.

NESHAP Applicability (40 CFR 63)

The facility is subject to the requirements of 40 CFR 63.

The nickel tank is subject to 40 CFR 63 Subpart N– National Emission Standards for Chromium Emissions from Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks. The Chrome tank is subject to 40 CFR 63 Subpart WWWWWW - National Emission Standards for Hazardous Air Pollutants: Area Source Standards for Plating and Polishing Operations.

Detailed regulatory analysis for the subparts can be found in Appendix E of this document. At time of issuing this permit, DEQ is the administrator for 40 CFR 63 Subpart N, and EPA is the administrator for 40 CFR 63 Subpart WWWWWW.

Permit Conditions Review

This section describes the permit conditions for this initial permit.

SECTION 1 PERMIT SCOPE

Permit Condition 1.1

PC 1.1 states the purpose of this permitting action.

Permit Condition 1.2

PC 1.2 lists all sources that regulated in this permit

SECTION 2 ELECTROPLATING PROCESS, POLISHING, AND SPACE HEATERS

Permit Conditions 2.1 and 2.2

PC 2.1 provides the process description. PC 2.2 provides the information on process emissions control.

Permit Condition 2.3

The two natural gas-fired heaters are subject to grain loading standard of 0.015 gr/dscf @ 3% O_2 in accordance with IDAPA 58.01.01.677.

Permit Condition 2.4

Any point of emission at the facility is subject to the State of Idaho visible emissions standard of 20% opacity. As long as the facility operates in accordance with the manufacturer's recommendations and General Provision 5.2, the facility would be in compliance with this standard. Therefore, no additional requirements are added to the permit.

Permit Condition 2.5

The heaters meet the grain loading standard in PC 2.3 as long as they are fired by natural gas. Natural gas as only fuel for the heaters is included in PC 2.5.

Permit Condition 2.6

The polishing operations consist of sanding and buffing the metal and aluminum alloys, etc. prior to electroplating, to create a shiny mirror-like finish. The polishing operation begins with sanding machines that sand the product to smooth out the surface that will be electroplated. The process is in an enclosed room with two doors opening to the adjacent electroplating room. The particulate emissions from the sanding process are hard to quantify and believed to be low. PC 2.6 requires the permittee to keep the doors closed when they are not in use to

reduce particulates moving from the polishing room to the electroplating room where the ventilation stack is located.

Permit Conditions 2.7 and 2.8

The facility's ambient impact for $PM_{2.5}$ is around 96% of the NAAQS. The $PM_{2.5}$ emissions rates are estimated using conservative methods. The impact of sulfuric acid emissions increase is 62% of AAC. All other emissions are below respective modeling thresholds and ELs. Tap analysis for nickel and chrome compounds is not required because nickel tank and chrome tank are subject to 40 CFR 63 Subparts WWWWWW and N, respectively.

PC 2.7 requires the permittee not to exceed the electroplating tank rectifier current limits for Chrome Strip Tank, Cyanide Copper Tank, and Acid Copper Tank as listed in Table 2.2. According to the conversation with the facility on 7/18/2012, the maximum power was 1,500 A for Chrome Strip Tank and 750 A and for Cyanide Copper Tank and Acid Copper Tank based on the past operation data.

Chrome tank and nickel tank powers are not limited because the tanks use wetting agents to control emissions, the controlled emissions are low.

PC 2.8 requires the permittee not to exceed chemical usage in the amount as proposed in the application for striping and electroplating processes, excluding polishing and wheel room chemicals. Because increasing chemical usage in striping and electroplating processes could cause $PM_{2.5}$ impact exceeding 24-hour $PM_{2.5}$ NAAQS. Detailed calculations can be found in the EI worksheet regarding emission from plating process. It is included in Appendix A. The respective MSDS for Industrial Degreaser and Aluminum Brightener Concentrate are provided in the application and included in Appendix A of this document.

According to DEQ's internal guidance for including emissions standards in air permits, for this particular facility, limiting operating parameters will be sufficient to ensure compliance with the 24-hr $PM_{2.5}$ NAAQS.

Permit Condition 2.9

PC 2.9 is a monitoring requirement. It requires the permittee to monitor and record the power (i.e., rectifier current) of Chrome Strip Tank, Cyanide Copper Tank, and Acid Copper Tank, respectively to comply with electroplating tank rectifier current limits in Permit Condition 2.7.

Permit Condition 2.10

PC 2.10 is a monitoring requirement. It requires the permittee to monitor and record the chemical usage for striping and electroplating process to demonstrate compliance with chemical usage limits in Permit Condition 2.8. According to the application, each chemical will be added to the tanks once or twice a year. Every twelve months, the permittee shall calculate the chemical usage for the previous 12 months to demonstrate compliance with the limits specified in Permit Condition 2.8.

Permit Condition 2.11

The facility's chrome tank is subject to 40 CFR 63 Subpart N, and the nickel tank is subject to 40 CFR 63 Subpart WWWWWW. PC 2.11 states that should there be conflicts between the permit and the federal rules, the federal rules shall govern.

SECTION 3 40 CFR 63, SUBPART N—NATIONAL EMISSION STANDARDS FOR CHROMIUM EMISSIONS FROM HARD AND DECORATIVE CHROMIUM ELECTROPLATING AND CHROMIUM ANODIZING TANKS (APPLY TO CHROME TANK)

The facility's chrome tank is subject to 40 CFR 63 Subpart N. Section 3 includes the requirements that specifically apply to the facility's chrome tank. DEQ reviewed and revised the regulatory analysis submitted in the application. The detailed analysis can be found in Appendix E of the permit.

SECTION 4 40 CFR 63, SUBPART WWWWWW—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS: AREA SOURCE STANDARDS FOR PLATING AND POLISHING OPERATIONS (APPLY TO NICKEL TANK)

The facility's nickel tank is subject to 40 CFR 63 Subpart WWWWWW. Section 4 includes the requirements that specifically apply to the facility's nickel tank. DEQ reviewed and revised the regulatory analysis submitted in the application supplement. The detailed analysis can be found in Appendix E of the permit.

SECTION 5 GENERAL PROVISIONS

The facility is subject to requirements in General Provisions. They are taken from the current PTC template.

SECTION 6 APPENDIX A TABLE 1 TO SUBPART N OF PART 63

SECTION 7 APPENDIX B METHOD 306B

PUBLIC REVIEW

Public Comment Opportunity

An opportunity for public comment period on the application was provided in accordance with IDAPA 58.01.01.209.01.c. During this time, there were no comments on the application and there was not a request for a public comment period on DEQ's proposed action. Refer to the chronology for public comment opportunity dates.

APPENDIX A – EMISSIONS INVENTORIES AND MSDS

Description	Pounds per Hour								
	NOx Emissions (lb/hr)	CO Emissions (lb/hr)	CO_2e Emissions (lb/hr)	PM Emissions (lb/hr)	PM-10 Emissions (lb/hr)	PM-2.5 Emissions (lb/hr)	SOx Emissions (lb/hr)	VOC Emissions (lb/hr)	Lead Emissions (lb/hr)
Combustion Sources	0.0343	0.0288	41.1765	0.0026	0.0026	0.0026	0.0002	0.0015	0.0000002
Electroplating Process	n/a	n/a	n/a	0.1639	0.1639	0.1396	n/a	0.0029	n/a
TOTAL	3.43E-02	2.88E-02	4.12E+01	1.66E-01	0.166	0.142	2.06E-04	4.39E-03	1.72E-07

Description	Tons per Year								
	NOx Emissions (T/yr)	CO Emissions (T/yr)	CO_2e Emissions (T/yr)	PM Emissions (T/yr)	PM-10 Emissions (T/yr)	PM-2.5 Emissions (T/yr)	SOx Emissions (T/yr)	VOC Emissions (T/yr)	Lead Emissions (T/yr)
Combustion Sources	0.1503	0.1262	180.3529	0.0114	0.0114	0.0114	0.0009	0.0067	0.0000008
Electroplating Process	n/a	n/a	n/a	0.6770	0.6770	0.6116	n/a	0.0125	n/a
TOTAL	1.50E-01	1.26E-01	180	6.88E-01	0.69	0.62	9.02E-04	1.92E-02	7.51E-07

Uncontrolled	
PM10 (T/yr)	PM2.5 (T/yr)
1.14E-02	1.14E-02
8.28E-01	8.27E-01
0.839	0.839

HAPs Inventory

Pollutant	Emissions
	(tons/yr)
Arsenic	3.01E-07
Benzene	3.16E-06
Beryllium	1.80E-08
Cadmium	1.65E-06
Formaldehyde	1.13E-04
Chromium compounds	1.03E-01
Hydrofluoric acide (HF)	3.26E-02
Mercury	3.9E-07
Naphthalene	9.2E-07
Nickel Compounds	7.37E-04
Xylene	0.0E+00
Selenium	3.6E-08
Toluene	5.1E-06
Hexane	2.71E-03
Total	**0.14**

TOXIC AIR POLLUTANT EMISSION INVENTORY AND IMPACT ANALYSIS - FACILITY WIDE

NON-CARCINOGENS

Pollutant	Hourly Emissions 24-hour average (lb/hr)	Screening Level (lb/hr)	Modeling? (Y/N)	Model 24 hr ave max impacts (ug/m3)	AAC ug/m3	% of the standard
	1			9.16E+01		
Antimony	0.00E+00	3.3E-02	No			0%
Barium	1.51E-06	3.3E-02	No			0%
Chromium	4.80E-07	3.3E-02	No			0%
Cobalt	2.88E-08	3.3E-03	No			0%
Copper	1.41E-02	6.7E-02	No			21%
Cristobalite	2.60E-03	3.3E-03	No			79%
Ethylbenzene	0.00E+00	2.9E+01	No			0%
Ethylene glycol monobuthy ether (2-Butoxyethanol (EGBG), CAS No. 111-76-2) in strip tanks	1.18E-02	8.E+00	No			0%
Fluoride	0.00E+00	1.67E-01	No			0%
Hexane	6.18E-04	1.2E+01	No			0%
Hydrogen Chloride	2.02E-02	5.0E-02	No			40%
Hydrogen Peroxide	2.83E-02	1.0E-01	No			28%
Manganese	1.30E-07	3.33E-01	No			0%
Mercury	8.92E-08	3.E-03	No			0%
Molybdenum	3.77E-07	6.67E-01	No			0%
Naphthalene*	2.09E-07	2.0E-06	No			10%
Pentane	8.92E-04	1.18E+02	No			0%
Phosphoric Acid	2.68E-02	6.70E-02	No			40%
Phosphorous	0.00E+00	7.0.E-03	No			0%
Potassium Hydroxide	7.43E-03	1.3.E-01	No			6%
Quartz	2.60E-04	6.7.E-03	No			4%
Selenium	8.24E-09	1.3E-02	No			0%
Sodium Hydroxide	5.27E-02	1.3E-01	No			40%
Sulfuric Acid	3.36E-01	6.7E-02	Yes	3.08E+01	5.0E+01	62%
1,1,1 - Trichlorethane (Methyl Chloroform)	0.00E+00	1.3E+02	No			0%
Toluene	1.17E-06	2.5E+01	No			0%
o-Xylene	0.00E+00	2.9E+01	No			0%
Vanadium	7.89E-07	3.0E-03	No			0%
Zinc	9.95E-06	6.67E-01	No			0%

*Although listed as a noncarcinogen in the Rules, DEQ has determined that naphthalene is a possible/probable carcinogen. Compliance for naphthalene emissions should be based on the EL or AACC listed in Section 586 for PAH.

CARCINOGENS

Pollutant	Hourly Emissions (lb/hr)	Screening Level (lb/hr)	Modeling? (Y/N)
Arsenic	6.86E-08	1.5E-06	No
Benzene	7.21E-07	8.0E-04	No
Beryllium	4.12E-09	2.8E-05	No
Cadmium	3.77E-07	3.7E-06	No
Chromium VI compounds [a]	3.30E-02	5.6E-07	see footnote
Formaldehyde	2.57E-05	5.1E-04	No
Nickel Compounds [b]	2.00E-04	2.7E-05	see footnote
Benzo(a)pyrene	4.12E-10	2.0E-06	No
Benz(a)anthracene	6.18E-10	NA	NA
Benzo(b)fluoranthene	6.18E-10	NA	NA
Benzo(k)fluoranthene	6.18E-10	NA	NA
Chrysene	6.18E-10	NA	NA
Dibenzo(a,h)anthracene	4.12E-10	NA	NA
Indeno(1,2,3-cd)pyrene	6.18E-10	NA	NA
Total PAHs	3.91E-09	2.00E-06	No

[a] Subject to MACT 40 CFR Part 63, Subpart N. As such, so long as the facility complies with the MACT standards, no further procedures for demonstrating preconstruction compliance will be required for chromium (IDAPA 58.01.01.210.20 and proponent's 2005 TV Chrome PTC P-050005). 24-hour average rate. It is more stringent than annual average.

[b] Subject to MACT 40 CFR Part 63, Subpart WWWWWW. As such, so long as the facility complies with the MACT standards, no further procedures for demonstrating preconstruction compliance will be required for Nickel (IDAPA 58.01.01.210.20 and proponent's 2005 TV Chrome PTC P-050005). 24-hour average rate. It is more stringent than annual average.

Total TAPs: 2.34E+00 T/yr

Uncontrolled Toxic Emissions from Electroplating Process						
	EF (grains/A-hr)	Power (A)	Emissions (grains/hr)	Emissions (lb/hr)	Emissions (T/yr) [d]	HAP (yes/no)
Chromium VI Compounds from Chrome Tank[a]	0.033	5000	165	2.36E-02	1.03E-01	yes
Chromium VI Compounds from Chrome Strip Tank[a]	0.033	2000	66	9.43E-03	4.13E-02	yes
Nickel Compounds from Nickel Tank [b]	0.000504	2200	1.1088	1.58E-04	6.94E-04	yes
Copper Compounds from Cyanide Copper Tank [c]	0.033	1500	49.5	7.07E-03	3.10E-02	No
Copper Compounds from Acid Copper Tank [c]	0.033	1500	49.5	7.07E-03	3.10E-02	No

[a] EF from AP-42, Table 12.20-1 Chromium Electroplating, July 1996

[b] EF from technical document "Characterization of Emissions from Nickel Plating", June 1999. Emission factor from SCAQMD.

[c] EF assumed to be equivalent to EF for chrome tank.

[d] Operating hours assumed: 8760 hr/yr

Controlled TAP/HAP Emissions from Chrome Electroplating Tank						
	EF (grains/A-hr)	Power (A)	Control Efficiency (%)	Emissions (grains/hr)	Emissions (lb/hr)	HAP Emissions (T/yr) [a]
Chromium VI Compounds from Chrome Tank	0.033	5000	99.815%	3.05E-01	4.36E-05	1.91E-04

[d] Operating hours assumed: 8760 hr/yr

Controlled PM/PM_{10}/$PM_{2.5}$ Emissions from Electroplating Tanks						Uncontrolled PM/PM_{10}/$PM_{2.5}$	
	EF (grains/A-hr)	Power (A)	Control Efficiency (%)	Emissions (lb/hr)	Emissions (T/yr) [d]	Emissions (lb/hr)	Emissions (T/yr) [d]
From Chrome Tank[a]	0.069	5000	99.815%	9.12E-05	3.99E-04	4.93E-02	2.16E-01
From Chrome Strip Tank[a]	0.069	2000	0%	1.97E-02	8.63E-02	1.97E-02	8.63E-02
From Nickel Tank [b]	1.05E-03	2200	0%	3.31E-04	1.45E-03	3.31E-04	1.45E-03
From Cyanide Copper Tank [c]	0.069	1500	0%	1.48E-02	6.48E-02	1.48E-02	6.48E-02
From Acid Copper Tank [c]	0.069	1500	0%	1.48E-02	6.48E-02	1.48E-02	6.48E-02
Total				0.050	0.218		

[a] EF from AP-42, Table 12.20-1 Chromium Electroplating, July 1996

[b] Emissions factor for particulate from nickel electroplating is not available. Because EF for particulate is about 2.1 times of EF for Cr^{6+} compounds for chromium electroplating, it is assumed that same ratio applies to nickel electroplating.

[c] EF assumed to be equivalent to EF for chrome tank.

PM/PM_{10} and TAP Emissions from Dumping Solids Into Tanks								
Chemical Name	Amount Used (lbs/year)	EF (lb/T)[a]	PM (lb/hr, 24-hour average)	PM (T/yr)	PM (lb/yr)	TAP	TAP wt%	TAP (lb/hr, 24-hour average)
Sodium Hydroxide (Hot Strip Tank)	200	1.5	3.13E-03	7.50E-05	0.15	NaOH	98.20%	3.07E-03
Atotech Acid Salts (Acid Dip Tank)	100	1.5	1.56E-03	3.75E-05	0.075	---	---	---
EN PREP 160 SE (Chrome Strip Tank)	200	1.5	3.13E-03	7.50E-05	0.15	NaOH	30.00%	9.38E-04
BN Cleaner (BN Cleaner Tank)	600	1.5	9.38E-03	2.25E-04	0.45	NaOH	25.00%	2.34E-03
Sodium Cyanide	100	1.5	1.56E-03	3.75E-05	0.075	---	---	---
Copper Cyanide	50	1.5	7.81E-04	1.88E-05	0.0375	---	---	---
Diatomaceous Earth (Nickel Tank)	50	1.5	7.81E-04	1.88E-05	0.0375	Cristobalite	40%	3.13E-04
						Quartz	4%	3.13E-05
Activated Carbon	50	1.5	7.81E-04	1.88E-05	0.0375	---	---	---
Nickel chloride hexahydrate* (Nickel Tank)	200	1.5	0.003	7.50E-05	0.15	Nickel Chloride (an HAP)	54%	4.05E-05 HAP, T/yr
Total	1550	1.5	0.024	5.81E-04	1.1625			

*Included in HAP analysis, as 54% of the chemical substance is composed of $NiCl_2$.

[a] EF taken from AP-42, Table 11.17-4. Factor represents uncontrolled emissions. No data exists for condensable; filterable PM is calculated.

TAP Emissions in Mist Form from Tanks [e]					Emissions in Mist Form as $PM/PM_{10}/PM_{2.5}$ from Strip Tanks [f]			
Chemical Name	Amount Used (lbs/year) [a]	TAP wt%	Specific Gravity	TAP (lb/hr, 24-hour average)[b]	lb/hr, 24-hr avg. acid, base, or EGBG	lb mole, OH- or H+	after neutralization lb mole H+	Excess Acid lb/hr, 24-hr average [e]
Sodium Hydroxide (NaOH)								
- In Hot Strip Tank	200	98.20%	---	2.24E-02	0.04	1.16E-03		
-In Chrome Strip Tank (EN PREP 160 SE)	200	30.00%		6.85E-03				
-In BN Cleaner Tank (BN Cleaner)	600	25.00%		1.71E-02				
Sulfuric Acid (H_2SO_4)								
-For Various Tanks [d]	200 gal/yr	93.20%	1.835	3.26E-01				
-For strip tanks	50 gal/yr	18%	1.25	1.04E-02	0.01	2.13E-04	7.97E-04	0.078
Potassium Hydroxide (KOH) in cyanide copper tank (copper strike) and acid copper tank	20 gal/yr	30%	1.3	7.43E-03				
Hydrogen Peroxide (H_2O_2) in nickel tank	50 gal/yr	50%	1.19	2.83E-02				
Cristobalite (14464-46-1) in nickel tank	50	40%	---	2.28E-03				
Quartz in Nickel Tank		4%		2.28E-04				
Ethylene glycol monobuthy ether (2-Butoxyethanol (EGBG), CAS No. 111-76-2) in strip tanks completely water soluble, vapor pressure 0.76 mmHg at 68 F	50 gal/yr	15%	1.25	8.93E-03	0.012			
	20 gal/yr	15%	1	2.86E-03				
Phosphoric Acid (H_3PO_4) in strip tanks	50 gal/yr	45%	1.25	2.68E-02	0.027	8.20E-04	0	
Hydrogen Chloride (HCl) in strip tanks	50 gal/yr	36%	9.83 lb/gal	2.02E-02	0.020	5.53E-04		
Hydrofluoric acid (HF) in strip tanks (not a TAP but an HAP)	50 gal/yr	12.5%	1.25	7.44E-03 an HAP	0.007	3.72E-04	0	

[a] Though small amount of TAPs emit in particulate form when the chemicals are being dumped to tanks, this amount is very small and is not substracted in the "Amount Used" column.

[b] 24-hour and annual average are the same because it is assumed that the HAPs are emitted in mist form year around.

[c] density of water: 8.34 lb/gal

[d] PM emissions from plating tanks have already been counted using EFs.

[e] The facility provided annual chemicals consumptions in the application. These chemicals are added to the tanks in an annual or semi-annual basis. It is assumed that small amount of TAPs in solid chemicals is emitted in particulate form when the solid chemicals are dumped into the tanks and that the rest of the TAPs in the chemicals are emitted to the air in mist form from the tanks year around. The assumption is considered conservative because some TAPs are consumed in the chemical reactions, such as sulfuric acid and sodium hydroxide neutralization.

[f] No EFs for $PM/PM_{10}/PM_{2.5}$ from strip tanks are available. Chemicals consumed in the strip tanks after neutralization are assumed to be emitted in mist form and as $PM_{2.5}$. This approach is considered conservative because the chemicals could also react with other things on the parts. Sodium Hydroxide (NaOH) is assumed to react with Phosphoric Acid (H_3PO_4), Hydrogen Chloride (HCl), Hydrofluoric acid (HF) and Sulfuric Acid (H_2SO_4) in the strip tanks completely. Excess H+ of 8.28×10^{-4} lb mole per hour is available after neutralization. Assume it is emitted as H_2SO_4 mist and as $PM_{2.5}$: 8.28×10^{-4} lb mole/hr x 98 lb/lb mole = 0.078 lb/hr. Ethylene glycol monobuthy ether is completely soluble in water. Its vapor pressure is 0.76 mmHg at 68 oF. It is assumed to be emitted in mist form and as $PM_{2.5}$.

Total Uncontrolled TAPs from Entire Electroplating Process	
TAP	TAP (lb/hr, 24-hour average)
NaOH	5.27E-02
H2SO4	3.36E-01
KOH	7.43E-03
H2O2	2.83E-02
Cristobalite	2.60E-03
Quartz	2.60E-04
EGBG	1.18E-02
H3PO4	2.68E-02
HCl	2.02E-02
Chromium VI Compounds	3.30E-02
Nickel Compounds	1.99E-04
Copper Compounds	1.41E-02

Total Controlled HAP from Entire Electroplating Process	
	T/yr
Chromium VI Compounds	0.103
Nickel Compounds	7.34E-04
Hydrofluoric acid (HF)	0.03

Total Controlled PM/PM_{10} from Entire Electroplating Process		Total Uncontrolled PM/PM_{10} from Entire Electroplating Process	
lb/hr, 24-hour average	T/yr	lb/hr, 24-hour average	T/yr
0.164	0.677	0.213	0.828

Total Controlled $PM_{2.5}$ from Entire Electroplating Process		Total Uncontrolled $PM_{2.5}$ from Entire Electroplating Process	
lb/hr, 24-hour average	T/yr	lb/hr, 24-hour average	T/yr
0.140	0.612	0.189	0.827

CRITERIA EMISSIONS - NATURAL GAS COMBUSTION - Northwest Chrome, Inc.

Emission Factors

NOx	100 lb/10^6 scf	AP-42, Table 1.4-1, 1998
CO	84 lb/10^6 scf	AP-42, Table 1.4-1, 1998
CO_2e	120,000 lb/10^6 scf	AP-42, Table 1.4-2, 1998
PM-Total[1]	7.6 lb/10^6 scf	AP-42, Table 1.4-2, 1998
SOx	0.6 lb/10^6 scf	AP-42, Table 1.4-2, 1998
VOC	5.5 lb/10^6 scf	AP-42, Table 1.4-2, 1998
Lead	0.0005 lb/10^6 scf	AP-42, Table 1.4-2, 1998

[1]All PM (total, condensible, and filterable) is assumed to be less than 1.0 micrometer in diameter. Therefore, the PM emission factors presented here may be used to estimate PM-10, PM-2.5 or PM-1

			Pounds per Hour								
Description	Capacity (MMBtu/hr)	Throughput (scf/hr)	NOx Emissions (lb/hr)	CO Emissions (lb/hr)	CO_2e Emissions (lb/hr)	PM Emissions (lb/hr)	PM-10 Emissions (lb/hr)	PM-2.5 Emissions (lb/hr)	SOx Emissions (lb/hr)	VOC Emissions (lb/hr)	Lead Emissions (lb/hr)
Electroplating Building Heater	0.175	171.6	0.0172	0.0144	20.5882	0.0013	0.0013	0.0013	0.0001	0.0009	0.0000001
Polishing Building Heater	0.175	171.6	0.0172	0.0144	20.5882	0.0013	0.0013	0.0013	0.0001	0.0009	0.0000001
TOTAL	3.5E-01	3.4E+02	3.43E-02	2.88E-02	4.12E+01	2.61E-03	2.61E-03	2.61E-03	2.06E-04	1.89E-03	1.72E-07

			Tons per Year								
emissions.	Capacity (MMBtu/hr)	Throughput (scf/yr)	NOx Emissions (T/yr)	CO Emissions (T/yr)	CO_2e Emissions (T/yr)	PM Emissions (T/yr)	PM-10 Emissions (T/yr)	PM-2.5 Emissions (T/yr)	SOx Emissions (T/yr)	VOC Emissions (T/yr)	Lead Emissions (T/yr)
Electroplating Building Heater	0.175	751.5	0.0751	0.0631	90.1765	0.0057	0.0057	0.0057	0.0005	0.0041	0.0000004
Polishing Building Heater	0.175	751.5	0.0751	0.0631	90.1765	0.0057	0.0057	0.0057	0.0005	0.0041	0.0000004
TOTAL	3.5E-01	1.5E+03	1.50E-01	1.26E-01	1.80E+02	1.14E-02	1.14E-02	1.14E-02	9.02E-04	8.27E-03	7.51E-07

TOXIC AIR POLLUTANTS (TAPs) CALCULATIONS - NG COMBUSTION

NON-CARCINOGENS (POUNDS PER HOUR)

Pollutant	CAS #	EF for Natural Gas Combustion (lb/10^6 scf)[a]	Emissions from Natural Gas Combustion (lb/hr)
Antimony	7440-36-0	0.0E+00	0.00E+00
Barium	7440-39-3	4.4E-03	1.51E-06
Chromium	7440-47-3	1.4E-03	4.80E-07
Cobalt	7440-48-4	8.4E-05	2.88E-08
Copper	7440-50-8	8.5E-04	2.92E-07
Ethylbenzene	100-41-4	0.0E+00	0.00E+00
Fluoride (as F)	16984-48-8	0.0E+00	0.00E+00
Hexane	110-54-3	1.8E+00	6.18E-04
Manganese	7439-96-5	3.8E-04	1.30E-07
Mercury	7439-97-6	2.6E-04	8.92E-08
Molybdenum	7439-98-7	1.1E-03	3.77E-07
Naphthalene	91-20-3	6.1E-04	2.09E-07
Pentane	109-66-0	2.6E+00	8.92E-04
Phosphorous	7723-14-0	0.0E+00	0.00E+00
Selenium	7782-49-2	2.4E-05	8.24E-09
1,1,1-Trichloroethane	71-55-6	0.0E+00	0.00E+00
Toluene	108-88-3	3.4E-03	1.17E-06
o-Xylene	1330-20-7	0.0E+00	0.00E+00
Vanadium	1314-62-1	2.3E-03	7.89E-07
Zinc	7440-66-6	2.9E-02	9.95E-06

CARCINOGENS (POUNDS PER HOUR)

Pollutant	CAS #	EF for Natural Gas Combustion (lb/10^6 scf)[a]	Emissions from Natural Gas Combustion (lb/hr)
Arsenic	7440-38-2	2.0E-04	6.86E-08
Benzene	71-43-2	2.1E-03	7.21E-07
Beryllium	7440-41-7	1.2E-05	4.12E-09
Cadmium	7440-43-9	1.1E-03	3.77E-07
Chromium VI	7440-47-3	0.0E+00	0.00E+00
Formaldehyde	50-00-0	7.5E-02	2.57E-05
Nickel	7440-02-0	2.1E-03	7.21E-07
Benzo(a)pyrene	50-32-8	1.2E-06	4.12E-10
Benz(a)anthracene	56-55-3	1.8E-06	6.18E-10
Benzo(b)fluoranthene	205-82-3	1.8E-06	6.18E-10
Benzo(k)fluoranthene	205-99-2	1.8E-06	6.18E-10
Chrysene	218-01-9	1.8E-06	6.18E-10
Dibenzo(a,h)anthracene	53-70-3	1.2E-06	4.12E-10
Indeno(1,2,3-cd)pyrene	193-39-5	1.8E-06	6.18E-10
Total PAHs		1.1E-05	3.91E-09

[a]EFs from AP-42, Tables 1.4-3 and 1.4-4, 7/98

[b]EFs from AP-42, Tables 1.3-9 and 1.3-11, 9/98

[c]Emissions from two 0.175 MMBTU/hr natural gas heaters. Heat capacity of NG is assumed to be 1020 Btu/scf.

TOXIC AIR POLLUTANTS (TAPs) CALCULATIONS - NG COMBUSTION

NON-CARCINOGENS (TONS PER YEAR)

Pollutant	CAS #	EF for Natural Gas Combustion ($lb/10^6$ scf)[a]	Emissions from Boiler Natural Gas Combustion (T/yr)
Antimony	7440-36-0	0.0E+00	0.00E+00
Barium	7440-39-3	4.4E-03	6.61E-06
Chromium	7440-47-3	1.4E-03	2.10E-06
Cobalt	7440-48-4	8.4E-05	1.26E-07
Copper	7440-50-8	8.5E-04	1.28E-06
Ethylbenzene	100-41-4	0.0E+00	0.00E+00
Fluoride (as F)	16984-48-8	0.0E+00	0.00E+00
Hexane	110-54-3	1.8E+00	2.71E-03
Manganese	7439-96-5	3.8E-04	5.71E-07
Mercury	7439-97-6	2.6E-04	3.91E-07
Molybdenum	7439-98-7	1.1E-03	1.65E-06
Naphthalene	91-20-3	6.1E-04	9.17E-07
Pentane	109-66-0	2.6E+00	3.91E-03
Phosphorous	7723-14-0	0.0E+00	0.00E+00
Selenium	7782-49-2	2.4E-05	3.61E-08
1,1,1-Trichloroethane	71-55-6	0.0E+00	0.00E+00
Toluene	108-88-3	3.4E-03	5.11E-06
o-Xylene	1330-20-7	0.0E+00	0.00E+00
Vanadium	1314-62-1	2.3E-03	3.46E-06
Zinc	7440-66-6	2.9E-02	4.36E-05

CARCINOGENS (TONS PER YEAR)

Pollutant	CAS #	EF for Natural Gas Combustion ($lb/10^6$ scf)[a]	Emissions from Boiler Natural Gas Combustion (T/yr)
Arsenic	7440-38-2	2.0E-04	3.01E-07
Benzene	71-43-2	2.1E-03	3.16E-06
Beryllium	7440-41-7	1.2E-05	1.80E-08
Cadmium	7440-43-9	1.1E-03	1.65E-06
Chromium VI	7440-47-3	0.0E+00	0.00E+00
Formaldehyde	50-00-0	7.5E-02	1.13E-04
Nickel	7440-02-0	2.1E-03	3.16E-06
Benzo(a)pyrene	50-32-8	1.2E-06	1.80E-09
Benz(a)anthracene	56-55-3	1.8E-06	2.71E-09
Benzo(b)fluoranthene	205-82-3	1.8E-06	2.71E-09
Benzo(k)fluoranthene	205-99-2	1.8E-06	2.71E-09
Chrysene	218-01-9	1.8E-06	2.71E-09
Dibenzo(a,h)anthracene	53-70-3	1.2E-06	1.80E-09
Indeno(1,2,3-cd)pyrene	193-39-5	1.8E-06	2.71E-09
Total PAHs		1.1E-05	1.71E-08

[a]EFs from AP-42, Tables 1.4-3 and 1.4-4, 7/98

[b]EFs from AP-42, Tables 1.3-9 and 1.3-11, 9/98

[c]Emissions from two 0.175 MMBTU/hr natural gas heaters. Heat capacity of NG is assumed to be 1020 Btu/scf. Based on hours of operation of 8,760 hr/yr.

VOLATILE ORGANIC COMPOUNDS - Strip Tanks

Pollutant	Max Hourly Emissions (lb/hr)	Emissions (tons/yr)
Ethylene glycol monobuthy ether (2-Butoxyethanol (EGBG), CAS No. 111-76-2) in strip tanks	2.86E-03	1.3E-02

VOLATILE ORGANIC COMPOUNDS - COMBUSTION

Pollutant	Max Hourly Emissions (lb/hr)	Emissions (tons/yr)
Hexane	6.18E-04	2.7E-03
Naphthalene	2.09E-07	9.2E-07
Pentane	8.92E-04	3.9E-03
Toluene	1.17E-06	5.1E-06
Benzene	7.21E-07	3.16E-06
Formaldehyde	2.57E-05	1.13E-04
Benzo(a)pyrene	4.12E-10	1.80E-09
Benz(a)anthracene	6.18E-10	2.71E-09
Benzo(b)fluoranthene	6.18E-10	2.71E-09
Benzo(k)fluoranthene	6.18E-10	2.71E-09
Chrysene	6.18E-10	2.71E-09
Dibenzo(a,h)anthracene	4.12E-10	1.80E-09
Indeno(1,2,3-cd)pyrene	6.18E-10	2.71E-09

HP

STRIP

MATERIAL SAFETY DATA SHEET

This MSDS complies with OSHA'S Hazard Communication Standard 29 CFR 1910.1200 and OSHA Form 174

IDENTITY AND MANUFACTURER'S INFORMATION

NFPA Rating: Health-3; Flammability-0; Reactivity-1; Special-0	HMIS Rating: Health-3; Flammability-0; Reactivity-1; Personal Protection-B
Manufacturer's Name: BRODY CHEMICAL Address: 4825 S. 6200 W. SLC, UT. 84118	DOT Hazard Classification: CORROSIVE MATERIAL Identity (trade name as used on label): ALUMINUM BRIGHTENER CONCENTRATE
Date Prepared: 06/01/04 Prepared By: KM	MSDS Number: 1003C Revision- 13
Information Calls: (801) 952-2436 EMERGENCY RESPONSE NUMBER: 1-800-424-9300	NOTICE: JUDGEMENT BASED ON INDIRECT TEST DATA

SECTION 1 - MATERIAL IDENTIFICATION AND INFORMATION

COMPONENTS-CHEMICAL NAMES AND COMMON NAMES (Hazardous Components 1% or greater; Carcinogens 0.1% or greater)	CAS Number	Approx. % wt.	OSHA PEL (ppm)	ACGIH TLV (ppm)	Carcinogen Ref. Source **
Ethylene glycol monbutyl ether	111-76-2	10-15	50 ppm	25 ppm	d
Phosphoric Acid	7664-38-2	40-50	1mg/m³	1mg/m³	d
Hydrofluoric Acid	7664-39-3	10-15	1mg/m³	1mg/m³	d
Sulfuric Acid	7664-93-9	15-20	1mg/m³	1mg/m³	d
Ethoxylated Nonyl Phenol	25154-52-3	10-15	N/E	N/E	d

SECTION 2 - PHYSICAL/CHEMICAL CHARACTERISTICS

Boiling Point: 100°C	Specific Gravity (H2O=1): 1.100-1.250
Vapor Pressure: PSIG @ 70°F (Aerosols): N/A	Vapor Pressure (Non-Aerosols)(mm Hg and Temperature): N/D
Vapor Density (Air = 1): N/D	Evaporation Rate (Butyl Acetate = 1): 1
Solubility in Water: Miscible	Water Reactive: No
Appearance and Odor: Brown liquid, characteristic odor.	pH < 1.0

SECTION 3 - FIRE AND EXPLOSION HAZARD DATA

FLAMMABILITY as per USA FLAME PROJECTION TEST (aerosols) N/A	Auto Ignition Temperature N/A	Flammability Limits in Air by % in Volume: % LEL: N/A % UEL: N/A
FLASH POINT AND METHOD USED (non-aerosols): Non-Combustible SPECIAL FIRE FIGHTING PROCEDURES: Wear self contained breathing apparatus while fighting fire.	EXTINGUISHER MEDIA: Non-Combustible. Use media appropriate to surrounding fire.	
Unusual Fire & Explosion Hazards: None known		

SECTION 4 - REACTIVITY HAZARD DATA

STABILITY [X] STABLE [ ] UNSTABLE	HAZARDOUS POLYMERIZATION [ ] WILL [X] WILL NOT OCCUR
Incompatibility (Mat. to avoid): Oxidizers and strong bases (caustics).	Conditions to Avoid: Contact with strong alkalines.
Hazardous Decomposition Products: Carbon dioxide and monoxide, sulfur oxides and oxides of phosphorous.	

SECTION 5 - HEALTH HAZARD DATA

PRIMARY ROUTES OF ENTRY: [X] INHALATION [ ] INGESTION [ ] SKIN ABSORPTION [X] EYE [ ] NOT HAZARDOUS

ACUTE EFFECTS:

Inhalation: May cause irritations to upper respiratory tract. Not likely to be a problem under normal conditions of handling and use.

Eye Contact: May cause burns or irritations. Skin Contact: May cause irritation

Ingestion: May cause respiratory tract irritation.

CHRONIC EFFECTS:

Medical Conditions Generally Aggravated by Exposure: Pre-existing conditions affecting respiratory tract, eyes or skin.

EMERGENCY FIRST AID PROCEDURES

Eye Contact: Flush (including under lids) with water for at least 15 minutes. Get medical attention.

Skin Contact: Flush with cold water for at least 15 minutes. Use alkaline soap. If irritation occurs, get medical aid.

Inhalation: Remove to fresh air. If breathing is difficult, give oxygen. Call a physician immediately.

Ingestion: DO NOT INDUCE VOMITING. Give large quantities of water if conscious. Call a physician immediately.

SECTION 6 - CONTROL AND PROTECTIVE MEASURES

Respiratory Protection (specify type): Not generally needed under normal conditions of handling and usage.

Protective Gloves: Neoprene or PVC Eye Protection: Chemical safety goggles

Ventilation Requirements: Special ventilation is not generally needed under normal conditions of handling and usage.

Other Protective Clothing & Equipment: Safety shower and eyewash station.

Hygienic Work Practices: Avoid contact with skin and avoid breathing vapors. Wash hands before eating, drinking and using restrooms.

SECTION 7 - PRECAUTIONS FOR SAFE HANDLING AND USE

Steps To Be Taken If Material Is Spilled Or Released: Contain spill. Do not contaminate sewers, ground, or surface waters. Neutralize with soda ash or lime. Soak up in inert absorbent. Place in leak proof containers. Seal and label properly for proper legal disposal.

Waste Disposal Methods: Consult with appropriate regulatory agencies to determine method of disposal in compliance with federal, state, and local regulations.

Precautions To Be Taken In Handling & Storage: Store in original shipping containers. Keep closed when not in use. Protect from extreme heat or cold.

Other Precautions &/or Special Hazards: KEEP OUT OF REACH OF CHILDREN. Follow label directions.

We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind.

** Chemical Listed as Carcinogen or Potential Carcinogen. [a] NTP [b] IARC Monograph [c] OSHA [d] Not Listed [e] Animal Data Only

CONSUME

50 gal A YEAR

TAP

MATERIAL SAFETY DATA SHEET

This MSDS complies with OSHA'S Hazard Communication Standard 29 CFR 1910.1200 and OSHA Form 174

IDENTITY AND MANUFACTURER'S INFORMATION

NFPA Rating: Health-1; Flammability-0; Reactivity-0; Special-0

HMIS Rating: Health-1; Flammability-0; Reactivity-0; Personal Protection-B

Manufacturer's Name: BRODY CHEMICAL
Address: 4825 S. 6200 W.
SLC, UT. 84118

DOT Hazard Classification: NON-HAZARDOUS
Identity (trade name as used on label):
INDUSTRIAL DEGREASER

Date Prepared: 09/17/00 Prepared By: CJ

MSDS Number: 4016 Revision- 13

Information Calls: (801) 963-2436
EMERGENCY RESPONSE NUMBER: 1-800-424-9300

NOTICE: JUDGEMENT BASED ON INDIRECT TEST DATA

SECTION 1 - MATERIAL IDENTIFICATION AND INFORMATION

COMPONENTS-CHEMICAL NAMES AND COMMON NAMES (Hazardous Components 1% or greater; Carcinogens 0.1% or greater)	CAS Number	Approx. % wt.	OSHA PEL (ppm)	ACGIH TLV (ppm)	Carcinogen Ref. Source **
Diglycol Monobutyl Ether	111-76-2	Under 15%	50	25	d

SECTION 2 - PHYSICAL/CHEMICAL CHARACTERISTICS

Boiling Point: 100° C.

Specific Gravity (H2O=1): 1.05

Vapor Pressure: PSIG @ 70°F (Aerosols): N/A

Vapor Pressure (Non-Aerosols)(mm Hg and Temperature): 18mm Hg @ 70° F.

Vapor Density (Air = 1): < 1

Evaporation Rate (H20 = 1): 1.0

Solubility in Water: Completely

Water Reactive: None

Appearance and Odor: Clear yellow liquid, non viscous; butyl cellosolve odor. pH: 10.85

SECTION 3 - FIRE AND EXPLOSION HAZARD DATA

FLAMMABILITY as per USA FLAME PROJECTION TEST (aerosols) N/A

Auto Ignition Temperature N/A

Flammability Limits in Air by % in Volume: % LEL: N/A % UEL: N/A

FLASH POINT AND METHOD USED (non-aerosols): Non-combustible.

EXTINGUISHER MEDIA: Non-combustible. Use media compatible with surrounding fire.

SPECIAL FIRE FIGHTING PROCEDURES: Non-combustible. Use procedures applicable to surrounding fire.

Unusual Fire & Explosion Hazards: Not known.

SECTION 4 - REACTIVITY HAZARD DATA

STABILITY [X] STABLE [ ] UNSTABLE

HAZARDOUS POLYMERIZATION [ ] WILL [X] WILL NOT OCCUR

Incompatibility (Mat. to avoid): Strong acids, strong oxidizers.

Conditions to Avoid: None

Hazardous Decomposition Products: Oxides of carbon, nitrogen, phosphorous. Unidentified organic compounds.

SECTION 5 - HEALTH HAZARD DATA

PRIMARY ROUTES OF ENTRY: [ ] INHALATION [X] INGESTION [ ] SKIN ABSORPTION [X] EYE [ ] NOT HAZARDOUS

ACUTE EFFECTS:

Inhalation: Inhalation of spray or mist is severely irritating to respiratory tract and mucous membranes. Prolonged contact may cause tissue damage or destruction.

Eye Contact: Severely irritating. Prolonged contact may cause tissue damage or destruction.

Skin Contact: Irritating. Prolonged contact may cause dermatitis.

Ingestion: Severely irritating.

CHRONIC EFFECTS: Repeated episodes of tissue damage may cause scar tissue accumulations.

Medical Conditions Generally Aggravated by Exposure: Pre-existing irritation may be aggravated by contact.

EMERGENCY FIRST AID PROCEDURES

Eye Contact: Wash with cool water 15 minutes. Get medical attention.

Skin Contact: Rinse off thoroughly with water. If irritation persists, get medical attention.

Inhalation: Remove to fresh air. If irritation persists, or other symptoms develop, get medical attention.

Ingestion: DO NOT induce vomiting. Give large quantities of water followed by citrus juice or one ounce of vinegar in water. Follow with milk or olive oil. Call physician immediately.

SECTION 6 - CONTROL AND PROTECTIVE MEASURES

Respiratory Protection (specify type): Normally not required.

Protective Gloves: Rubber.

Eye Protection: Goggles or face shield.

Ventilation Requirements: Normal ventilation is generally adequate.

Other Protective Clothing & Equipment: Eye bath and safety shower. Rubber boots and apron if splashing is a problem.

Hygienic Work Practices: Do not eat or drink in work areas. Wash exposed skin after use.

SECTION 7 - PRECAUTIONS FOR SAFE HANDLING AND USE

Steps To Be Taken If Material Is Spilled Or Released: Avoid eye contact. Carefully neutralize with acetic acid.

Waste Disposal Methods: Dispose in accordance with all applicable regulations.

Precautions To Be Taken In Handling & Storage: Store in original shipping containers. Keep containers sealed when not in use. Protect from freezing. Shelf life: 1 year.

Other Precautions &/or Special Hazards: Keep out of reach of children.

We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind.

** Chemical Listed as Carcinogen or Potential Carcinogen. [a] NTP [b] IARC Monograph [c] OSHA [d] Not Listed [e] Animal Data Only

Consume

20 gal YEAR

APPENDIX B – AMBIENT AIR QUALITY IMPACT ANALYSES

MEMORANDUM

DATE: August 3, 2012

TO: Shawnee Chen, P.E., Permit Writer, Air Quality Division

FROM: Cheryl Robinson, P.E., Air Quality Engineer/Modeling Analyst, Air Quality Division

PROJECT NUMBER: P-2012.0031 PROJ 61060

SUBJECT: Modeling Review for Northwest Chrome, Inc., New Plymouth, Facility ID 075-00017
Initial PTC for a new chrome, nickel, and copper electroplating and polishing facility

1.0 Summary

On May 21, 2012 DEQ received a permit to construct (PTC) an application from Northwest Chrome, Inc. (NW Chrome) to relocate decorative metal plating business activities associated with Treasure Valley Chrome Plating from the existing permitted location at 201 SW 2nd Street in Fruitland (Facility ID 075-00010) to a new location at 420 Industrial Way in New Plymouth, and to operate under a new business entity, NW Chrome. Additional information regarding the space heater stack parameters and applicability of federal MACT standards was received on June 28, 2012. A revised emissions inventory was provided by Shawnee Chen on July 31, 2012, which showed that the 24-hour $PM_{2.5}$ emissions exceeded DEQ's modeling threshold but predicted ambient impacts did not exceed the 24-hour $PM_{2.5}$ NAAQS.

Air quality analyses involving atmospheric dispersion modeling of emissions associated with the facility were performed to demonstrate the facility would not cause or significantly contribute to a violation of any ambient air quality standard (IDAPA 58.01.01.203.02 [Idaho Air Rules Section 203.02]) or Toxic Air Pollutant (TAP) increment (Idaho Air Rules Section 203.03). The application and modeling analyses were prepared by the Boise office of JBR Environmental Consultants, Inc. (JBR).

Air impact analyses are required by Idaho Air Rules to be conducted according to methods outlined in 40 CFR 51, Appendix W (Guideline on Air Quality Models). Appendix W requires that facilities be modeled using emissions and operations representative of design capacity or as limited by a federally enforceable permit condition. The submitted information demonstrated to the satisfaction of the Department that operation of the proposed facility or modification will not cause or significantly contribute to a violation of any ambient air quality standard, provided the key conditions in Table 1 are representative of facility design capacity or operations as limited by a federally enforceable permit condition.

Table 1. KEY ASSUMPTIONS USED IN MODELING ANALYSES

Criteria/Assumption/Result	Explanation/Consideration
• Maximum amperage: Chromium strip tank rectifier, 2,000 amps. Cyanide copper tank and acid copper tank rectifiers, 1,500 amps each. • A fume suppressant or equivalent control measure reduces chromium emissions from the electroplating bath by at least 99.8% (alternatively, surface tension of the bath must be maintained at or below 45 dynes/cm (24-hr average), as measured by a stalagmometer. • Combustion equipment is operated on natural gas, exclusively.	Compliance with TAPs increments and $PM_{2.5}$ NAAQS was demonstrated using emissions based on these assumptions. All other criteria pollutant emissions were determined to be below DEQ modeling thresholds based on these assumptions.

2.0 Background Information

2.1 Applicable Air Quality Impact Limits and Modeling Requirements

This section identifies applicable ambient air quality limits and analyses used to demonstrate compliance for this facility located at 420 Industrial Way in New Plymouth, Idaho. Approximate UTM coordinates

for the facility are 514.2 km Easting and 4869.3 km Northing, in UTM Zone 11 (Datum WGS84). The base elevation at the facility is approximately 686 m (2,250 ft).

2.1.1 Area Classification

The facility is located within Payette County which is designated as an attainment or unclassifiable area for carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO_2), ozone, particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM_{10}), particulate matter with an aerodynamic diameter less than or equal to 2.5 micrometers ($PM_{2.5}$), and sulfur oxides (SO_x). There are no Class I areas within 10 kilometers of this location.

2.1.2 DEQ Modeling Thresholds

Modeling is typically not required if the changes in estimated criteria pollutant emission rates for a proposed project are below DEQ's modeling thresholds, shown in Table 2. "Case-by-case" thresholds may be used only with prior DEQ approval. Given the relatively short stack heights and close proximity of the stacks to the ambient air boundary, Threshold I levels must be used for this project.

Table 2. DEQ CRITERIA POLLUTANT MODELING THRESHOLDS

Criteria Air Pollutants	Averaging Period	DEQ Modeling Threshold			
		Threshold I		Threshold II (Case-by-Case)	
PM_{10}	24-hr	0.22	lb/hr	2.6	lb/hr
$PM_{2.5}$	24-hr	0.054	lb/hr	0.63	lb/hr
	Annual	0.35	T/yr	4.1	T/yr
CO	1-hr, 8-hr	15	lb/hr	175	lb/hr
NO_2	1-hour	0.20	lb/hr	2.4	lb/hr
	Annual	1.2	T/yr	14	T/yr
SO_2	1-hr	0.21	lb/hr	2.5	lb/hr
	Annual	1.2	T/yr	14	T/yr
Lead	3-month rolling avg	14	lb/mo		

Information provided in the application demonstrated that the increase in emissions of criteria pollutants associated with this project were below DEQ's modeling thresholds for all pollutants and averaging times. DEQ's estimate of the increase in emissions is shown in parentheses. Background concentrations of criteria pollutants were therefore not needed for this project, except for 24-hour and annual $PM_{2.5}$. Default rural background values for $PM_{2.5}$ were recommended: 20.2 $\mu g/m^3$ (24-hr) and 6.43 $\mu g/m^3$ (annual).

Table 3. CRITERIA POLLUTANT EMISSIONS INCREASE COMPARED TO MODELING THRESHOLDS[a]

Description	PM_{10}	$PM_{2.5}$		CO		NO_2		SO_2		Lead
	(lb/hr)	(lb/hr)	(T/yr)	(lb/hr)	(T/yr)	(lb/hr)	(T/yr)	(lb/hr)	(T/yr)	(lb/hr)
Combustion Sources	0.0026	0.0026	0.0114	0.0288	0.126	0.0343	0.15	0.01 (0.002)	0.06 (0.0009)	1.72E-07
Electroplating Process	0.0004 (0.164)	0 (0.140)	0 (0.612)	0	0	0	0	0	0	0
Total Emissions Increase	0.003 (0.166)	0.0026 (0.142)	0.0114 (0.62)	0.0288	0.126	0.0343	0.15	0.01 (0.002)	0.06 (0.0009)	1.72E-07
Level I Modeling Threshold	0.22	0.054	0.35	15	---	0.2	1.2	0.21	1.2	14 lb/mo
Modeling Required?	No	No (Yes)	No (Yes)	No	No	No	No	No	No	No

2.1.3 Toxic Air Pollutant Analyses

Emissions of toxic substances are generally addressed by Idaho Air Rules Section 161:

> *Any contaminant which is by its nature toxic to human or animal life or vegetation shall not be emitted in such quantities or concentrations as to alone, or in combination with other contaminants, injure or unreasonably affect human or animal life or vegetation.*

Permit requirements for toxic air pollutants (TAPs) from new or modified sources are specifically addressed by Idaho Air Rules Section 203.03 and require the applicant to demonstrate to the satisfaction of DEQ the following:

Using the methods provided in Section 210, the emissions of toxic air pollutants from the stationary source or modification would not injure or unreasonably affect human or animal life or vegetation as required by Section 161. Compliance with all applicable toxic air pollutant carcinogenic increments and toxic air pollutant non-carcinogenic increments will also demonstrate preconstruction compliance with Section 161 with regards to the pollutants listed in Sections 585 and 586.

Per Section 210, if the emissions increase associated with a new source or modification exceeds screening emission levels (ELs) of Idaho Air Rules Section 585 or 586, then the ambient impact of the emissions increase must be estimated. If ambient impacts are less than applicable Acceptable Ambient Concentrations (AACs) for non-carcinogens of Idaho Air Rules Section 585 and Acceptable Ambient Concentrations for Carcinogens (AACCs) of Idaho Air Rules Section 586, then compliance with TAP requirements has been demonstrated.

In accordance with Section 210.20 of the Idaho Air Rules, a demonstration of compliance with state-only TAPs standards is not required for any TAP that is regulated at the time of permit issuance under 40 CFR Part 60 (New Source Performance Standards [NSPS]), 40 CFR Part 61 (National Emission Standards for Hazardous Air Pollutants [NESHAP], or 40 CFR Part 63 (NESHAP for Source Categories / MACT standards).

3.0 Modeling Impact Assessment

3.1 Modeling Methodology

This section describes the modeling methods used by the applicant to demonstrate compliance with applicable air quality standards.

3.1.1 Overview of Analyses

JBR performed air quality analyses using AERMOD in support of the submitted permit application. A brief description of parameters used in the modeling analyses is provided in Table 4.

Table 4. MODELING PARAMETERS

Parameter	Description/Values	Documentation/Addition Description
Model	AERMOD	AERMOD with the PRIME downwash algorithm, version 12060
Meteorological data	Boise Airport 2005-2009	DEQ provided AERMOD-ready surface (.sfc) and upper air profile (.pfl) files for the years 2005-2009 developed using ASOS and NWS surface data and upper air soundings collected at the Boise Airport.
Terrain	NED 1 arc-sec	AERMAP v. 11103, using 1 arc-second NED terrain data files (NAD83/WGS84).
Building downwash	BPIP-PRIME v. 04274	Building downwash parameters were calculated using the BPIP PRIME algorithm (version 04274).
Receptor Grid	Receptors	Receptor locations were defined in UTM coordinates (NAD83)

Table 4. MODELING PARAMETERS		
Parameter	**Description/Values**	**Documentation/Addition Description**
	Nested Square Grids	10-meter (m) spacing along the ambient air boundary 25-meter (m) spacing from the property line out to about 125 m 50-meter (m) spacing from 125 m to 300 m 100-m spacing between 300 m and 600 m 250-m spacing from 600 m to 1.5 km 500-m spacing from 1.5 km to 3 km

3.1.2 Modeling Protocol and Methodology

A modeling protocol received by DEQ on May 8, 2012. Modeling was generally conducted using data described in the protocol and methods described in the *State of Idaho Air Quality Modeling Guideline*. Default rural dispersion was used.

3.1.3 Model Selection

Idaho Air Rules Section 202.02 requires that estimates of ambient concentrations be based on air quality models specified in 40 CFR 51, Appendix W (Guideline on Air Quality Models). The refined, steady state, multiple source, Gaussian dispersion model AERMOD was promulgated as the replacement model for ISCST3 in December 2005. EPA provided a one-year transition period during which either ISCST3 or AERMOD could be used at the discretion of the permitting agency. AERMOD must be used for all air impact analyses, performed in support of air quality permitting, conducted after November 2006.

AERMOD retains the single straight line trajectory of ISCST3, but includes more advanced algorithms to assess turbulent mixing processes in the planetary boundary layer for both convective and stable stratified layers.

AERMOD offers the following improvements over ISCST3:

- Improved dispersion in the convective boundary layer and the stable boundary layer.
- Improved plume rise and buoyancy calculations.
- Improved treatment of terrain effects on dispersion.
- New vertical profiles of wind, turbulence, and temperature.

3.1.4 Meteorological Data

JBR used the AERMOD-ready meteorological data set for the Boise Airport for the years 2005-2009. This data set included 1-minute ASOS wind data as well as NWS surface and upper air data collected at the Boise Airport. DEQ concurs that this is the best representative readily-available data set for a project located in New Plymouth.

3.1.5 Terrain Effects

Terrain effects on dispersion were considered in these analyses. JBR used AERMAP v. 11103 to extract the actual elevation of each receptor and determine the controlling hill height elevation from a 1-arc second (about 30 meter resolution) tiff file downloaded from the Seamless National Elevation Database (NED).

3.1.6 Facility Layout

The NW Chrome facility layout is shown in Figure 3-1 along with a 3D view of the modeled building and exhaust stacks produced using an option in the BEEST™ graphical user interface for AERMOD.

3.1.7 Building Downwash

Plume downwash effects caused by structures present at the facility were accounted for in the submitted modeling analyses. The Building Profile Input Program with Plume RIse Model Enhancements (BPIP-PRIME) was used to calculate direction-specific building dimensions and Good Engineering Practice (GEP) stack height information from building dimensions/configurations and emission release parameters for input to AERMOD.

3.1.8 Ambient Air Boundary

Ambient air is defined in Section 006 of the Idaho Air Rules as "that portion of the atmosphere, external to buildings, to which the general public has access. The property boundary was used as the ambient air boundary for the modeling analyses for this project. Although the property is not fenced, the application states that NW Chrome staff has been trained to notice and stop unauthorized access to the facility property. This level of access control is consistent with the recommendations provided in DEQ's Air Quality Modeling Guideline.[1]

Figure 3-1. NORTHWEST CHROME FACILITY LAYOUT (Photo 1 from the submitted modeling report)

3.1.9 Receptor Network

The receptor grid used for the submitted modeling analyses are summarized in Table 4, and shown graphically in Figure 3-2.

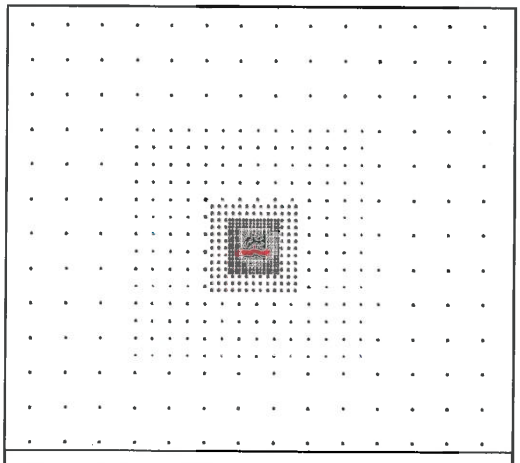

Figure 3-2. AMBIENT AIR RECEPTOR GRID

[1] DEQ 2011. State of Idaho Guideline for Performing Air Quality Impact Analyses, DOC ID AQ-011, rev. 2, July 2011, accessible at http://www.deq.idaho.gov/media/355037-modeling-guideline.pdf

3.2 Emission Release Parameters

The emission release parameters used in the submitted analyses are shown in Table 5.

Emission rates of hexavalent chromium (CrVI) from the chromium electroplating process are subject to a federal MACT standard, 40 CFR 63, Subpart N, National Emission Standards for Chromium Emissions from Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks. On June 28, 2012, JBR confirmed that emissions from the cyanide copper tank and the acid copper tank are not subject to 40 CFR 63, Subpart WWWWWW ("6W"), NESHAP: Area Source Standards for Plating and Polishing Operations. Emissions of nickel from the nickel tank, however, were determined to be subject to Subpart "6W." In accordance with Section 210 of the Idaho Air Rules, no further demonstration of compliance is required for these emissions. The net change in emissions of other TAPs and CrVI from other sources associated with this project were compared to the screening emission levels (ELs) listed in Section 585 and 586 of the Idaho Air Rules. Emissions of chromium and nickel from natural gas combustion, copper compounds, hydrogen peroxide, hydrogen chloride, potassium and sodium hydroxides, phosphoric acid, cristobalite, quartz, and ethylene glycol monoethyl ether (EGME, a chemical contained in Aluminum Brightener) were less than the applicable 24-hr or annual EL. The increase in emissions exceeded the applicable EL for one noncarcinogenic compound (sulfuric acid mist). Emission rates used in the submitted modeling analyses are shown in Table 5.

Table 5. EMISSION RELEASE PARAMETERS AND MODELED EMISSION RATES

Source Description	UTM Zone 11 (NAD83)		Base Elev (m)	Stack Height (ft)	Exit Temp (°F)	Exit Velocity (m/s)	Stack Dia (ft)	Elect TAPS (lb/hr)	Nickel (lb/hr)[a]
	Easting, X (m)	Northing, Y (m)							
ELECTRPL, Electroplating stack	514197.6	4869324.3	685.2	35	70	5.87	1.33	1.0	1.59E-04
ELSPVHT, Electroplating area space heater	514212.8	4869325.0	685.2	20	350	0.65	0.83	---	3.61E-07
PSPCHT, Polishing area space heater	514213.2	4869338.2	685.2	20	350	0.65	0.83	---	3.61E-07

[a] Although nickel emissions from nickel electroplating processes were subsequently determined to be subject to a federal MACT (hence no modeling was required for those emissions), and nickel emissions from natural gas combustion were below the applicable EL, annual nickel modeling results were used to determine annual $PM_{2.5}$ impacts, so nickel emission rates have been retained in this table.

m = meters, ft = feet, m/sec= meters per second, °F = degrees Fahrenheit

JBR was unable to confirm the source for the 0.653 m/sec exhaust velocity for the two space heaters. This value appears to be high, based on DEQ's estimates:

$\text{Exhaust Gas}_{\text{Stoichiometric}}$ (scfm) = Fw (scf/MMBtu) x Firing Rate (MMBtu/hr) x 1 hr/60 min
= 10,610 scf/MMBtu x 0.175 MMBtu/hr x 1 hr/60 min = 30.92 scfm

For natural gas combustion, excess air (EA) of about 10% typically results in exhaust gas O_2 concentration of about 2%.

$\text{Exhaust Gas}_{\text{Actual}}$ (scfm) = $\text{Exhaust Gas}_{\text{Stoichiometric}}$ (scfm) x $20.9/(20.9 - O_2)$
= 30.92 scfm x $20.9/(20.9 - 2)$ = 34.2 scfm

$\text{Exhaust Gas}_{\text{Actual}}$ (acfm), V_2 = $V_{1(std)} \times (P_1/P_2)(T_2/T_1)$ *presume* $P_1 \sim P_2$
= 34.2 x (350 + 460)/(60+460) = **53.3 acfm**

Exhaust velocity = 53.3 ft^3/min x min/60 sec x 1/ [π (0.83 ft/2)^2] x m/3.28084 ft = **0.500 m/sec**

Modeled stack exhaust velocity = 0.653 m/sec, Modeled stack diameter = 0.83 ft

Modeled $\text{Exhaust Gas}_{\text{Actual}}$ (cfm) = 0.653 m/sec x 60 sec/min x 3.28084 ft/m x π (0.83 ft/2)^2 = **69.6 acfm**

3.3 Modeling Results

The modeled maximum ambient impacts for emissions of sulfuric acid mist for this project are shown in Table 7. The maximum 24-hour modeled impact from electroplating stack emissions was 91.55 µg/m^3 per lb/hr. For a DEQ-corrected 24-hr average emission rate of 0.336 lb/hr (up from the 0.278 lb/hr (6.68 lbs x 1 hr/24 hr) described in the application) of sulfuric acid mist, this results in a maximum modeled impact of 30.8 µg/m^3. DEQ-corrected results are shown in parentheses in the table.

Table 7. MODELING RESULTS: TAPS

Pollutant	Averaging Period	Modeled Maximum Ambient Impact (µg/m^3)	AACC/AAC Increment (µg/m^3)	Percent of AACC Increment
Nickel	Annual	4.04E-03 (4.11E-03)	4.2E-03	96% (98%)
Sulfuric acid mist	24 hr	25.5 (30.8)	50	51% (62%)

DEQ determined that $PM_{2.5}$ emissions from electroplating processes, which were reported as zero in the application, exceeded DEQ's modeling thresholds for both the 24-hour and annual averaging periods. Emissions of $PM_{2.5}$ from combustion comprised less than 2% of the total 24-hour and annual emissions. For this screening analysis, the $PM_{2.5}$ emissions from combustion processes were considered to be negligible. DEQ determined $PM_{2.5}$ impacts using the modeled results for emissions of sulfuric acid mist (24-hr average) and nickel (annual average) from the electroplating stack.

The maximum impact reported for nickel in the submitted modeling report included only electroplating emissions. The maximum impact from all sources (obtained from the AERMOD output file) is shown in parentheses in Table 7. As discussed above, DEQ determined that the modeled exhaust velocity of 0.653 m/sec for the space heaters was probably a little high. For future analyses, DEQ calculations demonstrated that an exit velocity of 0.50 m/sec would be more appropriate.

$PM_{2.5}$ ambient impacts are shown in Table 8. Annual $PM_{2.5}$ impacts were estimated using two methods:

1) Converting the 24-hour dispersion coefficient to a 1-hour coefficient (divide by 0.4), then converting the 1-hour coefficient to an annual value (multiply by 0.08) using persistence factors for screening analyses:

   91.55 x 0.08 /0.4 = 18.3 µg/m^3 per lb/hr

and

2) Calculating an annual dispersion coefficient based on annual modeling results for nickel emissions from the electroplating stack:

   4.04E-03 µg/m^3 divided by 1.59E-04 lb/hr = 25.4 µg/m^3 per lb/hr

$PM_{2.5}$ impacts for a 24-hr averaging period were determined using the dispersion coefficient developed from emissions of sulfuric acid mist from the electroplating stack, i.e., 91.55 µg/m^3 per lb/hr times the $PM_{2.5}$ emission rate of 0.1423 lb/hr.

Table 8. MODELING RESULTS: $PM_{2.5}$

Averaging Period	Emission Rate (lb/hr)	Dispersion Coefficient (µg/m^3 per lb/hr)	Modeled Maximum Ambient Impact (µg/m^3)	Background Concentration (µg/m^3)	Total Ambient Impact (µg/m^3)	NAAQS (µg/m^3)	Percent of NAAQS
Annual	(0.142)	18.3 25.4	(2.6) (3.5)	6.43	(9.0) (10.0)	15	60% 66%
24 hr	(0.142)	91.55	(13.0)	20.2	(33.2)	35	95%

4.0 Conclusions

The submitted ambient air impact analyses demonstrated to DEQ's satisfaction that ambient air quality impacts from the new NW Chrome facility not cause or significantly contribute to a violation of any air quality standard.

APPENDIX C – FACILITY DRAFT COMMENTS

The following comments were received from the facility on August 9, 2012:

The facility provided additional information on the process. The information is included in the SOB and the permit.

APPENDIX D – PROCESSING FEE

PTC Fee Calculation

Instructions:
Fill in the following information and answer the following questions with a Y or N. Enter the emissions increases and decreases for each pollutant in the table.

N	Does this facility qualify for a general permit (i.e. concrete batch plant, hot-mix asphalt plant)? Y/N
Y	Did this permit require engineering analysis? Y/N
N	Is this a PSD permit Y/N (IDAPA 58.01.01.205.04)

Emissions Inventory			
Pollutant	Annual Emissions Increase (T/yr)	Annual Emissions Reduction (T/yr)	Annual Emissions Change (T/yr)
NO_X	0.2	0	0.2
SO_2	9.0E-04	0	0.0
CO	0.1	0	0.1
PM10	0.7	0	0.7
VOC	1.9E-02	0	0.0
TAPS/HAPS	2.3	0	2.3
Total:	3.3	0.0	**3.3**
Fee Due	**$ 2,500.00**		

APPENDIX E – REGULATORY ANALYSIS

(The regulatory analysis has been reviewed and revised. The facility is subject to highlighted text in the following federal regulations.)

40 CFR 63, Subpart N—National Emission Standards for Chromium Emissions from Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks

e-CFR Data is current as of May 10, 2012

Title 40: Protection of Environment
PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES

Subpart N—National Emission Standards for Chromium Emissions From Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks

Source: 60 FR 4963, Jan. 25, 1995, unless otherwise noted.

§ 63.340 Applicability and designation of sources.

(a) The affected source to which the provisions of this subpart apply is each chromium electroplating or chromium anodizing tank at facilities performing hard chromium electroplating, decorative chromium electroplating, or chromium anodizing.

The facility's chromium electroplating tank is subject to 40 CFR 63.340(a).

(b) Owners or operators of affected sources subject to the provisions of this subpart must also comply with the requirements of subpart A of this part, according to the applicability of subpart A of this part to such sources, as identified in Table 1 of this subpart.

(c) Process tanks associated with a chromium electroplating or chromium anodizing process, but in which neither chromium electroplating nor chromium anodizing is taking place, are not subject to the provisions of this subpart. Examples of such tanks include, but are not limited to, rinse tanks, etching tanks, and cleaning tanks. Likewise, tanks that contain a chromium solution, but in which no electrolytic process occurs, are not subject to this subpart. An example of such a tank is a chrome conversion coating tank where no electrical current is applied.

The facility's process tanks are not subject to the rule.

(d) Affected sources in which research and laboratory operations are performed are exempt from the provisions of this subpart when such operations are taking place.

(e) If you are an owner or operator of an area source subject to this subpart, you are exempt from the obligation to obtain a permit under 40 CFR part 70 or 71, provided you are not required to obtain a permit under 40 CFR 70.3(a) or 71.3(a) for a reason other than your status as an area source under this subpart. Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart applicable to area sources.

The facility is an area source subject to this subpart and, given the above rule, is exempt from the obligation to obtain a Title V permit. Northwest Chrome will continue to comply with the provisions of this subpart applicable to area sources, as noted in the following sections.

[60 FR 4963, Jan. 25, 1995, as amended at 61 FR 27787, June 3, 1996; 64 FR 69643, Dec. 14, 1999; 70 FR 75345, Dec. 19, 2005]

§ 63.341 Definitions and nomenclature.

The definitions are generally applicable to the facility.

(a) *Definitions.* Terms used in this subpart are defined in the Act, in subpart A of this part, or in this section. For the purposes of subpart N of this part, if the same term is defined in subpart A of this part and in this section, it shall have the meaning given in this section.

Add-on air pollution control device means equipment installed in the ventilation system of chromium electroplating and anodizing tanks for the purposes of collecting and containing chromium emissions from the tank(s).

Air pollution control technique means any method, such as an add-on air pollution control device or a chemical fume suppressant, that is used to reduce chromium emissions from chromium electroplating and chromium anodizing tanks.

Base metal means the metal or metal alloy that comprises the workpiece.

Bath component means the trade or brand name of each component(s) in trivalent chromium plating baths. For trivalent chromium baths, the bath composition is proprietary in most cases. Therefore, the trade or brand name for each component(s) can be used; however, the chemical name of the wetting agent contained in that component must be identified.

Chemical fume suppressant means any chemical agent that reduces or suppresses fumes or mists at the surface of an electroplating or anodizing bath; another term for fume suppressant is mist suppressant.

Chromic acid means the common name for chromium anhydride (CrO_3).

Chromium anodizing means the electrolytic process by which an oxide layer is produced on the surface of a base metal for functional purposes (e.g., corrosion resistance or electrical insulation) using a chromic acid solution. In chromium anodizing, the part to be anodized acts as the anode in the electrical circuit, and the chromic acid solution, with a concentration typically ranging from 50 to 100 grams per liter (g/L), serves as the electrolyte.

Chromium anodizing tank means the receptacle or container along with the following accompanying internal and external components needed for chromium anodizing: rectifiers fitted with controls to allow for voltage adjustments, heat exchanger equipment, circulation pumps, and air agitation systems.

Chromium electroplating tank means the receptacle or container along with the following internal and external components needed for chromium electroplating: Rectifiers, anodes, heat exchanger equipment, circulation pumps, and air agitation systems.

Composite mesh-pad system means an add-on air pollution control device typically consisting of several mesh-pad stages. The purpose of the first stage is to remove large particles. Smaller particles are removed in the second stage, which consists of the composite mesh pad. A final stage may remove any reentrained particles not collected by the composite mesh pad.

Decorative chromium electroplating means the process by which a thin layer of chromium (typically 0.003 to 2.5 microns) is electrodeposited on a base metal, plastic, or undercoating to provide a bright surface with wear and tarnish resistance. In this process, the part(s) serves as the cathode in the electrolytic cell and the solution serves as the electrolyte. Typical current density applied during this process ranges from 540 to 2,400 Amperes per square meter (A/m^2) for total plating times ranging between 0.5 to 5 minutes.

The facility's chrome tank is a decorative chromium electroplating tank.

Electroplating or anodizing bath means the electrolytic solution used as the conducting medium in which the flow of current is accompanied by movement of metal ions for the purposes of electroplating metal out of the solution onto a workpiece or for oxidizing the base material.

Emission limitation means, for the purposes of this subpart, the concentration of total chromium allowed to be emitted expressed in milligrams per dry standard cubic meter (mg/dscm), or the allowable surface tension expressed in dynes per centimeter (dynes/cm).

Enclosed hard chromium electroplating tank means a chromium electroplating tank that is equipped with an enclosing hood and ventilated at half the rate or less that of an open surface tank of the same surface area.

Facility means the major or area source at which chromium electroplating or chromium anodizing is performed.

Fiber-bed mist eliminator means an add-on air pollution control device that removes contaminants from a gas stream through the mechanisms of inertial impaction and Brownian diffusion. These devices are typically installed downstream of another control device, which serves to prevent plugging, and consist of one or more fiber beds. Each bed consists of a hollow cylinder formed from two concentric screens; the fiber between the screens may be fabricated from glass, ceramic plastic, or metal.

Foam blanket means the type of chemical fume suppressant that generates a layer of foam across the surface of a solution when current is applied to that solution.

Fresh water means water, such as tap water, that has not been previously used in a process operation or, if the water has been recycled from a process operation, it has been treated and meets the effluent guidelines for chromium wastewater.

Hard chromium electroplating or industrial chromium electroplating means a process by which a thick layer of chromium (typically 1.3 to 760 microns) is electrodeposited on a base material to provide a surface with functional properties such as wear resistance, a low coefficient of friction, hardness, and corrosion resistance. In this process, the part serves as the cathode in the electrolytic cell and the solution serves as the electrolyte. Hard chromium electroplating process is performed at current densities typically ranging from 1,600 to 6,500 A/m^2 for total plating times ranging from 20 minutes to 36 hours depending upon the desired plate thickness.

Hexavalent chromium means the form of chromium in a valence state of +6.

Large, hard chromium electroplating facility means a facility that performs hard chromium electroplating and has a maximum cumulative potential rectifier capacity greater than or equal to 60 million ampere-hours per year (amp-hr/yr).

Maximum cumulative potential rectifier capacity means the summation of the total installed rectifier capacity associated with the hard chromium electroplating tanks at a facility, expressed in amperes, multiplied by the maximum potential operating schedule of 8,400 hours per year and 0.7, which assumes that electrodes are energized 70 percent of the total operating time. The maximum potential operating schedule is based on operating 24 hours per day, 7 days per week, 50 weeks per year.

Open surface hard chromium electroplating tank means a chromium electroplating tank that is ventilated at a rate consistent with good ventilation practices for open tanks.

Operating parameter value means a minimum or maximum value established for a control device or process parameter which, if achieved by itself or in combination with one or more other operating parameter values, determines that an owner or operator is in continual compliance with the applicable emission limitation or standard.

Packed-bed scrubber means an add-on air pollution control device consisting of a single or double packed bed that contains packing media on which the chromic acid droplets impinge. The packed-bed section of the scrubber is followed by a mist eliminator to remove any water entrained from the packed-bed section.

Research or laboratory operation means an operation whose primary purpose is for research and development of new processes and products, that is conducted under the close supervision of technically trained personnel, and that is not involved in the manufacture of products for commercial sale in commerce, except in a de minimis manner.

Small, hard chromium electroplating facility means a facility that performs hard chromium electroplating and has a maximum cumulative potential rectifier capacity less than 60 million amp-hr/yr.

Stalagmometer means an instrument used to measure the surface tension of a solution by determining the mass of a drop of liquid by weighing a known number of drops or by counting the number of drops obtained from a given volume of liquid.

Surface tension means the property, due to molecular forces, that exists in the surface film of all liquids and tends to prevent liquid from spreading.

Tank operation means the time in which current and/or voltage is being applied to a chromium electroplating tank or a chromium anodizing tank.

Tensiometer means an instrument used to measure the surface tension of a solution by determining the amount of force needed to pull a ring from the liquid surface. The amount of force is proportional to the surface tension.

Trivalent chromium means the form of chromium in a valence state of +3.

Trivalent chromium process means the process used for electrodeposition of a thin layer of chromium onto a base material using a trivalent chromium solution instead of a chromic acid solution.

Wetting agent means the type of chemical fume suppressant that reduces the surface tension of a liquid.

(b) *Nomenclature.* The nomenclature used in this subpart has the following meaning:

(1) AMR=the allowable mass emission rate from each type of affected source subject to the same emission limitation in milligrams per hour (mg/hr).

(2) AMR_{sys}=the allowable mass emission rate from affected sources controlled by an add-on air pollution control device controlling emissions from multiple sources in mg/hr.

(3) EL=the applicable emission limitation from §63.342 in milligrams per dry standard cubic meter (mg/dscm).

(4) IA_{total}=the sum of all inlet duct areas from both affected and nonaffected sources in meters squared.

(5) IDA_i=the total inlet area for all ducts associated with affected sources in meters squared.

(6) $IDA_{i,a}$=the total inlet duct area for all ducts conveying chromic acid from each type of affected source performing the same operation, or each type of affected source subject to the same emission limitation in meters squared.

(7) VR=the total of ventilation rates for each type of affected source subject to the same emission limitation in dry standard cubic meters per minute (dscm/min).

(8) VR_{inlet}=the total ventilation rate from all inlet ducts associated with affected sources in dscm/min.

(9) $VR_{inlet,a}$=the total ventilation rate from all inlet ducts conveying chromic acid from each type of affected source performing the same operation, or each type of affected source subject to the same emission limitation in dscm/min.

(10) VR_{tot}=the average total ventilation rate for the three test runs as determined at the outlet by means of the Method 306 in appendix A of this part testing in dscm/min.

[60 FR 4963, Jan. 25, 1995, as amended at 69 FR 42894, July 19, 2004]

§ 63.342 Standards.

(a) Each owner or operator of an affected source subject to the provisions of this subpart shall comply with these requirements on and after the compliance dates specified in §63.343(a). All affected sources are regulated by applying maximum achievable control technology.

(b) *Applicability of emission limitations.* (1) The emission limitations in this section apply during tank operation as defined in §63.341, and during periods of startup and shutdown as these are routine occurrences for affected sources subject to this subpart. The emission limitations do not apply during periods of malfunction, but the work practice standards that address operation and maintenance and that are required by paragraph (f) of this section must be followed during malfunctions.

(2) If an owner or operator is controlling a group of tanks with a common add-on air pollution control device, the emission limitations of paragraphs (c), (d), and (e) of this section apply whenever any one affected source is operated. The emission limitation that applies to the group of affected sources is:

No add-on air pollution control devices will be used in the operation. Fumetrol 140 suppressant will be used instead.

(c)(1) *Standards for open surface hard chromium electroplating tanks.* During tank operation, each owner or operator of an existing, new, or reconstructed affected source shall control chromium emissions discharged to the atmosphere from that affected source by either:

The facility is not a hard chromium electroplating operation, rather a decorative one.

(2) *Standards for enclosed hard chromium electroplating tanks.* During tank operation, each owner or operator of an existing, new, or reconstructed affected source shall control chromium emissions discharged to the atmosphere from that affected source by either:

The facility is not a hard chromium electroplating operation, rather a decorative one.

(3)(i) An owner or operator may demonstrate the size of a hard chromium electroplating facility through the definitions in §63.341(a). Alternatively, an owner or operator of a facility with a maximum cumulative potential rectifier capacity of 60 million amp-hr/yr or more may be considered small if the actual cumulative rectifier capacity is less than 60 million amp-hr/yr as demonstrated using the following procedures:

The facility is not a hard chromium electroplating operation, rather a decorative one.

(d) *Standards for decorative chromium electroplating tanks using a chromic acid bath and chromium anodizing tanks.* During tank operation, each owner or operator of an existing, new, or reconstructed affected source shall control chromium emissions discharged to the atmosphere from that affected source by either:

(1) Not allowing the concentration of total chromium in the exhaust gas stream discharged to the atmosphere to exceed 0.01 mg/dscm (4.4×10^{-6}gr/dscf); or

(2) If a chemical fume suppressant containing a wetting agent is used, by not allowing the surface tension of the electroplating or anodizing bath contained within the affected source to exceed 45 dynes/cm (3.1 × 10–3lbf/ft) as measured by a stalagmometer or 35 dynes/cm (2.4×10^{-3}lb$_f$/ft) as measured by a tensiometer at any time during operation of the tank.

Northwest Chrome is choosing to use the surface tension limit under 40 CFR 63.342 (d)(2) to demonstrate compliance with MACT standards for their chromium electroplating tank.

Northwest Chrome is choosing to add a chemical fume suppressant, which will not allow the surface tension of the chromium electroplating tank to exceed 45 dynes/cm as measured by a stalagmometer. The chemical fume suppressant is Fumetrol 140, manufactured by Atotech. Fumetrol 140 has been proven to control 99.815% of chromium emissions. Refer to Appendix D for more information on both Fumetrol 140 and the operation of the stalagmometer. Fumetrol 140 was utilized in the emissions calculations and ambient air quality analysis.

(e) *Standards for decorative chromium electroplating tanks using a trivalent chromium bath.* (1) Each owner or operator of an existing, new, or reconstructed decorative chromium electroplating tank that uses a trivalent chromium bath that incorporates a wetting agent as a bath ingredient is subject to the recordkeeping and reporting requirements of §§63.346(b)(14) and 63.347(i), but are not subject to the work practice requirements of paragraph (f) of this section, or the continuous compliance monitoring requirements in §63.343(c). The wetting agent must be an ingredient in the trivalent chromium bath components purchased from vendors.

(f) ***Operation and maintenance practices.*** All owners or operators subject to the standards in paragraphs (c) and (d) of this section are subject to these operation and maintenance practices.

(1)(i) At all times, including periods of startup, shutdown, and malfunction, owners or operators shall operate and maintain any affected source, including associated air pollution control devices and monitoring equipment, in a manner consistent with good air pollution control practices.

(ii) Malfunctions shall be corrected as soon as practicable after their occurrence.

(iii) Operation and maintenance requirements established pursuant to section 112 of the Act are enforceable independent of emissions limitations or other requirements in relevant standards.

(2)(i) Determination of whether acceptable operation and maintenance procedures are being used will be based on information available to the Administrator, which may include, but is not limited to, monitoring results; review of the operation and maintenance plan, procedures, and records; and inspection of the source.

(ii) Based on the results of a determination made under paragraph (f)(2)(i) of this section, the Administrator may require that an owner or operator of an affected source make changes to the operation and maintenance plan required by paragraph (f)(3) of this section for that source. Revisions may be required if the Administrator finds that the plan:

(A) Does not address a malfunction that has occurred;

(B) Fails to provide for the proper operation of the affected source, the air pollution control techniques, or the control system and process monitoring equipment during a malfunction in a manner consistent with good air pollution control practices; or

(C) Does not provide adequate procedures for correcting malfunctioning process equipment, air pollution control techniques, or monitoring equipment as quickly as practicable.

(3) ***Operation and maintenance plan.*** (i) The owner or operator of an affected source subject to paragraph (f) of this section shall prepare an operation and maintenance plan no later than the compliance date, except for hard chromium electroplaters and the chromium anodizing operations in California which have until January 25, 1998. The plan shall be incorporated by reference into the source's title V permit, if and when a title V permit is required. The plan shall include the following elements:

(A) The plan shall specify the operation and maintenance criteria for the affected source, the add-on air pollution control device (if such a device is used to comply with the emission limits), and the process and control system monitoring equipment, and shall include a standardized checklist to document the operation and maintenance of this equipment;

(B) For sources using an add-on control device or monitoring equipment to comply with this subpart, the plan shall incorporate the operation and maintenance practices for that device or monitoring equipment, as identified in Table 1 of this section, if the specific equipment used is identified in Table 1 of this section;

The facility uses stalagmometer as monitoring equipment to comply with emission limitation of 45 dynes/cm (surface tension of the tank.) Stalagmometer as monitoring equipment is listed in Table 1 of this section.

(C) If the specific equipment used is not identified in Table 1 of this section, the plan shall incorporate proposed operation and maintenance practices. These proposed operation and maintenance practices shall be submitted for approval as part of the submittal required under §63.343(d);

(D) The plan shall specify procedures to be followed to ensure that equipment or process malfunctions due to poor maintenance or other preventable conditions do not occur; and

(E) The plan shall include a systematic procedure for identifying malfunctions of process equipment, add-on air pollution control devices, and process and control system monitoring equipment and for implementing corrective actions to address such malfunctions.

(ii) If the operation and maintenance plan fails to address or inadequately addresses an event that meets the characteristics of a malfunction at the time the plan is initially developed, the owner or operator shall revise the operation and maintenance plan within 45 days after such an event occurs. The revised plan shall include procedures for operating and maintaining the process equipment, add-on air pollution control device, or monitoring equipment during similar malfunction events, and a program for corrective action for such events.

(iii) Recordkeeping associated with the operation and maintenance plan is identified in §63.346(b). Reporting associated with the operation and maintenance plan is identified in §63.347 (g) and (h) and paragraph (f)(3)(iv) of this section.

(iv) If actions taken by the owner or operator during periods of malfunction are inconsistent with the procedures specified in the operation and maintenance plan required by paragraph (f)(3)(i) of this section, the owner or operator shall record the actions taken for that event and shall report by phone such actions within 2 working days after commencing actions inconsistent with the plan. This report shall be followed by a letter within 7 working days after the end of the event, unless the owner or operator makes alternative reporting arrangements, in advance, with the Administrator.

(v) The owner or operator shall keep the written operation and maintenance plan on record after it is developed to be made available for inspection, upon request, by the Administrator for the life of the affected source or until the source is no longer subject to the provisions of this subpart. In addition, if the operation and maintenance plan is revised, the owner or operator shall keep previous (i.e., superseded) versions of the operation and maintenance plan on record to be made available for inspection, upon request, by the Administrator for a period of 5 years after each revision to the plan.

(vi) To satisfy the requirements of paragraph (f)(3) of this section, the owner or operator may use applicable standard operating procedure (SOP) manuals, Occupational Safety and Health Administration (OSHA) plans, or other existing plans, provided the alternative plans meet the requirements of this section.

(g) The standards in this section that apply to chromic acid baths shall not be met by using a reducing agent to change the form of chromium from hexavalent to trivalent.

Table 1 to §63.342—Summary of Operation and Maintenance Practices

Control technique	Operation and maintenance practices	Frequency
Composite mesh-pad (CMP) system	1. Visually inspect device to ensure there is proper drainage, no chronic acid buildup on the pads, and no evidence of chemical attack on the structural integrity of the device	1. 1/quarter.
	2. Visually inspect back portion of the mesh pad closest to the fan to ensure there is no breakthrough of chromic acid mist	2. 1/quarter.
	3. Visually inspect ductwork from tank to the control device to ensure there are no leaks	3. 1/quarter.
	4. Perform washdown of the composite mesh-pads in accordance with manufacturers recommendations	4. Per manufacturer.
Packed-bed scrubber (PSB)	1. Visually inspect device to ensure there is proper drainage, no chromic acid buildup on the packed beds, and no evidence of chemical attack on the structural integrity of the device	1. 1/quarter.
	2. Visually inspect back portion of the chevron blade mist eliminator to ensure that it is dry and there is no breakthrough of chromic acid mist	2. 1/quarter.
	3. Same as number 3 above	3. 1/quarter.
	4. Add fresh makeup water to the top of the packed bed[a,b]	4. Whenever makeup is added.
PBS/CMP system	1. Same as for CMP system	1. 1/quarter.
	2. Same as for CMP system	2. 1/quarter.
	3. Same as for CMP system	3. 1/quarter.
	4. Same as for CMP system	4. Per manufacturer.
Fiber-bed mist	1. Visually inspect fiber-bed unit and prefiltering device to ensure there is proper drainage, no chromic acid buildup in the	1. 1/quarter.

Control technique	Operation and maintenance practices	Frequency
eliminator[c]	units, and no evidence of chemical attack on the structural integrity of the devices	
	2. Visually inspect ductwork from tank or tanks to the control device to ensure there are no leaks	2. 1/quarter.
	3. Perform washdown of fiber elements in accordance with manufacturers recommendations	3. Per manufacturer.
Air pollution control device (APCD) not listed in rule	To be proposed by the source for approval by the Administrator	To be proposed by the source for approval by the Administrator.
Monitoring Equipment		
Pitot tube	Backflush with water, or remove from the duct and rinse with fresh water. Replace in the duct and rotate 180 degrees to ensure that the same zero reading is obtained. Check pitot tube ends for damage. Replace pitot tube if cracked or fatigued	1/quarter.
Stalagmometer	Follow manufacturers recommendations	

[a]If greater than 50 percent of the scrubber water is drained (e.g., for maintenance purposes), makeup water may be added to the scrubber basin.
[b]For horizontal-flow scrubbers, top is defined as the section of the unit directly above the packing media such that the makeup water would flow perpendicular to the air flow through the packing. For vertical-flow units, the top is defined as the area downstream of the packing material such that the makeup water would flow countercurrent to the air flow through the unit.
[c]Work practice standards for the control device installed upstream of the fiber-bed mist eliminator to prevent plugging do not apply as long as the work practice standards for the fiber-bed unit are followed.

[60 FR 4963, Jan. 25, 1995; 60 FR 33122, June 27, 1995, as amended at 61 FR 27787, June 3, 1996; 62 FR 42920, Aug. 11, 1997; 68 FR 37347, June 23, 2003; 69 FR 42894, July 19, 2004; 71 FR 20456, Apr. 20, 2006]

§ 63.343 Compliance provisions.

(a) *Compliance dates.* (1) The owner or operator of an existing affected source shall comply with the emission limitations in §63.342 as follows:

(2) The owner or operator of a new or reconstructed affected source that has an initial startup after January 25, 1995, shall comply immediately upon startup of the source. The owner or operator of a new or reconstructed affected source that has an initial startup after December 16, 1993 but before January 25, 1995, shall follow the compliance schedule of §63.6(b)(1).

Northwest Chrome will immediately comply with the provisions upon startup.

(3) The owner or operator of an existing area source that increases actual or potential emissions of hazardous air pollutants such that the area source becomes a major source must comply with the provisions for existing major sources, including the reporting provisions of §63.347(g), immediately upon becoming a major source.

(4) The owner or operator of a new area source (i.e., an area source for which construction or reconstruction was commenced after December 16, 1993) that increases actual or potential emissions of hazardous air pollutants such that the area source becomes a major source must comply with the provisions for new major sources, immediately upon becoming a major source.

(5) An owner or operator of an existing hard chromium electroplating tank or tanks located at a small, hard chromium electroplating facility that increases its maximum cumulative potential rectifier capacity, or its actual cumulative rectifier capacity, such that the facility becomes a large, hard chromium electroplating facility must comply with the requirements of §63.342(c)(1)(i) for all hard chromium electroplating tanks at the facility no later than 1 year after the month in which monthly records required by §§63.342(c)(2) and 63.346(b)(12) show that the large designation is met, or by the compliance date specified in paragraph (a)(1)(ii) of this section, whichever is later.

(6) *Request for an extension of compliance.* An owner or operator of an affected source or sources that requests an extension of compliance shall do so in accordance with this paragraph and the applicable paragraphs of §63.6(i). When the owner or operator is requesting the extension for more than one affected source located at the facility, then only one request may be submitted for all affected sources at the facility.

(7) An owner or operator of a decorative chromium electroplating tank that uses a trivalent chromium bath that incorporates a wetting agent, and that ceases using the trivalent chromium process, must comply with the emission limitation now applicable to the tank within 1 year of switching bath operation.

(b) *Methods to demonstrate initial compliance.* (1) Except as provided in paragraphs (b)(2) and (b)(3) of this section, an owner or operator of an affected source subject to the requirements of this subpart is required to conduct an initial performance test as required under §63.7, except for hard chromium electroplaters and chromium anodizing operations in California which have until January 25, 1998, using the procedures and test methods listed in §§63.7 and 63.344.

(2) If the owner or operator of an affected source meets all of the following criteria, an initial performance test is not required to be conducted under this subpart:

(i) The affected source is a hard chromium electroplating tank, a decorative chromium electroplating tank or a chromium anodizing tank; and

(ii) A wetting agent is used in the plating or anodizing bath to inhibit chromium emissions from the affected source; and

(iii) The owner or operator complies with the applicable surface tension limit of §63.342(c)(1)(iii), (c)(2)(iii), or (d)(2) as demonstrated through the continuous compliance monitoring required by paragraph (c)(5)(ii) of this section.

The facility meets above criteria to be exempt from initial performance test.

(3) If the affected source is a decorative chromium electroplating tank using a trivalent chromium bath, and the owner or operator is subject to the provisions of §63.342(e), an initial performance test is not required to be conducted under this subpart.

(c) *Monitoring to demonstrate continuous compliance.* The owner or operator of an affected source subject to the emission limitations of this subpart shall conduct monitoring according to the type of air pollution control technique that is used to comply with the emission limitation. The monitoring required to demonstrate continuous compliance with the emission limitations is identified in this section for the air pollution control techniques expected to be used by the owners or operators of affected sources.

(1) *Composite mesh-pad systems.*

(2) *Packed-bed scrubber systems.*

(3) *Packed-bed scrubber/composite mesh-pad system.*

(4) *Fiber-bed mist eliminator.*

(5) *Wetting agent-type or combination wetting agent-type/foam blanket fume suppressants.* (i) During the initial performance test, the owner or operator of an affected source complying with the emission limitations in §63.342 through the use of a wetting agent in the electroplating or anodizing bath shall determine the outlet chromium concentration using the procedures in §63.344(c). The owner or operator shall establish as the site-specific operating parameter the surface tension of the bath using Method 306B, appendix A of this part, setting the maximum value that corresponds to compliance with the applicable emission limitation. In lieu of establishing the maximum surface tension during the performance test, the owner or operator may accept 45 dynes/cm as measured by a stalagmometer or 35 dynes/cm as measured by a tensiometer as the maximum surface tension value that corresponds to compliance with the applicable emission limitation. However, the owner or operator is exempt from conducting a performance test only if the criteria of paragraph (b)(2) of this section are met.

The permittee has chosen to use a wetting agent-type fume suppressant to comply with the emission limitation of 45 dynes/cm as measured by a stalagmometer.

(ii) On and after the date on which the initial performance test is required to be completed under §63.7, except for hard chromium electroplaters and chromium anodizing operations in California, which have until January 25, 1998, the owner or operator of an affected source shall monitor the surface tension of the electroplating or anodizing bath. Operation of the affected source at a surface tension greater than the value established during the performance test, or greater than 45 dynes/cm as measured by a stalagmometer or 35 dynes/cm as measured by a tensiometer if the owner or operator is using this value in accordance with paragraph (c)(5)(i) of this section, shall constitute noncompliance with the standards. The surface tension shall be monitored according to the following schedule:

(A) The surface tension shall be measured once every 4 hours during operation of the tank with a stalagmometer or a tensiometer as specified in Method 306B, appendix A of this part.

(B) The time between monitoring can be increased if there have been no exceedances. The surface tension shall be measured once every 4 hours of tank operation for the first 40 hours of tank operation after the compliance date. Once there are no exceedances during 40 hours of tank operation, surface tension measurement may be conducted once every 8 hours of tank operation. Once there are no exceedances during 40 hours of tank operation, surface tension measurement may be conducted once every 40 hours of tank operation on an ongoing basis, until an exceedance occurs. The minimum frequency of monitoring allowed by this subpart is once every 40 hours of tank operation.

(C) Once an exceedance occurs as indicated through surface tension monitoring, the original monitoring schedule of once every 4 hours must be resumed. A subsequent decrease in frequency shall follow the schedule laid out in paragraph (c)(5)(ii)(B) of this section. For example, if an owner or operator had been monitoring an affected source once every 40 hours and an exceedance occurs, subsequent monitoring would take place once every 4 hours of tank operation. Once an exceedance does not occur for 40 hours of tank operation, monitoring can occur once every 8 hours of tank operation. Once an exceedance does not occur for 40 hours of tank operation on this schedule, monitoring can occur once every 40 hours of tank operation.

(iii) Once a bath solution is drained from the affected tank and a new solution added, the original monitoring schedule of once every 4 hours must be resumed, with a decrease in monitoring frequency allowed following the procedures of paragraphs (c)(5)(ii) (B) and (C) of this section.

(6) *Foam blanket-type fume suppressants.* (i) During the initial performance test, the owner or operator of an affected source complying with the emission limitations in §63.342 through the use of a foam blanket in the

electroplating or anodizing bath shall determine the outlet chromium concentration using the procedures in §63.344(c), and shall establish as the site-specific operating parameter the thickness of the foam blanket, setting the minimum thickness that corresponds to compliance with the applicable emission limitation. In lieu of establishing the minimum foam blanket thickness during the performance test, the owner or operator may accept 2.54 centimeters (1 inch) as the minimum foam blanket thickness that corresponds to compliance with the applicable emission limitation. All foam blanket measurements must be taken in close proximity to the workpiece or cathode area in the plating tank(s).

(ii) On and after the date on which the initial performance test is required to be completed under §63.7, except for hard chromium electroplaters and chromium anodizing operations in California which have until January 25, 1998, the owner or operator of an affected source shall monitor the foam blanket thickness of the electroplating or anodizing bath. Operation of the affected source at a foam blanket thickness less than the value established during the performance test, or less than 2.54 cm (1 inch) if the owner or operator is using this value in accordance with paragraph (c)(6)(i) of this section, shall constitute noncompliance with the standards. The foam blanket thickness shall be measured according to the following schedule:

(A) The foam blanket thickness shall be measured once every 1 hour of tank operation.

(B) The time between monitoring can be increased if there have been no exceedances. The foam blanket thickness shall be measured once every hour of tank operation for the first 40 hours of tank operation after the compliance date. Once there are no exceedances for 40 hours of tank operation, foam blanket thickness measurement may be conducted once every 4 hours of tank operation. Once there are no exceedances during 40 hours of tank operation, foam blanket thickness measurement may be conducted once every 8 hours of tank operation on an ongoing basis, until an exceedance occurs. The minimum frequency of monitoring allowed by this subpart is once per 8 hours of tank operation.

(C) Once an exceedance occurs as indicated through foam blanket thickness monitoring, the original monitoring schedule of once every hour must be resumed. A subsequent decrease in frequency shall follow the schedule laid out in paragraph (c)(6)(ii)(B) of this section. For example, if an owner or operator had been monitoring an affected source once every 8 hours and an exceedance occurs, subsequent monitoring would take place once every hour of tank operation. Once an exceedance does not occur for 40 hours of tank operation, monitoring can occur once every 4 hours of tank operation. Once an exceedance does not occur for 40 hours of tank operation on this schedule, monitoring can occur once every 8 hours of tank operation.

(iii) Once a bath solution is drained from the affected tank and a new solution added, the original monitoring schedule of once every hour must be resumed, with a decrease in monitoring frequency allowed following the procedures of paragraphs (c)(6)(ii) (B) and (C) of this section.

(7) *Fume suppressant/add-on control device.* (i) If the owner or operator of an affected source uses both a fume suppressant and add-on control device and both are needed to comply with the applicable emission limit, monitoring requirements as identified in paragraphs (c) (1) through (6) of this section, and the work practice standards of Table 1 of §63.342, apply for each of the control techniques used.

(ii) If the owner or operator of an affected source uses both a fume suppressant and add-on control device, but only one of these techniques is needed to comply with the applicable emission limit, monitoring requirements as identified in paragraphs (c) (1) through (6) of this section, and work practice standards of Table 1 of §63.342, apply only for the control technique used to achieve compliance.

(8) *Use of an alternative monitoring method.* (i) Requests and approvals of alternative monitoring methods shall be considered in accordance with §63.8(f)(1), (f)(3), (f)(4), and (f)(5).

(ii) After receipt and consideration of an application for an alternative monitoring method, the Administrator may approve alternatives to any monitoring methods or procedures of this subpart including, but not limited to, the following:

(A) Alternative monitoring requirements when installation or use of monitoring devices specified in this subpart would not provide accurate measurements due to interferences caused by substances within the effluent gases; or

(B) Alternative locations for installing monitoring devices when the owner or operator can demonstrate that installation at alternate locations will enable accurate and representative measurements.

(d) An owner or operator who uses an air pollution control device not listed in this section shall submit a description of the device, test results collected in accordance with §63.344(c) verifying the performance of the device for reducing chromium emissions to the atmosphere to the level required by this subpart, a copy of the operation and maintenance plan referenced in §63.342(f) including operation and maintenance practices, and appropriate operating parameters that will be monitored to establish continuous compliance with the standards. The monitoring plan submitted identifying the continuous compliance monitoring is subject to the Administrator's approval.

[60 FR 4963, Jan. 25, 1995; 60 FR 33122, June 27, 1995, as amended at 62 FR 42920, Aug. 11, 1997; 68 FR 37347, June 23, 2003; 69 FR 42895, July 19, 2004]

§ 63.344 Performance test requirements and test methods.

The facility has chosen 45 dynes/cm measured by a stalagmometer as emissions limitation. Stack performance test is not required.

§ 63.345 Provisions for new and reconstructed sources.

Generally applicable to Northwest Chrome.

(a) This section identifies the preconstruction review requirements for new and reconstructed affected sources that are subject to, or become subject to, this subpart.

(b) *New or reconstructed affected sources.* The owner or operator of a new or reconstructed affected source is subject to §63.5(a), (b)(1), (b)(5), (b)(6), and (f)(1), as well as the provisions of this paragraph.

(1) After January 25, 1995, whether or not an approved permit program is effective in the State in which an affected source is (or would be) located, no person may construct a new affected source or reconstruct an affected source subject to this subpart, or reconstruct a source such that it becomes an affected source subject to this subpart, without submitting a notification of construction or reconstruction to the Administrator. The notification shall contain the information identified in paragraphs (b) (2) and (3) of this section, as appropriate.

(2) The notification of construction or reconstruction required under paragraph (b)(1) of this section shall include:

(i) The owner or operator's name, title, and address;

(ii) The address (i.e., physical location) or proposed address of the affected source if different from the owner's or operator's;

(iii) A notification of intention to construct a new affected source or make any physical or operational changes to an affected source that may meet or has been determined to meet the criteria for a reconstruction as defined in §63.2;

(iv) An identification of subpart N of this part as the basis for the notification;

(v) The expected commencement and completion dates of the construction or reconstruction;

(vi) The anticipated date of (initial) startup of the affected source;

(vii) The type of process operation to be performed (hard or decorative chromium electroplating, or chromium anodizing);

(viii) A description of the air pollution control technique to be used to control emissions from the affected source, such as preliminary design drawings and design capacity if an add-on air pollution control device is used; and

(ix) An estimate of emissions from the source based on engineering calculations and vendor information on control device efficiency, expressed in units consistent with the emission limits of this subpart. Calculations of emission estimates should be in sufficient detail to permit assessment of the validity of the calculations.

(3) If a reconstruction is to occur, the notification required under paragraph (b)(1) of this section shall include the following in addition to the information required in paragraph (b)(2) of this section:

Not Applicable to Northwest Chrome.

(4) The owner or operator of a new or reconstructed affected source that submits a notification in accordance with paragraphs (b) (1) through (3) of this section is not subject to approval by the Administrator. Construction or reconstruction is subject only to notification and can begin upon submission of a complete notification.

(5) *Submittal timeframes.* After January 25, 1995, whether or not an approved permit program is effective in the State in which an affected source is (or would be) located, an owner or operator of a new or reconstructed affected source shall submit the notification of construction or reconstruction required by paragraph (b)(1) of this section according to the following schedule:

(i) If construction or reconstruction commences after January 25, 1995, the notification shall be submitted as soon as practicable before the construction or reconstruction is planned to commence.

(ii) If the construction or reconstruction had commenced and initial startup had not occurred before January 25, 1995, the notification shall be submitted as soon as practicable before startup but no later than 60 days after January 25, 1995.

§ 63.346 Recordkeeping requirements.

Generally applicable to Northwest Chrome.

(a) The owner or operator of each affected source subject to these standards shall fulfill all recordkeeping requirements outlined in this section and in the General Provisions to 40 CFR part 63, according to the applicability of subpart A of this part as identified in Table 1 of this subpart.

(b) The owner or operator of an affected source subject to the provisions of this subpart shall maintain the following records for such source:

(1) Inspection records for the add-on air pollution control device, if such a device is used, and monitoring equipment, to document that the inspection and maintenance required by the work practice standards of §63.342(f) and Table 1 of §63.342 have taken place. The record can take the form of a checklist and should identify the device inspected, the date of inspection, a brief description of the working condition of the device during the inspection, and any actions taken to correct deficiencies found during the inspection.

No specific inspection requirements in Table 1 of §63.342 for Stalagmometer. The permittee is required to following manufacturer's recommendations.

(2) Records of all maintenance performed on the affected source, the add-on air pollution control device, and monitoring equipment;

(3) Records of the occurrence, duration, and cause (if known) of each malfunction of process, add-on air pollution control, and monitoring equipment;

(4) Records of actions taken during periods of malfunction when such actions are inconsistent with the operation and maintenance plan;

(5) Other records, which may take the form of checklists, necessary to demonstrate consistency with the provisions of the operation and maintenance plan required by §63.342(f)(3);

Stalagmometer is considered as monitoring equipment here.

(6) Test reports documenting results of all performance tests;

(7) All measurements as may be necessary to determine the conditions of performance tests, including measurements necessary to determine compliance with the special compliance procedures of §63.344(e);

(8) Records of monitoring data required by §63.343(c) that are used to demonstrate compliance with the standard including the date and time the data are collected;

(9) The specific identification (i.e., the date and time of commencement and completion) of each period of excess emissions, as indicated by monitoring data, that occurs during malfunction of the process, add-on air pollution control, or monitoring equipment;

(10) The specific identification (i.e., the date and time of commencement and completion) of each period of excess emissions, as indicated by monitoring data, that occurs during periods other than malfunction of the process, add-on air pollution control, or monitoring equipment;

(11) The total process operating time of the affected source during the reporting period;

(12) Records of the actual cumulative rectifier capacity of hard chromium electroplating tanks at a facility expended during each month of the reporting period, and the total capacity expended to date for a reporting period, if the owner or operator is using the actual cumulative rectifier capacity to determine facility size in accordance with §63.342(c)(2);

(13) For sources using fume suppressants to comply with the standards, records of the date and time that fume suppressants are added to the electroplating or anodizing bath;

(14) For sources complying with §63.342(e), records of the bath components purchased, with the wetting agent clearly identified as a bath constituent contained in one of the components;

(15) Any information demonstrating whether a source is meeting the requirements for a waiver of recordkeeping or reporting requirements, if the source has been granted a waiver under §63.10(f); and

(16) All documentation supporting the notifications and reports required by §63.9, §63.10, and §63.347.

(c) All records shall be maintained for a period of 5 years in accordance with §63.10(b)(1).

§ 63.347 Reporting requirements.

Generally applicable to Northwest Chrome.

(a) The owner or operator of each affected source subject to these standards shall fulfill all reporting requirements outlined in this section and in the General Provisions to 40 CFR part 63, according to the applicability of subpart

A as identified in Table 1 of this subpart. These reports shall be made to the Administrator at the appropriate address as identified in §63.13 or to the delegated State authority.

(1) Reports required by subpart A of this part and this section may be sent by U.S. mail, fax, or by another courier.

(i) Submittals sent by U.S. mail shall be postmarked on or before the specified date.

(ii) Submittals sent by other methods shall be received by the Administrator on or before the specified date.

(2) If acceptable to both the Administrator and the owner or operator of an affected source, reports may be submitted on electronic media.

(b) The reporting requirements of this section apply to the owner or operator of an affected source when such source becomes subject to the provisions of this subpart.

(c) *Initial notifications.* (1) The owner or operator of an affected source that has an initial startup before January 25, 1995, shall notify the Administrator in writing that the source is subject to this subpart. The notification shall be submitted no later than 180 calendar days after January 25, 1995, and shall contain the following information:

(2) The owner or operator of a new or reconstructed affected source that has an initial startup after January 25, 1995 shall submit an initial notification (in addition to the notification of construction or reconstruction required by §63.345(b) as follows:

(i) A notification of the date when construction or reconstruction was commenced, shall be submitted simultaneously with the notification of construction or reconstruction, if construction or reconstruction was commenced before January 25, 1995;

(ii) A notification of the date when construction or reconstruction was commenced, shall be submitted no later than 30 calendar days after such date, if construction or reconstruction was commenced after January 25, 1995; and

(iii) A notification of the actual date of startup of the source shall be submitted within 30 calendar days after such date.

(d) *Notification of performance test.* (1) The owner or operator of an affected source shall notify the Administrator in writing of his or her intention to conduct a performance test at least 60 calendar days before the test is scheduled to begin to allow the Administrator to have an observer present during the test. Observation of the performance test by the Administrator is optional.

(2) In the event the owner or operator is unable to conduct the performance test as scheduled, the provisions of §63.7(b)(2) apply.

(e) *Notification of compliance status.* (1) A notification of compliance status is required each time that an affected source becomes subject to the requirements of this subpart.

(2) If the State in which the source is located has not been delegated the authority to implement the rule, each time a notification of compliance status is required under this part, the owner or operator of an affected source shall submit to the Administrator a notification of compliance status, signed by the responsible official (as defined in §63.2) who shall certify its accuracy, attesting to whether the affected source has complied with this subpart. If the State has been delegated the authority, the notification of compliance status shall be submitted to the appropriate authority. The notification shall list for each affected source:

(i) The applicable emission limitation and the methods that were used to determine compliance with this limitation;

(ii) If a performance test is required by this subpart, the test report documenting the results of the performance test, which contains the elements required by §63.344(a), including measurements and calculations to support the special compliance provisions of §63.344(e) if these are being followed;

(iii) The type and quantity of hazardous air pollutants emitted by the source reported in mg/dscm or mg/hr if the source is using the special provisions of §63.344(e) to comply with the standards. (If the owner or operator is subject to the construction and reconstruction provisions of §63.345 and had previously submitted emission estimates, the owner or operator shall state that this report corrects or verifies the previous estimate.) For sources not required to conduct a performance test in accordance with §63.343(b), the surface tension measurement may fulfill this requirement;

(iv) For each monitored parameter for which a compliant value is to be established under §63.343(c), the specific operating parameter value, or range of values, that corresponds to compliance with the applicable emission limit;

(v) The methods that will be used to determine continuous compliance, including a description of monitoring and reporting requirements, if methods differ from those identified in this subpart;

(vi) A description of the air pollution control technique for each emission point;

(vii) A statement that the owner or operator has completed and has on file the operation and maintenance plan as required by the work practice standards in §63.342(f);

(viii) If the owner or operator is determining facility size based on actual cumulative rectifier capacity in accordance with §63.342(c)(2), records to support that the facility is small. For existing sources, records from any 12-month period preceding the compliance date shall be used or a description of how operations will change to meet a small designation shall be provided. For new sources, records of projected rectifier capacity for the first 12-month period of tank operation shall be used;

(ix) A statement by the owner or operator of the affected source as to whether the source has complied with the provisions of this subpart.

(3) For sources required to conduct a performance test by §63.343(b), the notification of compliance status shall be submitted to the Administrator no later than 90 calendar days following completion of the compliance demonstration required by §63.7 and §63.343(b).

(4) For sources that are not required to complete a performance test in accordance with §63.343(b), the notification of compliance status shall be submitted to the Administrator no later than 30 days after the compliance date specified in §63.343(a), except the date on which sources in California shall monitor the surface tension of the anodizing bath is extended to January 25, 1998.

(f) *Reports of performance test results.*

(1) If the State in which the source is located has not been delegated the authority to implement the rule, the owner or operator of an affected source shall report to the Administrator the results of any performance test conducted as required by §63.7 or §63.343(b). If the State has been delegated the authority, the owner or operator of an affected source should report performance test results to the appropriate authority.

(2) Reports of performance test results shall be submitted no later than 90 days following the completion of the performance test, and shall be submitted as part of the notification of compliance status required by paragraph (e) of this section.

The facility's chrome tank is not required to conduct performance test.

(g) *Ongoing compliance status reports for major sources.* (1) The owner or operator of an affected source that is located at a major source site shall submit a summary report to the Administrator to document the ongoing compliance status of the affected source. The report shall contain the information identified in paragraph (g)(3) of this section, and shall be submitted semiannually except when:

The facility is not a major source.

(i) The Administrator determines on a case-by-case basis that more frequent reporting is necessary to accurately assess the compliance status of the source; or

(ii) The monitoring data collected by the owner or operator of the affected source in accordance with §63.343(c) show that the emission limit has been exceeded, in which case quarterly reports shall be submitted. Once an owner or operator of an affected source reports an exceedance, ongoing compliance status reports shall be submitted quarterly until a request to reduce reporting frequency under paragraph (g)(2) of this section is approved.

(2) *Request to reduce frequency of ongoing compliance status reports.* (i) An owner or operator who is required to submit ongoing compliance status reports on a quarterly (or more frequent basis) may reduce the frequency of reporting to semiannual if all of the following conditions are met:

(A) For 1 full year (e.g., 4 quarterly or 12 monthly reporting periods), the ongoing compliance status reports demonstrate that the affected source is in compliance with the relevant emission limit;

(B) The owner or operator continues to comply with all applicable recordkeeping and monitoring requirements of subpart A of this part and this subpart; and

(C) The Administrator does not object to a reduced reporting frequency for the affected source, as provided in paragraphs (g)(2) (ii) and (iii) of this section.

(ii) The frequency of submitting ongoing compliance status reports may be reduced only after the owner or operator notifies the Administrator in writing of his or her intention to make such a change, and the Administrator does not object to the intended change. In deciding whether to approve a reduced reporting frequency, the Administrator may review information concerning the source's entire previous performance history during the 5-year recordkeeping period prior to the intended change, or the recordkeeping period since the source's compliance date, whichever is shorter. Records subject to review may include performance test results, monitoring data, and evaluations of an owner or operator's conformance with emission limitations and work practice standards. Such information may be used by the Administrator to make a judgment about the source's potential for noncompliance in the future. If the Administrator disapproves the owner or operator's request to reduce reporting frequency, the Administrator will notify the owner or operator in writing within 45 days after receiving notice of the owner or operator's intention. The notification from the Administrator to the owner or operator will specify the grounds on which the disapproval is based. In the absence of a notice of disapproval within 45 days, approval is automatically granted.

(iii) As soon as the monitoring data required by §63.343(c) show that the source is not in compliance with the relevant emission limit, the frequency of reporting shall revert to quarterly, and the owner shall state this exceedance in the ongoing compliance status report for the next reporting period. After demonstrating ongoing compliance with the relevant emission limit for another full year, the owner or operator may again request approval from the Administrator to reduce the reporting frequency as allowed by paragraph (g)(2) of this section.

(3) *Contents of ongoing compliance status reports.* The owner or operator of an affected source for which compliance monitoring is required in accordance with §63.343(c) shall prepare a summary report to document the ongoing compliance status of the source. The report must contain the following information:

This subsection applies is due to the requirements under 40 CFR 63.347(h).

(i) The company name and address of the affected source;

(ii) An identification of the operating parameter that is monitored for compliance determination, as required by §63.343(c);

(iii) The relevant emission limitation for the affected source, and the operating parameter value, or range of values, that correspond to compliance with this emission limitation as specified in the notification of compliance status required by paragraph (e) of this section;

(iv) The beginning and ending dates of the reporting period;

(v) A description of the type of process performed in the affected source;

(vi) The total operating time of the affected source during the reporting period;

(vii) If the affected source is a hard chromium electroplating tank and the owner or operator is limiting the maximum cumulative rectifier capacity in accordance with §63.342(c)(2), the actual cumulative rectifier capacity expended during the reporting period, on a month-by-month basis;

(viii) A summary of operating parameter values, including the total duration of excess emissions during the reporting period as indicated by those values, the total duration of excess emissions expressed as a percent of the total source operating time during that reporting period, and a breakdown of the total duration of excess emissions during the reporting period into those that are due to process upsets, control equipment malfunctions, other known causes, and unknown causes;

(ix) A certification by a responsible official, as defined in §63.2, that the work practice standards in §63.342(f) were followed in accordance with the operation and maintenance plan for the source;

(x) If the operation and maintenance plan required by §63.342(f)(3) was not followed, an explanation of the reasons for not following the provisions, an assessment of whether any excess emission and/or parameter monitoring exceedances are believed to have occurred, and a copy of the report(s) required by §63.342(f)(3)(iv) documenting that the operation and maintenance plan was not followed;

(xi) A description of any changes in monitoring, processes, or controls since the last reporting period;

(xii) The name, title, and signature of the responsible official who is certifying the accuracy of the report; and

(xiii) The date of the report.

(4) When more than one monitoring device is used to comply with the continuous compliance monitoring required by §63.343(c), the owner or operator shall report the results as required for each monitoring device. However, when one monitoring device is used as a backup for the primary monitoring device, the owner or operator shall only report the results from the monitoring device used to meet the monitoring requirements of this subpart. If both devices are used to meet these requirements, then the owner or operator shall report the results from each monitoring device for the relevant compliance period.

(h) *Ongoing compliance status reports for area sources.* The requirements of this paragraph do not alleviate affected area sources from complying with the requirements of State or Federal operating permit programs under 40 CFR part 71.

(1) The owner or operator of an affected source that is located at an area source site shall prepare a summary report to document the ongoing compliance status of the affected source. The report shall contain the information

identified in paragraph (g)(3) of this section, shall be completed annually and retained on site, and made available to the Administrator upon request. The report shall be completed annually except as provided in paragraph (h)(2) of this section.

(2) *Reports of exceedances.* (i) If both of the following conditions are met, semiannual reports shall be prepared and submitted to the Administrator:

(A) The total duration of excess emissions (as indicated by the monitoring data collected by the owner or operator of the affected source in accordance with §63.343(c)) is 1 percent or greater of the total operating time for the reporting period; and

(B) The total duration of malfunctions of the add-on air pollution control device and monitoring equipment is 5 percent or greater of the total operating time.

(ii) Once an owner or operator of an affected source reports an exceedance as defined in paragraph (h)(2)(i) of this section, ongoing compliance status reports shall be submitted semiannually until a request to reduce reporting frequency under paragraph (h)(3) of this section is approved.

(iii) The Administrator may determine on a case-by-case basis that the summary report shall be completed more frequently and submitted, or that the annual report shall be submitted instead of being retained on site, if these measures are necessary to accurately assess the compliance status of the source.

(3) *Request to reduce frequency of ongoing compliance status reports.* (i) An owner or operator who is required to submit ongoing compliance status reports on a semiannual (or more frequent) basis, or is required to submit its annual report instead of retaining it on site, may reduce the frequency of reporting to annual and/or be allowed to maintain the annual report onsite if all of the following conditions are met:

(A) For 1 full year (e.g., 2 semiannual or 4 quarterly reporting periods), the ongoing compliance status reports demonstrate that the affected source is in compliance with the relevant emission limit;

(B) The owner or operator continues to comply with all applicable recordkeeping and monitoring requirements of subpart A of this part and this subpart; and

(C) The Administrator does not object to a reduced reporting frequency for the affected source, as provided in paragraphs (h)(3) (ii) and (iii) of this section.

(ii) The frequency of submitting ongoing compliance status reports may be reduced only after the owner or operator notifies the Administrator in writing of his or her intention to make such a change, and the Administrator does not object to the intended change. In deciding whether to approve a reduced reporting frequency, the Administrator may review information concerning the source's previous performance history during the 5-year recordkeeping period prior to the intended change, or the recordkeeping period since the source's compliance date, whichever is shorter. Records subject to review may include performance test results, monitoring data, and evaluations of an owner or operator's conformance with emission limitations and work practice standards. Such information may be used by the Administrator to make a judgment about the source's potential for noncompliance in the future. If the Administrator disapproves the owner or operator's request to reduce reporting frequency, the Administrator will notify the owner or operator in writing within 45 days after receiving notice of the owner or operator's intention. The notification from the Administrator to the owner or operator will specify the grounds on which the disapproval is based. In the absence of a notice of disapproval within 45 days, approval is automatically granted.

(iii) As soon as the monitoring data required by §63.343(c) show that the source is not in compliance with the relevant emission limit, the frequency of reporting shall revert to semiannual, and the owner shall state this exceedance in the ongoing compliance status report for the next reporting period. After demonstrating ongoing

compliance with the relevant emission limit for another full year, the owner or operator may again request approval from the Administrator to reduce the reporting frequency as allowed by paragraph (h)(3) of this section.

(i) *Reports associated with trivalent chromium baths.* The requirements of this paragraph do not alleviate affected sources from complying with the requirements of State or Federal operating permit programs under title V. Owners or operators complying with the provisions of §63.342(e) are not subject to paragraphs (a) through (h) of this section, but must instead submit the following reports:

The facility does not use trivalent chromium baths.

(1) Within 180 days after January 25, 1995, submit an initial notification that includes:

(i) The same information as is required by paragraphs (c)(1) (i) through (v) of this section; and

(ii) A statement that a trivalent chromium process that incorporates a wetting agent will be used to comply with §63.342(e); and

(iii) The list of bath components that comprise the trivalent chromium bath, with the wetting agent clearly identified; and

(2) Within 30 days of the compliance date specified in §63.343(a), a notification of compliance status that contains an update of the information submitted in accordance with paragraph (i)(1) of this section or a statement that the information is still accurate; and

(3) Within 30 days of a change to the trivalent chromium electroplating process, a report that includes:

(i) A description of the manner in which the process has been changed and the emission limitation, if any, now applicable to the affected source;

(ii) If a different emission limitation applies, the applicable information required by paragraph (c)(1) of this section; and

(iii) The notification and reporting requirements of paragraphs (d), (e), (f), (g), and (h) of this section, which shall be submitted in accordance with the schedules identified in those paragraphs.

[60 FR 4963, Jan. 25, 1995, as amended at 61 FR 27787, June 3, 1996; 62 FR 4465, Jan. 30, 1997, 62 FR 42921, Aug. 11, 1997; 69 FR 42897, July 19, 2004]

§ 63.348 Implementation and enforcement.

Applies to EPA delegation authority.

[68 FR 37347, June 23, 2003]

40 CFR 63, Subpart WWWWWW—National Emission Standards for Hazardous Air Pollutants: Area Source Standards for Plating and Polishing Operations

e-CFR Data is current as of June 20, 2012

Title 40: Protection of Environment
PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES (CONTINUED)

Browse Previous | Browse Next

Subpart WWWWWW—National Emission Standards for Hazardous Air Pollutants: Area Source Standards for Plating and Polishing Operations

Source: 73 FR 37741, July 1, 2008, unless otherwise noted.

Applicability and Compliance Dates

§ 63.11504 Am I subject to this subpart?

(a) You are subject to this subpart if you own or operate a plating and polishing facility that is an area source of hazardous air pollutant (HAP) emissions and meets the criteria specified in paragraphs (a)(1) through (3) of this section.

(1) A plating and polishing facility is a plant site that is engaged in one or more of the processes listed in paragraphs (a)(1)(i) through (vi) of this section.

(i) Electroplating other than chromium electroplating (i.e., non-chromium electroplating).

The facility's nickel tank

(ii) Electroless or non-eletrolytic plating.

(iii) Other non-electrolytic metal coating processes, such as chromate conversion coating, nickel acetate sealing, sodium dichromate sealing, and manganese phosphate coating; and thermal spraying.

(iv) Dry mechanical polishing of finished metals and formed products after plating or thermal spraying.

The facility polishes metal and formed products before they are plated, not afterwards. Therefore, the facility's dry mechanical polishing is not subject to this subpart.

(v) Electroforming.

(vi) Electropolishing.

(2) A plating or polishing facility is an area source of HAP emissions, where an area source is any stationary source or group of stationary sources within a contiguous area under common control that does not have the potential to emit any single HAP at a rate of 9.07 megagrams per year (Mg/yr) (10 tons per year (tpy)) or more and any combination of HAP at a rate of 22.68 Mg/yr (25 tpy) or more.

(3) Your plating and polishing facility uses or has emissions of compounds of one or more plating and polishing metal HAP, which means any compound of any of the following metals: cadmium, chromium, lead, manganese, and nickel, as defined in §63.11511, "What definitions apply to this subpart?" With the exception of lead, plating and polishing metal HAP also include any of these metals in the elemental form.

The nickel tank contains nickel and nickel compounds. The copper tanks do not use above listed metal HAPs and are not subject to this subpart.

(b) [Reserved]

[73 FR 37741, July 1, 2008, as amended at 76 FR 57919, Sept. 19, 2011]

§ 63.11505 What parts of my plant does this subpart cover?

(a) This subpart applies to each new or existing affected source, as specified in paragraphs (a)(1) through (3) of this section, at all times. A new source is defined in §63.11511, "What definitions apply to this subpart?"

(1) Each tank that contains one or more of the plating and polishing metal HAP, as defined in §63.11511, "What definitions apply to this subpart?", and is used for non-chromium electroplating; electroforming; electropolishing; electroless plating or other non-electrolytic metal coating operations, such as chromate conversion coating, nickel acetate sealing, sodium dichromate sealing, and manganese phosphate coating.

(2) Each thermal spraying operation that applies one or more of the plating and polishing metal HAP, as defined in §63.11511, "What definitions apply to this subpart?"

(3) Each dry mechanical polishing operation that emits one or more of the plating and polishing metal HAP, as defined in §63.11511, "What definitions apply to this subpart?"

(b) An affected source is existing if you commenced construction or reconstruction of the affected source on or before March 14, 2008.

(c) An affected source is new if you commenced construction or reconstruction of the affected source after March 14, 2008.

(d) This subpart does not apply to any of the process units or operations described in paragraphs (d)(1) through (6) of this section.

(1) Process units that are subject to the requirements of 40 CFR part 63, subpart N (National Emission Standards for Chromium Emissions from Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks).

(2) Research and development process units, as defined in §63.11511, "What definitions apply to this subpart?"

(3) Process units that are used strictly for educational purposes.

(4) Plating, polishing, coating, or thermal spraying conducted to repair surfaces or equipment.

(5) Dry mechanical polishing conducted to restore the original finish to a surface.

The facility performs some dry mechanical polishing in order to restore the original finish to a surface. The facility polishes metal and formed products before they are plated, not afterwards. Therefore, the facility's dry mechanical polishing is not subject to this subpart.

(6) Any plating or polishing process that uses process materials that contain cadmium, chromium, lead, or nickel (as the metal) in amounts less than 0.1 percent by weight, or that contain manganese in amounts less than 1.0 percent by weight (as the metal), as used. Information used to determine the amount of plating and polishing metal HAP in materials used in the plating or polishing process may include information reported on the Material Safety Data Sheet for the material, but is not required. For plating or polishing tanks, the HAP content may be determined from the final bath contents "as used" to plate or to polish.

(e) You are exempt from the obligation to obtain a permit under 40 CFR part 70 or 40 CFR part 71, "Title V," provided you are not otherwise required to obtain a permit under 40 CFR 70.3(a) or 40 CFR 71.3(a) for a reason other than your status as an area source under this subpart. Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart applicable to area sources.

[73 FR 37741, July 1, 2008, as amended at 76 FR 57919, Sept. 19, 2011]

§ 63.11506 What are my compliance dates?

(a) If you own or operate an existing affected source, you must achieve compliance with the applicable provisions of this subpart no later than July 1, 2010.

(b) If you own or operate a new affected source for which the initial startup date is on or before July 1, 2008, you must achieve compliance with the provisions of this subpart no later than July 1, 2008.

(c) If you own or operate a new affected source for which the initial startup date is after July 1, 2008, you must achieve compliance with the provisions of this subpart upon initial startup of your affected source.

Standards and Compliance Requirements

§ 63.11507 What are my standards and management practices?

(a) If you own or operate an affected new or existing non-cyanide electroplating, electroforming, or electropolishing tank (hereafter referred to as an "electrolytic" process tank, as defined in §63.11511, "What definitions apply to this subpart?") that contains one or more of the plating and polishing metal HAP and operates at a pH of less than 12, you must comply with the requirements in paragraph (a)(1), (2), or (3) of this section, and implement the applicable management practices in paragraph (g) of this section, as practicable.

The facility's nickel tank does not use cyanide as a major bath ingredient.

(1) You must use a wetting agent/fume suppressant in the bath of the affected tank, as defined in §63.11511, "What definitions apply to this subpart?" and according to paragraphs (a)(1)(i) through (iii) of this section.

(i) You must initially add the wetting agent/fume suppressant in the amounts recommended by the manufacturer for the specific type of electrolytic process.

(ii) You must add wetting agent/fume suppressant in proportion to the other bath chemistry ingredients that are added to replenish the bath, as in the original make-up of the bath, or in proportions such that the bath contents are returned to that of the original make-up of the bath.

(iii) If a wetting agent/fume suppressant is included in the electrolytic process bath chemicals used in the affected tank according to the manufacturer's instructions, it is not necessary to add additional wetting agent/fume suppressants to the tank to comply with this rule.

The facility has chosen to use wetting agent for nickel tank and to consume 20 gallons per year according to the information in the application.

(2) You must capture and exhaust emissions from the affected tank to any one of the following emission control devices: composite mesh pad, packed bed scrubber, or mesh pad mist eliminator, according to paragraphs (a)(2)(i) and (ii) of this section.

(i) You must operate all capture and control devices according to the manufacturer's specifications and operating instructions.

(ii) You must keep the manufacturer's specifications and operating instructions at the facility at all times in a location where they can be easily accessed by the operators.

(3) You must cover the tank surface according to paragraph (a)(3)(i) or (ii) of this section.

(i) For batch electrolytic process tanks, as defined in §63.11511, "What definitions apply to this subpart?", you must use a tank cover, as defined in §63.11511, over all of the effective surface area of the tank for at least 95 percent of the electrolytic process operating time.

(ii) For continuous electrolytic process tanks, as defined in §63.11511, "What definitions apply to this subpart?", you must cover at least 75 percent of the surface of the tank, as defined in §63.11511, whenever the electrolytic process tank is in operation.

(b) If you own or operate an affected new or existing "flash" or short-term electroplating tank, as defined in §63.11511, "What definitions apply to this subpart?", that uses or emits one or more of the plating and polishing metal HAP, you must comply with the requirements specified in paragraph (b)(1) or (b)(2), and implement the applicable management practices in paragraph (g) of this section, as practicable.

The nickel tank is not a "flash" electroplating tank. The plating takes 15 to 30 minutes.

(1) You must limit short-term or "flash" electroplating to no more than 1 cumulative hour per day or 3 cumulative minutes per hour of plating time.

(2) You must use a tank cover, as defined in §63.11511, "What definitions apply to this subpart?", for at least 95 percent of the plating time.

(c) If you own or operate an affected new or existing process tank that is used both for short-term electroplating and for electrolytic processing of longer duration (i.e., processing that does not meet the definition of short-term or flash electroplating) and contains one or more of the plating and polishing metal HAP, you must meet the requirements specified in paragraph (a) or (b) of this section, whichever apply to the process operation, and implement the applicable management practices in paragraph (g) of this section, as practicable.

The nickel tank is not a "flash" electroplating tank. The plating takes 15 to 30 minutes.

(d) If you own or operate an affected new or existing electroplating tank that uses cyanide in the plating bath, operates at pH greater than or equal to 12, and contains one or more of the plating and polishing metal HAP, you must comply with the requirements in paragraphs (d)(1) and (2) of this section:

The nickel tank does not use cyanide. The facility confirmed this in their 8/9/2012 comments to the draft permit.

(1) You must measure and record the pH of the bath upon startup of the bath, as defined in §63.11511, "What definitions apply to this subpart?" No additional pH measurements are required.

(2) You must implement the applicable management practices in paragraph (g) of this section, as practicable.

(e) If you own or operate an affected new or existing dry mechanical polishing machine that emits one or more of the plating and polishing metal HAP, you must operate a capture system that captures particulate matter (PM) emissions from the dry mechanical polishing process and transports the emissions to a cartridge, fabric, or high efficiency particulate air (HEPA) filter, according to paragraphs (e)(1) and (2) of this section.

The facility polishes metal and formed products before they are plated, not afterwards. Therefore, the facility's dry mechanical polishing is not subject to this subpart.

(1) You must operate all capture and control devices according to the manufacturer's specifications and operating instructions.

(2) You must keep the manufacturer's specifications and operating instructions at the facility at all times in a location where they can be easily accessed by the operators.

(f) If you own or operate an affected thermal spraying operation that applies one or more of the plating and polishing metal HAP, you must meet the applicable requirements specified in paragraphs (f)(1) through (3) of this section, and the applicable management practices in paragraph (g) of this section.

The facility does not have this process.

(1) For existing permanent thermal spraying operations, you must operate a capture system that collects PM emissions from the thermal spraying process and transports the emissions to a water curtain, fabric filter, cartridge, or HEPA filter, according to paragraphs (f)(1)(i) and (ii) of this section.

(2) For new permanent thermal spraying operations, you must operate a capture system that collects PM emissions from the thermal spraying process and transports the emissions to a fabric, cartridge, or HEPA filter, according to paragraphs (f)(2)(i) and (ii) of this section.

(3) For temporary thermal spraying operations, as defined in §63.11511 "What definitions apply to this subpart?", you must meet the applicable requirements specified in paragraphs (f)(3)(i) and (ii) of this section.

(i) You must document the amount of time the thermal spraying occurs each day, and where it is conducted.

(ii) You must implement the applicable management practices specified in paragraph (g) of this section, as practicable.

(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.

The Nickel tank is subject to the requirements.

(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.

[73 FR 37741, July 1, 2008, as amended at 76 FR 57920, Sept. 19, 2011]

§ 63.11508 What are my compliance requirements?

(a) If you own or operate an affected source, you must submit a Notification of Compliance Status in accordance with §63.11509(b) of "What are my notification, reporting, and recordkeeping requirements?"

(b) You must be in compliance with the applicable management practices and equipment standards in this subpart at all times.

(c) To demonstrate initial compliance, you must satisfy the requirements specified in paragraphs (c)(1) through (11) of this section.

(1) If you own or operate an affected electroplating, electroforming, or electropolishing tank that contains one or more of the plating and polishing metal HAP and is subject to the requirements in §63.11507(a), "What are my standards and management practices?", and you use a wetting agent/fume suppressant to comply with this subpart, you must demonstrate initial compliance according to paragraphs (c)(1)(i) through (iv) of this section.

(i) You must add wetting agent/fume suppressant to the bath of each affected tank according to manufacturer's specifications and instructions.

(ii) You must state in your Notification of Compliance Status that you add wetting agent/fume suppressant to the bath according to manufacturer's specifications and instructions.

(iii) You must implement the applicable management practices specified in §63.11507(g), "What are my standards and management practices?", as practicable.

(iv) You must state in your Notification of Compliance Status that you have implemented the applicable management practices specified in §63.11507(g), "What are my standards and management practices?", as practicable.

The facility uses wetting agent for the nickel tank.

(2) If you own or operate an affected electroplating, electroforming, or electropolishing tank that contains one or more of the plating and polishing metal HAP and is subject to the requirements in §63.11507(a), "What are my standards and management practices?", and you use a control system, as defined in §63.11511, "What definitions apply to this subpart?", to comply with this subpart, you must demonstrate initial compliance according to paragraphs (c)(2)(i) through (v) of this section.

The facility uses wetting agent for the nickel tank and does not use a control system as defined in §63.11511. The nickel tank is not subject to the requirements.

(i) You must install a control system designed to capture emissions from the affected tank and exhaust them to a composite mesh pad, packed bed scrubber, or mesh pad mist eliminator.

(ii) You must state in your Notification of Compliance Status that you have installed the control system according to the manufacturer's specifications and instructions.

(iii) You must implement the applicable management practices specified in §63.11507(g), "What are my standards and management practices?", as practicable.

(iv) You must state in your Notification of Compliance Status that you have implemented the applicable management practices specified in §63.11507(g), "What are my standards and management practices?", as practicable.

(v) You must follow the manufacturer's specifications and operating instructions for the control systems at all times.

(3) If you own or operate an affected batch electrolytic process tank, as defined in §63.11511, "What definitions apply to this subpart?" that contains one or more of the plating and polishing metal HAP and which is subject to the requirements in §63.11507(a), "What are my standards and management practices?" and you use a tank cover, as defined in §63.11511, to comply with §11507(a), (b) or (c) of this subpart, you must demonstrate initial compliance according to paragraphs (c)(3)(i) through (iv) of this section.

The facility uses wetting agent for the nickel tank and does not use tank cover. This part does not apply. The facility confirmed this in their 8/9/2012 comments to the draft permit. Tank is only covered at the end of day. The tank uses a nickel wetting agent.

(i) You must install a tank cover on the affected tank.

(ii) You must state in your Notification of Compliance Status that you operate the tank with the cover in place at least 95 percent of the electrolytic process operating time.

(iii) You must implement the applicable management practices specified in §63.11507(g), "What are my standards and management practices?", as practicable.

(iv) You must state in your Notification of Compliance Status that you have implemented the applicable management practices specified in §63.11507(g), "What are my standards and management practices?", as practicable.

(4) If you own or operate an affected continuous electrolytic process tank, as defined in §63.11511, "What definitions apply to this subpart?" that contains one or more of the plating and polishing metal HAP and is subject to the requirements in §63.11507(a), "What are my standards and management practices?" and you cover the tank surface to comply with §11507(a), (b) or (c) of this subpart, you must demonstrate initial compliance according to paragraphs (c)(4)(i) through (iv) of this section.

The facility uses wetting agent for the nickel tank and does not use tank cover. This part does not apply.

(i) You must cover at least 75 percent of the surface area of the affected tank.

(ii) You must state in your Notification of Compliance Status that you operate the tank with the surface cover in place whenever the continuous electrolytic process is in operation.

(iii) You must implement the applicable management practices specified in §63.11507(g), "What are my standards and management practices?", as practicable.

(iv) You must state in your Notification of Compliance Status that you have implemented the applicable management practices specified in §63.11507(g), "What are my standards and management practices?", as practicable.

(5) If you own or operate an affected flash or short-term electroplating tank that contains one or more of the plating and polishing metal HAP and is subject to the requirements in §63.11507(b), "What are my standards and management practices?" and you comply with §11507(a), (b) or (c) of this subpart by limiting the plating time of the affected tank, you must demonstrate initial compliance according to paragraphs (c)(5)(i) through (iii) of this section.

(i) You must state in your Notification of Compliance Status that you limit short-term or flash electroplating to no more than 1 cumulative hour per day, or 3 cumulative minutes per hour of plating time.

(ii) You must implement the applicable management practices specified in §63.11507(g), "What are my standards and management practices?", as practicable.

(iii) You must state in your Notification of Compliance Status that you have implemented the applicable management practices specified in §63.11507(g), "What are my standards and management practices?", as practicable.

(6) If you own or operate an affected flash or short-term electroplating tank that contains one or more of the plating and polishing metal HAP and is subject to the requirements in §63.11507(b), "What are my standards and management practices?" and you comply with §11507(a), (b) or (c) of this subpart by operating the affected tank with a cover, you must demonstrate initial compliance according to paragraphs (c)(6)(i) through (iv) of this section.

(i) You must install a tank cover on the affected tank.

(ii) You must state in your Notification of Compliance Status that you operate the tank with the cover in place at least 95 percent of the plating time.

(iii) You must implement the applicable management practices specified in §63.11507(g), "What are my standards and management practices?", as practicable.

(iv) You must state in your Notification of Compliance Status that you have implemented the applicable management practices specified in §63.11507(g), "What are my standards and management practices?", as practicable.

(7) If you own or operate an affected tank that contains one or more of the plating and polishing metal HAP, uses cyanide in the bath, and is subject to the management practices specified in §63.11507(d), "What are my standards and management practices?", you must demonstrate initial compliance according to paragraphs (c)(7)(i) through (iii) of this section.

(i) You must report in your Notification of Compliance Status the pH of the bath solution that was measured at startup, as defined in §63.11511, according to the requirements of §63.11507(d)(1).

(ii) You must implement the applicable management practices specified in §63.11507(g), "What are my standards and management practices?", as practicable.

(iii) You must state in your Notification of Compliance Status that you have implemented the applicable management practices specified in §63.11490(g), "What are my standards and management practices?", as practicable.

(8) If you own or operate an affected dry mechanical polishing operation that emits one or more of the plating and polishing metal HAP and is subject to the requirements in §63.11507(e), "What are my standards and management practices?", you must demonstrate initial compliance according to paragraphs (c)(8)(i) through (iii) of this section.

(i) You must install a control system that is designed to capture PM emissions from the polishing operation and exhaust them to a cartridge, fabric, or HEPA filter.

(ii) You must state in your Notification of Compliance Status that you have installed the control system according to the manufacturer's specifications and instructions.

(iii) You must keep the manufacturer's operating instructions at the facility at all times in a location where they can be easily accessed by the operators.

(9) If you own or operate an existing affected permanent thermal spraying operation that applies one or more of the plating and polishing metal HAP and is subject to the requirements in §63.11507(f)(1), "What are my standards and management practices?", you must demonstrate initial compliance according to paragraphs (c)(9)(i) through (iii) of this section.

(i) You must install a control system that is designed to capture PM emissions from the thermal spraying operation and exhaust them to a water curtain, or a cartridge, fabric, or HEPA filter.

(ii) You must state in your Notification of Compliance Status that you have installed and are operating the control system according to the manufacturer's specifications and instructions.

(iii) You must keep the manufacturer's operating instructions at the facility at all times in a location where they can be easily accessed by the operators.

(10) If you own or operate a new affected permanent thermal spraying operation that applies one or more of the plating and polishing metal HAP and is subject to the requirements in §63.11507(f)(2), "What are my standards and management practices?", you must demonstrate initial compliance according to paragraphs (c)(10)(i) through (iii) of this section.

(i) You must install and operate a control system that is designed to capture PM emissions from the thermal spraying operation and exhaust them to a cartridge, fabric, or HEPA filter.

(ii) You must state in your Notification of Compliance Status that you have installed and operate the control system according to the manufacturer's specifications and instructions.

(iii) You must keep the manufacturer's operating instructions at the facility at all times in a location where they can be easily accessed by the operators.

(11) If you own or operate an affected temporary thermal spraying operation that applies one or more of the plating and polishing metal HAP and is subject to the requirements in §63.11507(f)(3), "What are my standards and management practices?", you must demonstrate initial compliance according to paragraphs (c)(11)(i) and (ii) of this section.

(i) You must implement the applicable management practices specified in §63.11507(g), "What are my standards and management practices?", as practicable.

(ii) You must state in your Notification of Compliance Status that you have implemented the applicable management practices specified in §63.11507(g), "What are my standards and management practices?", as practicable.

(d) To demonstrate continuous compliance with the applicable management practices and equipment standards specified in this subpart, you must satisfy the requirements specified in paragraphs (d)(1) through (8) of this section.

(1) You must always operate and maintain your affected source, including air pollution control equipment.

(2) You must prepare an annual compliance certification according to the requirements specified in §63.11509(c), "Notification, Reporting, and Recordkeeping," and keep it in a readily-accessible location for inspector review.

(3) If you own or operate an affected electroplating, electroforming, or electropolishing tank that contains one or more of the plating and polishing metal HAP and is subject to the requirements in §63.11507(a), "What are my standards and management practices?", and you use a wetting agent/fume suppressant to comply with this subpart, you must demonstrate continuous compliance according to paragraphs (d)(3)(i) through (iii) of this section.

(i) You must record that you have added the wetting agent/fume suppressant to the tank bath in the original make-up of the tank.

(ii) For tanks where the wetting agent/fume suppressant is a separate ingredient from the other tank additives, you must demonstrate continuous compliance according to paragraphs (d)(3)(ii) (A) and (B) this section.

(A) You must add wetting agent/fume suppressant in proportion to the other bath chemistry ingredients that are added to replenish the tank bath, as in the original make-up of the tank; or in proportion such that the bath is brought back to the original make-up of the tank.

(B) You must record each addition of wetting agent/fume suppressant to the tank bath.

(iii) You must state in your annual compliance certification that you have added wetting agent/fume suppressant to the bath according to the manufacturer's specifications and instructions.

(4) If you own or operate an affected electroplating, electroforming, or electropolishing tank that contains one or more of the plating and polishing metal HAP and is subject to the requirements in §63.11507(a), "What are my standards and management practices?", and you use a control system to comply with this subpart; an affected dry mechanical polishing operation that is subject to §63.11507(e); or an affected thermal spraying operation that is subject to §63.11507(f)(1) or (2), you must demonstrate continuous compliance according to paragraphs (d)(4)(i) through (v) of this section.

(i) You must operate and maintain the control system according to the manufacturer's specifications and instructions.

(ii) Following any malfunction or failure of the capture or control devices to operate properly, you must take immediate corrective action to return the equipment to normal operation according to the manufacturer's specifications and operating instructions.

(iii) You must state in your annual certification that you have operated and maintained the control system according to the manufacturer's specifications and instructions.

(iv) You must record the results of all control system inspections, deviations from proper operation, and any corrective action taken.

(v) You must keep the manufacturer's operating instructions at the facility at all times in a location where they can be easily accessed by the operators.

(5) If you own or operate an affected flash or short-term electroplating tank that contains one or more of the plating and polishing metal HAP and is subject to the requirements in §63.11507(b), "What are my standards and management practices?" and you comply with §11507(a), (b) or (c) of this subpart by limiting the plating time for the affected tank, you must demonstrate continuous compliance according to paragraphs (d)(5)(i) through (iii) of this section.

The facility's nickel tank is not a short-term electroplating tank.

(i) You must limit short-term or flash electroplating to no more than 1 cumulative hour per day or 3 cumulative minutes per hour of plating time.

(ii) You must record the times that the affected tank is operated each day.

(iii) You must state in your annual compliance certification that you have limited short-term or flash electroplating to no more than 1 cumulative hour per day or 3 cumulative minutes per hour of plating time.

(6) If you own or operate an affected batch electrolytic process tank that contains one or more of the plating and polishing metal HAP and is subject to the requirements of §63.11507(a), "What are my standards and management practices?" or a flash or short-term electroplating tank that contains one or more of the plating and polishing metal HAP and is subject to the requirements in §63.11507(b), and you comply with §11507(a), (b) or (c) of this section by operating the affected tank with a cover, you must demonstrate continuous compliance according to paragraphs (d)(6)(i) through (iii) of this section.

The facility stated in their 8/9/2012 comments to the draft permit that nickel tank is only covered at the end of day and uses a nickel wetting agent to control emissions.

(i) You must operate the tank with the cover in place at least 95 percent of the electrolytic process operating time.

(ii) You must record the times that the tank is operated and the times that the tank is covered on a daily basis.

(iii) You must state in your annual certification that you have operated the tank with the cover in place at least 95 percent of the electrolytic process time.

(7) If you own or operate an affected continuous electrolytic process tank that contains one or more of the plating and polishing metal HAP and is subject to the requirements in §63.11507(a), "What are my standards and management practices?" and you comply with §11507(a), (b) or (c) of this subpart by operating the affected tank with a cover, you must demonstrate continuous compliance according to paragraphs (d)(7)(i) and (ii) of this section.

The nickel tank is not a batch process tank.

(i) You must operate the tank with at least 75 percent of the surface covered during all periods of electrolytic process operation.

(ii) You must state in your annual certification that you have operated the tank with 75 percent of the surface covered during all periods of electrolytic process operation.

(8) If you own or operate an affected tank or other operation that is subject to the management practices specified in §63.11507(g), "What are my standards and management practices?", you must demonstrate continuous compliance according to paragraphs (d)(8)(i) and (ii) of this section.

The facility is subject to 40 CFR 63.11507(g).

(i) You must implement the applicable management practices during all times that the affected tank or process is in operation.

(ii) You must state in your annual compliance certification that you have implemented the applicable management practices, as practicable.

[73 FR 37741, July 1, 2008, as amended at 76 FR 57920, Sept. 19, 2011]

§ 63.11509 What are my notification, reporting, and recordkeeping requirements?

(a) If you own or operate an affected source, as defined in §63.11505(a), "What parts of my plant does this subpart cover?", you must submit an Initial Notification in accordance with paragraphs (a)(1) through (4) of this section by the dates specified.

(1) The Initial Notification must include the information specified in §63.9(b)(2)(i) through (iv) of the General Provisions of this part.

(2) The Initial Notification must include a description of the compliance method (e.g., use of wetting agent/fume suppressant) for each affected source.

(3) If you start up your affected source on or before July 1, 2008, you must submit an Initial Notification not later than 120 calendar days after July 1, 2008.

(4) If you startup your new affected source after July 1, 2008, you must submit an Initial Notification when you become subject to this subpart.

(b) If you own or operate an affected source, you must submit a Notification of Compliance Status in accordance with paragraphs (b)(1) through (3) of this section.

(1) The Notification of Compliance Status must be submitted before the close of business on the compliance date specified in §63.11506, "What are my compliance dates?"

(2) The Notification of Compliance Status must include the items specified in paragraphs (b)(2)(i) through (iv) of this section.

(i) List of affected sources and the plating and polishing metal HAP used in, or emitted by, those sources.

(ii) Methods used to comply with the applicable management practices and equipment standards.

(iii) Description of the capture and emission control systems used to comply with the applicable equipment standards.

(iv) Statement by the owner or operator of the affected source as to whether the source is in compliance with the applicable standards or other requirements.

(3) If a facility makes a change to any items in (b)(2)(i), iii, and (iv) of this section that does not result in a deviation, an amended Notification of Compliance Status should be submitted within 30 days of the change.

(c) If you own or operate an affected source, you must prepare an annual certification of compliance report according to paragraphs (c)(1) through (7) of this section. These reports do not need to be submitted unless a deviation from the requirements of this subpart has occurred during the reporting year, in which case, the annual compliance report must be submitted along with the deviation report.

(1) If you own or operate an affected electroplating, electroforming, or electropolishing tank that is subject to the requirements in §63.11507(a)(1), "What are my standards and management practices?", you must state in your annual compliance certification that you have added wetting agent/fume suppressant to the bath according to the manufacturer's specifications and instructions.

(2) If you own or operate any one of the affected sources listed in paragraphs (c)(2)(i) through (iii) of this section, you must state in your annual certification that you have operated and maintained the control system according to the manufacturer's specifications and instructions.

(i) Electroplating, electroforming, or electropolishing tank that is subject to the requirements in §63.11507(a), "What are my standards and management practices?", and you use a control system to comply with this subpart;

(ii) Dry mechanical polishing operation that is subject to §63.11507(e); or

(iii) Permanent thermal spraying operation that is subject to §63.11507(f)(1) or (2).

(3) If you own or operate an affected flash or short-term electroplating tank that is subject to the requirements in §63.11507(b), "What are my standards and management practices?" and you comply with §11507(a), (b) or (c) of this subpart by limiting the plating time of the affected tank, you must state in your annual compliance certification that you have limited short-term or flash electroplating to no more than 1 cumulative hour per day or 3 cumulative minutes per hour of plating time.

(4) If you own or operate an affected batch electrolytic process tank that is subject to the requirements of §63.11507(a) or a flash or short-term electroplating tank that is subject to the requirements in §63.11507(b), "What are my standards and management practices?" and you comply with §11507(a), (b) or (c) of this subpart by operating the affected tank with a cover, you must state in your annual certification that you have operated the tank with the cover in place at least 95 percent of the electrolytic process time.

(5) If you own or operate an affected continuous electrolytic process tank that is subject to the requirements of §63.11507(a), "What are my standards and management practices?" and you comply with §11507(a), (b) or (c) of this subpart by operating the affected tank with a cover, you must state in your annual certification that you have covered at least 75 percent of the surface area of the tank during all periods of electrolytic process operation.

(6) If you own or operate an affected tank or other affected plating and polishing operation that is subject to the management practices specified in §63.11507(g), "What are my standards and management practices?" you must state in your annual compliance certification that you have implemented the applicable management practices, as practicable.

(7) Each annual compliance report must be prepared no later than January 31 of the year immediately following the reporting period and kept in a readily-accessible location for inspector review. If a deviation has occurred during the year, each annual compliance report must be submitted along with the deviation report, and postmarked or delivered no later than January 31 of the year immediately following the reporting period.

(d) If you own or operate an affected source, and any deviations from the compliance requirements specified in this subpart occurred during the year, you must report the deviations, along with the corrective action taken, and submit this report to the delegated authority.

(e) You must keep the records specified in paragraphs (e)(1) through (3) of this section.

(1) A copy of any Initial Notification and Notification of Compliance Status that you submitted and all documentation supporting those notifications.

(2) The records specified in §63.10(b)(2)(i) through (iii) and (xiv) of the General Provisions of this part.

(3) The records required to show continuous compliance with each management practice and equipment standard that applies to you, as specified in §63.11508(d), "What are my compliance requirements?"

(f) You must keep each record for a minimum of 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. You must keep each record onsite for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to §63.10(b)(1) of the General Provisions to part 63. You may keep the records offsite for the remaining 3 years.

[73 FR 37741, July 1, 2008, as amended at 76 FR 57920, Sept. 19, 2011]

Other Requirements and Information

§ 63.11510 What General Provisions apply to this subpart?

If you own or operate a new or existing affected source, you must comply with the requirements of the General Provisions (40 CFR part 63, subpart A) according to Table 1 of this subpart.

§ 63.11511 What definitions apply to this subpart?

Terms used in this subpart are defined in this section.

Batch electrolytic process tank means a tank used for an electrolytic process in which a part or group of parts, typically mounted on racks or placed in barrels, is placed in the tank and immersed in an electrolytic process solution as a single unit (i.e., as a batch) for a predetermined period of time, during which none of the parts are removed from the tank and no other parts are added to the tank, and after which the part or parts are removed from the tank as a unit.

Bath means the liquid contents of a tank, as defined in this section, which is used for electroplating, electroforming, electropolishing, or other metal coating processes at a plating and polishing facility.

Bench-scale means any operation that is small enough to be performed on a bench, table, or similar structure so that the equipment is not directly contacting the floor.

Capture system means the collection of components used to capture gases and fumes released from one or more emissions points and then convey the captured gas stream to a control device, as part of a complete control system. A capture system may include, but is not limited to, the following components as applicable to a given capture system design: duct intake devices, hoods, enclosures, ductwork, dampers, manifolds, plenums, and fans.

Cartridge filter means a type of control device that uses perforated metal cartridges containing a pleated paper or non-woven fibrous filter media to remove PM from a gas stream by sieving and other mechanisms. Cartridge filters can be designed with single use cartridges, which are removed and disposed after reaching capacity, or continuous use cartridges, which typically are cleaned by means of a pulse-jet mechanism.

Composite mesh pad means a type of control device similar to a mesh pad mist eliminator except that the device is designed with multiple pads in series that are woven with layers of material with varying fiber diameters, which produce a coalescing effect on the droplets or PM that impinge upon the pads.

Continuous electrolytic process tank means a tank that uses an electrolytic process and in which a continuous metal strip or other type of continuous substrate is fed into and removed from the tank continuously. This process is also called reel-to-reel electrolytic plating.

Control device means equipment that is part of a control system that collects and/or reduces the quantity of a pollutant that is emitted to the air. The control device receives emissions that are transported from the process by the capture system.

Control system means the combination of a capture system and a control device. The capture system is designed to collect and transport air emissions from the affected source to the control device. The overall control efficiency of any control system is a combination of the ability of the system to capture the air emissions (i.e., the capture efficiency) and the control device efficiency. Consequently, it is important to achieve good capture to ensure good overall control efficiency. Capture devices that are known to provide high capture efficiencies include hoods, enclosures, or any other duct intake devices with ductwork, dampers, manifolds, plenums, or fans.

Conversion coatings are coatings that form a hard metal finish on an object when the object is submerged in a tank bath or solution that contains the conversion coatings. Conversion coatings for the purposes of this rule include coatings composed of chromium, as well as the other plating and polishing metal HAP, where no electrical current is used.

Cyanide plating means plating processes performed in tanks that use cyanide as a major bath ingredient and that operate at pH of 12 or more, and use or emit any of the plating and polishing metal HAP, as defined in this section. Electroplating and electroforming are performed with or without cyanide. The cyanide in the bath works to dissolve the HAP metal added as a cyanide compound (e.g., cadmium cyanide) and creates free cyanide in solution, which helps to corrode the anode. These tanks are self-regulating to a pH of 12 due to the caustic nature of the cyanide bath chemistry. The cyanide in the bath is a major bath constituent and not an additive; however, the self-regulating chemistry of the bath causes the bath to act as if wetting agents/fume suppressants are being used and to ensure an optimum plating process. All cyanide plating baths at pH greater than or equal to 12 have cyanide-metal complexes in solution. The metal HAP to be plated is not emitted because it is either bound in the metal-cyanide complex or reduced at the cathode to elemental metal, and plated onto the immersed parts. Cyanide baths are not intentionally operated at pH less 12 since unfavorable plating conditions would occur in the tank, among other negative effects.

Deviation means any instance in which an affected source or an owner or operator of such an affected source:

(1) Fails to meet any requirement or obligation established by this rule including, but not limited to, any equipment standard (including emissions and operating limits), management practice, or operation and maintenance requirement;

(2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this rule and that is included in the operating permit for any affected facility required to obtain such a permit; or

(3) Fails to meet any equipment standard (including emission and operating limits), management standard, or operation and maintenance requirement in this rule during startup, shutdown, or malfunction.

Dry mechanical polishing means a process used for removing defects from and smoothing the surface of finished metals and formed products after plating or thermal spraying with any of the plating and polishing metal HAP, as defined in this section, using automatic or manually-operated machines that have hard-faced abrasive wheels or belts and where no liquids or fluids are used to trap the removed metal particles. The affected process does not include polishing with use of pastes, liquids, lubricants, or any other added materials.

Electroforming means an electrolytic process using or emitting any of the plating and polishing metal HAP, as defined in this section, that is used for fabricating metal parts. This process is essentially the same as electroplating except that the plated substrate (mandrel) is removed, leaving only the metal plate. In electroforming, the metal plate is self-supporting and generally thicker than in electroplating.

Electroless plating means a non-electrolytic process that uses or emits any of the plating and polishing metal HAP, as defined in this section, in which metallic ions in a plating bath or solution are reduced to form a metal coating at the surface of a catalytic substrate without the use of external electrical energy. Electroless plating is also called non-electrolytic plating. Examples include, but are not limited to, chromate conversion coating, nickel acetate sealing, sodium dichromate sealing, and manganese phosphate coating.

Electrolytic plating processes means electroplating and electroforming that use or emit any of the plating and polishing metal HAP, as defined in this section, where metallic ions in a plating bath or solution are reduced to form a metal coating on the surface of parts and products using electrical energy.

Electroplating means an electrolytic process that uses or emits any of the plating and polishing metal HAP, as defined in this section, in which metal ions in solution are reduced onto the surface of the work piece (the cathode) via an electrical current. The metal ions in the solution are usually replenished by the dissolution of metal from solid metal anodes fabricated of the same metal being plated, or by direct replenishment of the solution with metal salts or oxides; electroplating is also called electrolytic plating.

Electropolishing means an electrolytic process performed in a tank after plating that uses or emits any of the plating and polishing metal HAP, as defined in this section, in which a work piece is attached to an anode immersed in a bath, and the metal substrate is dissolved electrolytically, thereby removing the surface contaminant; electropolishing is also called electrolytic polishing. For the purposes of this subpart, electropolishing does not include bench-scale operations.

Fabric filter means a type of control device used for collecting PM by filtering a process exhaust stream through a filter or filter media. A fabric filter is also known as a baghouse.

Filters, for the purposes of this part, include cartridge, fabric, or HEPA filters, as defined in this section.

Flash electroplating means an electrolytic process performed in a tank that uses or emits any of the plating and polishing metal HAP, as defined in this section, and that is used no more than 3 cumulative minutes per hour or no more than 1 cumulative hour per day.

General Provisions of this part (40 CFR part 63, subpart A) means the section of the Code of Federal Regulations (CFR) that addresses air pollution rules that apply to all HAP sources addressed in part 63, which includes the National Emission Standards for Hazardous Air Pollutants (NESHAP).

HAP means hazardous air pollutant as defined from the list of 188 chemicals and compounds specified in the CAA Amendments of 1990; HAP are also called "air toxics." The five plating and polishing metal HAP, as defined in this section, are on this list of 188 chemicals.

High efficiency particulate air (HEPA) filter means a type of control device that uses a filter composed of a mat of randomly arranged fibers and is designed to remove at least 99.97 percent of airborne particles that are 0.3 micrometers or larger in diameter.

Maintenance is any process at a plating and polishing facility that is performed to keep the process equipment or the facility operating properly and is not performed on items to be sold as products.

Major facility for HAP is any facility that emits greater than 10 tpy of any HAP, or that emits a combined total of all HAP of over 25 tpy, where the HAP used to determine the total facility emissions are not restricted to only plating and polishing metal HAP or from only plating and polishing operations.

Mesh pad mist eliminator means a type of control device, consisting of layers of interlocked filaments densely packed between two supporting grids that remove liquid droplets and PM from the gas stream through inertial impaction and direct interception.

Metal coating operation means any process performed either in a tank that contains liquids or as part of a thermal spraying operation, that applies one or more plating and polishing metal HAP, as defined in this section, to the surface of parts and products used in manufacturing. These processes include but are not limited to: non-chromium electroplating; electroforming; electropolishing; non-electrolytic metal coating processes, such as chromate conversion coating, electroless nickel plating,nickel acetate sealing, sodium dichromate sealing, and manganese phosphate coating; and thermal or flame spraying.

Metal HAP content of material used in plating and polishing is the HAP content as determined from an analysis or engineering estimate of the HAP contents of the tank bath or solution, in the case of plating, metal coating, or electropolishing; or the HAP content of the metal coating being applied in the case of thermal spraying. Safety data sheet (SDS) information may be used in lieu of testing or engineering estimates but is not required to be used.

New source means any affected source for which you commenced construction or reconstruction after March 14, 2008.

Non-cyanide electrolytic plating and electropolishing processes means electroplating, electroforming, and electropolishing that uses or emits any of the plating and polishing metal HAP, as defined in this section, performed without cyanide in the tank. These processes do not use cyanide in the tank and operate at pH values less than 12. These processes use electricity and add or remove metals such as metal HAP from parts and products used in manufacturing. Both electroplating and electroforming can be performed with cyanide as well.

Non-electrolytic plating means a process that uses or emits any of the plating and polishing metal HAP, as defined in this section, in which metallic ions in a plating bath or solution are reduced to form a metal coating at the surface of a catalytic substrate without the use of external electrical energy. Non-electrolytic plating is also called electroless plating. Examples include chromate conversion coating, nickel acetate sealing, electroless nickel plating, sodium dichromate sealing, and manganese phosphate coating.

Packed-bed scrubber means a type of control device that includes a single or double packed bed that contains packing media on which PM and droplets impinge and are removed from the gas stream. The packed-bed section of the scrubber is followed by a mist eliminator to remove any water entrained from the packed-bed section.

Plating and polishing facility means a facility engaged in one or more of the following processes that uses or emits any of the plating and polishing metal HAP, as defined in this section: electroplating processes other than chromium electroplating (*i.e.,* non-chromium electroplating); electroless plating; other non-electrolytic metal coating processes performed in a tank, such as chromate conversion coating, nickel acetate sealing, sodium dichromate sealing, and manganese phosphate coating; thermal spraying; and the dry mechanical polishing of finished metals and formed products after plating or thermal spraying. Plating is performed in a tank or thermally sprayed so that a metal coating is irreversibly applied to an object. Plating and polishing does not include any bench-scale processes.

Plating and polishing metal HAP means any compound of any of the following metals: cadmium, chromium, lead, manganese, and nickel, or any of these metals in the elemental form, with the exception of lead. Any material that does not contain cadmium, chromium, lead, or nickel in amounts greater than or equal to 0.1 percent by weight (as the metal), and does not contain manganese in amounts greater than or equal to 1.0 percent by weight (as the metal), as reported on the Material Safety Data Sheet for the material, is not considered to be a plating and polishing metal HAP.

Plating and polishing process tanks means any tank in which a process is performed at an affected plating and polishing facility that uses or has the potential to emit any of the plating and polishing metal HAP, as defined in this section. The processes performed in plating and polishing tanks include the following: electroplating processes other than chromium electroplating (*i.e.,* non-chromium electroplating) performed in a tank; electroless plating; and non-electrolytic metal coating processes, such as chromate conversion coating, nickel acetate sealing, sodium dichromate sealing, and manganese phosphate coating; and electropolishing. This term does not include tanks containing solutions that are used to clean, rinse or wash parts prior to placing the parts in a plating and polishing process tank, or subsequent to removing the parts from a plating and polishing process tank. This term also does not include any bench-scale operations.

PM means solid or particulate matter that is emitted into the air.

Repair means any process used to return a finished object or tool back to its original function or shape.

Research and development process unit means any process unit that is used for conducting research and development for new processes and products and is not used to manufacture products for commercial sale, except in a *de minimis* manner.

Short-term plating means an electroplating process that uses or emits any of the plating and polishing metal HAP, as defined in this section, and that is used no more than 3 cumulative minutes per hour or 1 hour cumulative per day.

Startup of the tank bath is when the components or relative proportions of the various components in the bath have been altered from the most recent operating period. Startup of the bath does not include events where only the tank's heating or agitation and other mechanical operations are turned back on after being turned off for a period of time.

Tank cover for batch process units means a solid structure made of an impervious material that is designed to cover the entire open surface of a tank or process unit that is used for plating or other metal coating processes.

Tank cover for continuous process units, means a solid structure or combination of structures, made of an impervious material that is designed to cover at least 75 percent of the open surface of the tank or process unit that is used for continuous plating or other continuous metal coating processes.

Temporary thermal spraying means a thermal spraying operation that uses or emits any of the plating and polishing metal HAP, as defined in this section, and that lasts no more than 1 hour in duration during any one day and is conducted in situ. Thermal spraying that is conducted in a dedicated thermal spray booth or structure is not considered to be temporary thermal spraying.

Thermal spraying (also referred to as metal spraying or flame spraying) is a process that uses or emits any of the plating and polishing metal HAP, as defined in this section, in which a metallic coating is applied by projecting heated, molten, or semi-molten metal particles onto a substrate. Commonly-used thermal spraying methods include high velocity oxy-fuel (HVOF) spraying, flame spraying, electric arc spraying, plasma arc spraying, and detonation gun spraying. This operation does not include spray painting at ambient temperatures.

Water curtain means a type of control device that draws the exhaust stream through a continuous curtain of moving water to scrub out suspended PM.

Wetting agent/fume suppressant means any chemical agent that reduces or suppresses fumes or mists from a plating and polishing tank by reducing the surface tension of the tank bath.

[73 FR 37741, July 1, 2008, as amended at 76 FR 57921, Sept. 19, 2011]

§ 63.11512 Who implements and enforces this subpart?

(a) This subpart can be implemented and enforced by EPA or a delegated authority such as your State, local, or tribal agency. If the EPA Administrator has delegated authority to your State, local, or tribal agency, then that agency, in addition to EPA, has the authority to implement and enforce this subpart. You should contact your EPA Regional Office to find out if implementation and enforcement of this subpart is delegated to your State, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under 40 CFR part 63, subpart E, the authorities contained in paragraph (c) of this section are retained by the EPA Administrator and are not transferred to the State, local, or tribal agency.

(c) The authorities that cannot be delegated to State, local, or tribal agencies are specified in paragraphs (c)(1) through (5) of this section.

(1) Approval of an alternative non-opacity emissions standard under 40 CFR 63.6(g), of the General Provisions of this part.

(2) Approval of an alternative opacity emissions standard under §63.6(h)(9), of the General Provisions of this part.

(3) Approval of a major change to test methods under §63.7(e)(2)(ii) and (f), of the General Provisions of this part. A "major change to test method" is defined in §63.90.

(4) Approval of a major change to monitoring under §63.8(f), of the General Provisions of this part. A "major change to monitoring" is defined in §63.90.

(5) Approval of a major change to recordkeeping and reporting under §63.10(f), of the General Provisions of this part. A "major change to recordkeeping/reporting" is defined in §63.90.

§ 63.11513 [Reserved]

Table 1 to Subpart WWWWWW of Part 63—Applicability of General Provisions to Plating and Polishing Area Sources

As required in §63.11510, "What General Provisions apply to this subpart?", you must meet each requirement in the following table that applies to you.

Citation	Subject
63.1[1]	Applicability.
63.2	Definitions.
63.3	Units and abbreviations.
63.4	Prohibited activities.
63.6(a), (b)(1)–(b)(5), (c)(1), (c)(2), (c)(5), and (j)	Compliance with standards and maintenance requirements.
63.10(a), (b)(1), (b)(2)(i)–(iii), (xiv), (b)(3), (d)(1), (f)	Recordkeeping and reporting.
63.12	State authority and delegations.
63.13	Addresses of State air pollution control agencies and EPA regional offices.
63.14	Incorporation by reference.
63.15	Availability of information and confidentiality.

[1]Section 63.11505(e), "What parts of my plant does this subpart cover?", exempts affected sources from the obligation to obtain title V operating permits.

[73 FR 37741, July 1, 2008, as amended at 76 FR 57922, Sept. 19, 2011]