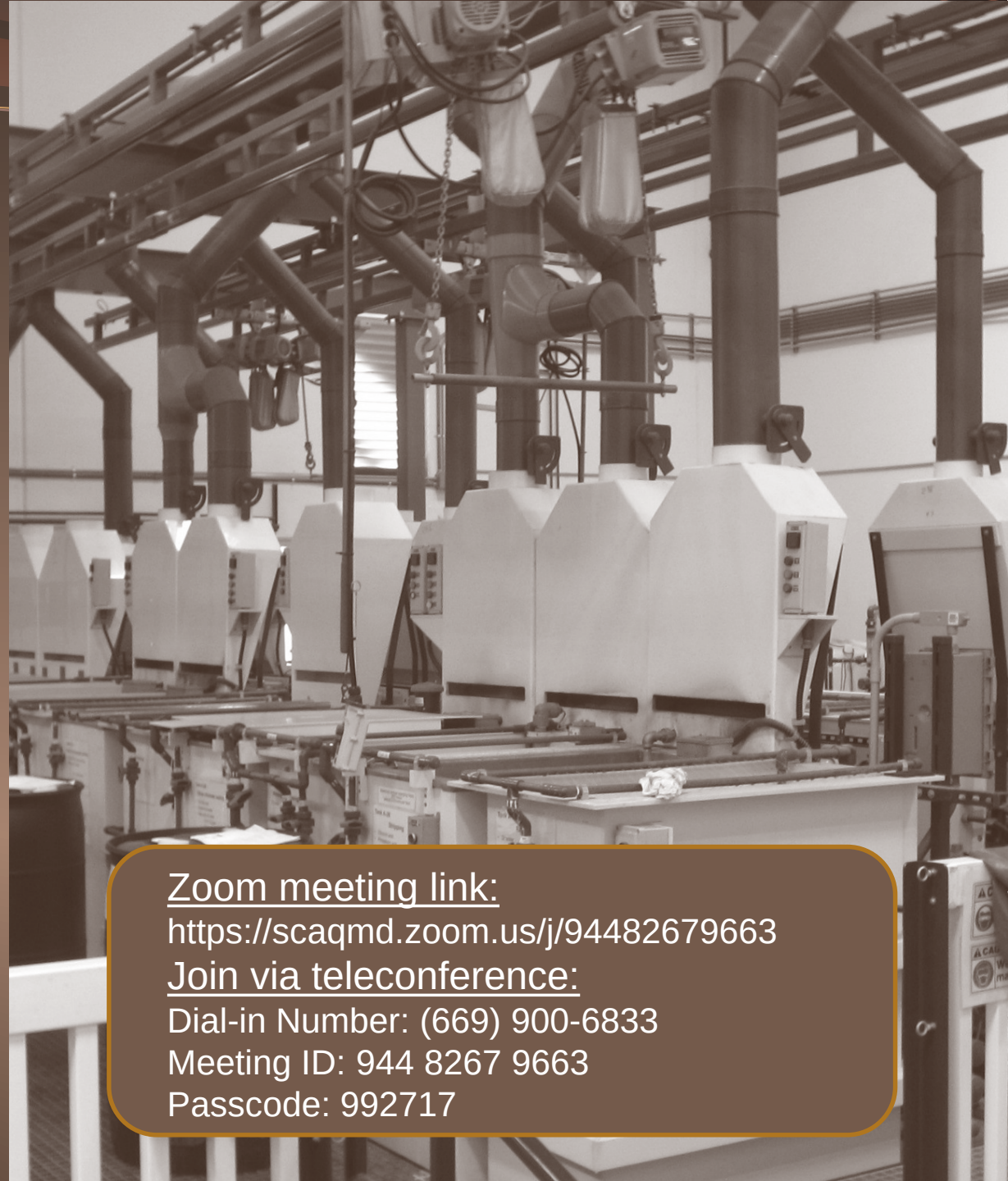
Working Group Meeting #5

Proposed Amended Rule (PAR) 1426 – Emissions from Metal Finishing Operations

South Coast AQMD

December 2, 2020



Zoom meeting link:
https://scaqmd.zoom.us/j/94482679663
Join via teleconference:
Dial-in Number: (669) 900-6833
Meeting ID: 944 8267 9663
Passcode: 992717

Agenda

Summary of Working Group #4

Responses to Comments

Proposed Rule Language

Next Steps

Summary of Working Group #4

- Rule concepts – Enclosure Requirements
  - Operate within a building enclosure
  - Restrict building enclosure openings
- Rule concepts – Recordkeeping and Reporting
  - Amend housekeeping and best management practice recordkeeping
  - Include amp-hr meter replacements records
  - Include Tank Inventory Report submittal
- Rule concepts – Exemptions
  - Remove outdated emission inventory submittal
  - Address potential conflicts with Rule 1469

Response to Comments

Comment #1

NESHAP 6W is sufficient in addressing emissions from metal finishing operations

Staff Response:

- South Coast AQMD rules must be equal to or more stringent than a NESHAP or CARB ATCM
- NESHAP 6W standards have limited requirements accompanied by management practices that are to be implemented “as practicable”
- South Coast AQMD rules specify requirements to reduce emissions that are enforceable
- PAR 1426 includes measures listed in 6W and adds additional requirements based on recent South Coast AQMD rules and findings

Comment #2

PAR 1426 requirements for non-hexavalent chromium metals should not be based on requirements for hexavalent chromium

Staff Response:

- While the toxicity of non-hexavalent chromium metals (e.g. nickel, cadmium, lead) are less than hexavalent chromium, they are toxic air contaminants
- Plating and anodizing operations have been shown to produce fugitive emissions
- PAR 1426 is based on measures similar to other South Coast AQMD rules that address non-hexavalent chromium fugitive metal toxic air contaminant emissions such as
  - Building enclosures
  - Housekeeping measures
  - Best management practices

Comparison of Enclosure Provisions Between Rule 1426 and Other Rules Regulating Toxic Air Contaminant Other Than Hexavalent Chromium

Requirement	**Rule 1407** Metal Melting (Cadmium, Arsenic, and Nickel)	**Rule 1420** Lead Standards (Lead)	**Rule 1420.1** Lead-Acid Battery Recycling (Lead, Arsenic)	**Rule 1420.2** Lead Metal Melting (Lead)	**Rule 1430** Metal Grinding (Various Metals)	**PAR 1426** Metal Finishing Operations (Multiple Metals)
Require operation in a building enclosure	Yes	Yes	Yes	Yes	Yes	Yes
Cross draft restrictions	Yes	Yes	Yes	Yes	Yes	Yes
Sensitive receptor or school proximity based requirements	No	No	Yes	No	Yes	Yes

Comparison of Housekeeping Provisions Between Rule 1426 and Other Rules Regulating Toxic Air Contaminant Other Than Hexavalent Chromium

Category	**Rule 1407** Metal Melting (Cadmium, Arsenic, and Nickel)	**Rule 1420** Lead Standards (Lead)	**Rule 1420.1** Lead-Acid Battery Recycling (Lead, Arsenic)	**Rule 1420.2** Lead Metal Melting (Lead)	**Rule 1430** Metal Grinding (Various Metals)	**PAR 1426** Metal Finishing Operations (Multiple Metals)
Approved Cleaning Methods	Yes	Yes	Yes	Yes	Yes	Yes
Routine Cleaning	Yes	Yes	Yes	Yes	Yes	Yes
Cleaning Spills	Yes	Yes	Yes	Yes	No*	Yes

* Does not involve metals in liquid form

Proposed Rule Language

Proposed Rule Language

- Staff released Proposed Rule Language for PAR 1426 on November 25, 2020
- Available on South Coast AQMD website on Proposed Rule webpage
- Proposed Rule Language is based on:
  - Concepts presented at previous working group meetings
  - Incorporates comments from stakeholders

PAR 1426 Structure

a) Purpose
b) Applicability
c) Definitions
d) Building Enclosure Requirements for Process Tanks
e) Housekeeping Requirements
f) Best Management Practice
g) Recordkeeping
h) Reporting
i) Exemptions

Purpose (a)

The purpose of this rule is to reduce toxic air contaminant metal emissions from metal finishing using tanks containing hexavalent chromium, nickel, cadmium, lead, or copper.

- Added “Purpose” – typical in most South Coast AQMD rules
- PAR 1426 includes subdivision to state the purpose of the rule
- Metal finishing includes operations such as anodizing, electroplating, sealing, electroless plating

Applicability (b)

This rule applies to an owner or operator of any facility performing metal finishing using a tank solution containing hexavalent chromium, nickel, cadmium, lead, or copper.

- Expanded applicability to include non-electrolytic metal finishing operations
- Facilities subject to Rule 1469 (chromium electroplating and chromic acid anodizing) are also subject to PAR 1426

Deleted Definitions (c)

(3) ELECTROPLATING 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 purpose of electroplating metal out of the solution onto a workpiece or for oxidizing the base material.

(5) FUGITIVE DUST means any solid particulate matter that becomes airborne by natural or man-made activities, excluding particulate matter emitted from an exhaust stack. Fugitive dust includes material containing hexavalent chromium, nickel, cadmium, lead, and copper.

(6) METAL PLATING FACILITY means, for the purpose of this rule, a facility which performs electroplating of chromium, nickel, cadmium, lead or copper, or chromic acid anodizing.

(9) STALAGMOMETER means a device used to measure the surface tension of a solution by determining the number of drops, or the weight of each drop, in a given volume of liquid.

(10) 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.

(11) TENSIOMETER means a device used to measure the surface tension of a solution by measuring the force necessary to pull a filament or ring from the surface of a liquid.

- Removed six existing definitions as they were not used for PAR 1426

Amended and New Definitions (c)

(1) ADD-ON AIR POLLUTION CONTROL EQUIPMENT means equipment installed for the purpose of collecting and containing emissions from nickel,

(3) APPROVED CLEANING METHOD means cleaning using a wet mop, damp cloth, wet wash, low pressure spray nozzle, HEPA vacuum, or other method as approved by the Executive Officer.

(4) BARRIER means a physical divider that can be fixed or portable such as a wall, welding screen, plastic strip curtains, etc.

(5) BUILDING ENCLOSURE means a permanent building or physical structure with a floor, walls, and a roof to prevent exposure to the elements, (e.g. precipitation, wind, run-off), with limited openings to allow access for people, vehicles, equipment, or parts. A room within a building enclosure with a floor, walls, and a roof would also meet this definition.

- Amended
  - Add-on Air Pollution Control Equipment by removing “process” tanks
- Added
  - Approved Cleaning Methods
  - Barrier
  - Building Enclosure

Amended and New Definitions (c) *(Continued)*

NEW! (6) DRAGOUT means fluid containing hexavalent chromium, nickel, cadmium, lead, or copper that drips from parts or equipment used to remove parts from a process tank.

(7) ENCLOSED STORAGE AREA means any space or structure used to store equipment or material containing metals to prevent metals from being emitted into the atmosphere.

NEW! (8) HEPA VACUUM means a vacuum that is both designed to be fitted and used with a HEPA filter that is both individually dioctyl phthalate tested and certified by the manufacturer to have a control efficiency of not less than 99.97 percent on 0.3 micron particles.

NEW! (9) METAL means hexavalent chromium, nickel, cadmium, lead, or copper.

NEW! (10) METAL FINISHING means a process used to prepare or treat the surface of a part by submerging the part into a tank of solution that contains a metal.

- Amended
  - Enclosed Storage Area to include storage of cleaning equipment and chemicals
- Added
  - Dragout
  - HEPA Vacuum
  - Metal
  - Metal Finishing

Amended and New Definitions (c) *(Continued)*

(11) PERMANENT TOTAL ENCLOSURE means a permanent building or containment structure, enclosed with a floor, walls, and a roof to prevent exposure to the elements, (e.g., precipitation, wind, run-off) that has limited openings to allow access for people and vehicles, that is free of breaks or deterioration that could cause or result in fugitive emissions, and has been evaluated to meet the design requirements set forth in U.S. EPA Method 204, or other design approved by the Executive Officer.

(12) PROCESS TANK means any tank used for metal finishing with a solution containing hexavalent chromium, nickel, cadmium, lead, or copper.

(13) SCHOOL means any public or private school, including juvenile detention facilities with classrooms, used for the education of more than 12 children at the school in kindergarten through grade 12. A school also includes an Early Learning and Developmental Program by the U.S. Department of Education or any state or local early learning and development programs such as preschools, Early Head Start, Head Start, First Five, and Child Development Centers. A school does not include any private school in which education is primarily conducted in private homes. The term school includes any building or structure, playground, athletic field, or other area of school property.

- Amended
  - Process Tank definition is revised to be a little more broad to include main tanks
- Added
  - Permanent Total Enclosure
  - School - similar to Rule 1469 definition

Amended and New Definitions (c) *(Continued)*

(14) SENSITIVE RECEPTOR means any residence including private homes, condominiums, apartments, and living quarters. A sensitive receptor also includes schools, daycare centers, health care facilities such as hospitals or retirement and nursing homes, long term care hospitals, hospices, prisons, and dormitories or similar live-in housing.

(15) TANK PROCESS AREA means an area surrounding a process tank that is within 15 feet or to a wall, whichever is closer.

(16) WEEKLY means at least once every seven calendar days.

- Amended
  - Sensitive Receptor - similar to Rule 1469 definition
- Added
  - Tank Process Area to define area for rule requirements
  - Weekly

Building Enclosure Requirements (d)

Beginning [180 Days After Date of Rule Adoption], an owner or operator of a facility performing metal finishing shall operate process tank(s) within a building enclosure where:

(1) Any building enclosure openings that open to the exterior and are on opposite ends of the building enclosure where air can pass through shall not be simultaneously open except during the passage of vehicles, equipment, or people by using one or more of the following:

(A) Door that automatically closes;

(B) Overlapping plastic strip curtain;

(C) Vestibule;

(D) Airlock system;

(E) Alternative method to minimize the release of fugitive emissions from the building enclosure that an owner or operator of a facility performing metal finishing can demonstrate to the Executive Officer is an equivalent or more effective method to minimize the movement of air within the building enclosure; or

(F) Barrier or obstruction, such as a large piece of equipment that restricts air from moving through the building enclosure.

- Added provisions for Building Enclosure Requirements for Process Tanks
- Two building opening requirements to prevent cross-drafts
- First Requirement
  - Prohibit concurrent openings on opposite ends of building
  - Specifies acceptable methods to close openings

Building Enclosure Requirements (d) *(Continued)*

(2) Except during the movement of vehicles, equipment, or people, close any building enclosure opening by using one or more of the methods listed in subparagraphs (d)(1)(A) through (d)(1)(E) that directly faces and opens towards the nearest:

(A) Sensitive receptor, with the exception of a school, that is located within 1,000 feet, as measured from the property line of the sensitive receptor to the building enclosure opening; and

(B) A school that is located within 1,000 feet, as measured from the property line of the school to the building enclosure opening.

- Second Requirement
  - Prohibit openings facing closest sensitive receptors
  - Additional protection for schools and sensitive receptors
  - Specifies acceptable methods to close openings

Housekeeping Requirements (e)

Current Rule 1426 Housekeeping Requirements

(5) Housekeeping Practices for Nickel, Cadmium, Lead and Copper

On and after July 1, 2003 housekeeping practices shall be implemented at a facility to reduce fugitive emissions caused by the storage, handling and transport of nickel, cadmium, lead or copper in powder or metal salt form. These practices shall include:

(A) Nickel, cadmium, lead and copper in powder or metal salt form shall be stored in a closed container in an enclosed storage area;

(B) Nickel, cadmium, lead and copper in powder or metal salt form shall be transported from an enclosed storage area to electroplating tanks in a closed container;

(C) Surfaces within the enclosed storage area that accumulate dust shall be washed down, vacuumed, or wet mopped, or shall be maintained with the use of non-toxic chemical dust suppressants; and

(D) Wastes which contain nickel, cadmium, lead or copper generated from housekeeping activities shall be stored, disposed of, recovered, or recycled using practices that do not lead to fugitive dust.

- Existing housekeeping requirements (paragraph (c)(5)) expanded and incorporated in subdivision (e)
- Existing housekeeping provisions did not include hexavalent chromium
- Existing provisions did not specify areas and frequency of

Housekeeping Requirements (e)

Beginning [90 Days After Date of Rule Adoption], an operator of a facility performing metal finishing shall:

1426 (c)(5)(A)

(1) Store chemicals that may contain a metal in a spill proof container in an enclosed storage area when not in use;

1426 (c)(5)(B)

(2) Use a spill proof container when transporting substances listed in paragraph (e)(1) between an enclosed storage area and tank process area;

(3) Clean, using an approved cleaning method, any liquid or solid material that may contain a metal that is spilled, except in a drip tray or containment device, immediately and no later than one hour after being spilled onto a solid surface.

1426 (c)(5)(C)

(4) Clean, using an approved cleaning method, weekly:

(A) Surfaces within an enclosed storage area;

(B) Open floor and walkways in a tank process area;

(C) Surfaces potentially contaminated with metals;

(D) Surfaces that potentially accumulate dust;

(E) Splashguards;

(F) Drip trays; and

(G) Containment devices.

- All housekeeping measures begin 90 days from rule adoption
- Key requirements:
  - Use of spill proof containers for chemicals (solids and liquids)
  - Clean spills within one hour
  - Use approved cleaning methods
  - Weekly cleaning requirements

Housekeeping Requirements (e) *(Continued)*

1426 (c)(5)(D)

(5) Store waste materials that may contain a metal in a spill proof container that is kept closed at all times except during filling or emptying.

NEW!

(6) Use an approved cleaning method to clean floors within 20 feet of a buffing, grinding, or polishing workstation on days when buffing, grinding, or polishing are conducted.

NEW!

(7) Eliminate all flooring in the tank process areas that is made of a fabric material, such as carpets or rugs, where metal containing materials can become trapped.

NEW!

(8) Store reusable tank covers, cleaning equipment, hangers, anodes, and cathodes that have been in contact with a metal in closed containers or in an enclosed storage area when not in use.

NEW!

(9) Operate a HEPA vacuum only after inspecting that the HEPA filter is:

(A) Free of tears, fractures, holes, or other damage; and

(B) Situated in the vacuum properly and latched in place to prevent air leakage from the filtration system.

- Key requirements:
  - Store waste in spill proof containers
  - Remove fabric or fibrous flooring
  - Specific storage provisions for items that contacted with metal solutions
  - Ensure proper operation of HEPA vacuums

Best Management Practices (f) (Dragout)

Beginning [90 Days After Date of Rule Adoption], an owner or operator of a facility performing metal finishing shall:

NEW!

(1) Minimize dragout from a process tank in an automated line by installing a drip tray or other collection or containment device between the process tanks such that liquid does not fall through the space between tanks and shall return the liquid that is collected back to the tank(s).

NEW!

(2) Minimize dragout from a process tank in a non-automated line by handling each part or equipment used to handle these parts, so that liquid is not dripped outside the process tank unless the liquid is captured by a drip tray or other collection or containment device and shall return the liquid that is collected back to the tank(s).

- Added provisions for Best Management Practices
- Dragout Provisions
  - Separate provisions with and without an automated line
  - Objective is to minimize dragout by collection or containment of solution and return solution back to tank

Best Management Practices (f) (Spray Rinsing)

NEW!

(3) Not conduct spray rinsing of parts or equipment that were previously in a process tank, unless the part or equipment are:

(A) Fully lowered inside a tank where the liquid is captured inside the tank;

(B) Above a tank where all liquid is captured and returned to the tank using splash guard(s) that are free of holes, tears, or openings; or

(C) Above a tank where all liquid is captured and returned to the tank and a low pressure spray nozzle is used, and the tanks are located within a process line utilizing an overhead crane system that would be restricted by the installation of splash guards specified in subparagraph (f)(3)(B).

- Spray Rinsing Requirements
  - Prevent tank solution that is rinsed off from parts or equipment from landing outside of a tank
  - Provides different options for the operator

Best Management Practices (Tank Labeling and Buffing, Grinding and Polishing)

NEW!

(4) Maintain clear labeling for each tank that specifies the tank name or other identifier, South Coast AQMD permit number and tank number, bath contents, maximum concentration (in ppm) of any metals, rectification, operating temperature range, and any agitation methods used, if applicable.

NEW!

(5) Conduct all buffing, grinding, and polishing operations within a building enclosure.

NEW!

(6) Install a barrier to prevent the migration of dust from buffing, grinding, or polishing areas to a process tank that is located in the same building enclosure.

- Labeling Requirements
  - Label tanks with tank operational information
- Buffing, Grinding, and Polishing Requirements
  - Must perform within a building
  - Separate buffing, grinding, and polishing operations from tanks

Best Management Practices (f) (Other)

NEW!

(7) Not conduct compressed air cleaning or drying operations within 15 feet of any process tank unless:

(A) A barrier separates the compressed air cleaning or drying operation from the process tank; or

(B) Compressed air cleaning or drying operations are conducted in a permanent total enclosure.

1426 (d)(1)

(8) Comply with the manufacturers recommended schedule for inspecting and maintaining add-on air pollution control equipment that controls nickel, cadmium, lead, or copper electroplating operation(s). If the inspection frequency is not specified by the manufacturer, recommended inspection and maintenance activities shall be conducted at least once per quarter.

1426 (c)(4)

(9) Not air sparge a process tank when metal finishing is not occurring or while a dry chemical containing a metal is being added.

- Other requirements
  - Restrict compressed air use near tanks to prevent entrainment of metal particulates into the air
  - Maintain existing provision for inspection and maintenance of add-on controls
  - Expand air sparging restrictions to non-chromium tanks when tanks not in operation

Recordkeeping (g)

(g) Recordkeeping

(e)(1) (1) An owner or operator of a facility performing metal finishing with an ampere-hour meter equipped at a process tank shall record the actual cumulative rectifier usage for each calendar month and the total for each calendar year.

NEW! (2) Prior to replacement of a continuous recording non-resettable ampere-hour meter equipped at a process tank, an owner or operator of a facility performing metal finishing shall photograph the actual ampere-hour reading of:

(A) The ampere-hour meter being replaced; and

(B) The new ampere-hour meter immediately after installation.

(e)(2) (3) An owner or operator of a facility performing metal finishing shall maintain records demonstrating compliance with the requirements of subdivisions (e), (f), and (g).

(e)(3) (4) All records shall be maintained for at least five years; at least the two most current years shall be kept on site.

- Revisions to recordkeeping requirements
  - (g)(1): Clarified record keeping for tanks with a rectifier
  - (g)(2): Added record-keeping when replacing ampere-hour meter
  - (g)(3): Maintain records for Housekeeping, Best Management Practices, and rectifier replacement
  - (g)(4) Maintain record retention requirement

Reporting (h)

Current Rule 1426 Reporting Requirements

(c) Requirements

(1) Initial Compliance Report

The owner or operator of a metal plating facility subject to this rule shall submit an initial compliance report to the Executive Officer by February 1, 2004 to report process and receptor information. The report shall contain the information identified in Appendix 1.

(2) Compliance Report

The owner or operator of a metal plating facility subject to this rule shall submit a report to the Executive Officer by February 1, 2005 to report information on process activity and significant changes since the initial report was filed. The report shall contain the information identified in Appendix 2.

(3) Data Collection

The owner or operator of a metal plating facility subject to this rule shall begin collecting data required under subparagraphs (c)(1) and (c)(2) within 60 days after May 2, 2003.

- Removed following reporting requirements (Dates have passed)
  - Compliance Reports
  - Data Collection
  - Appendix 1
  - Appendix 2

Reporting (h)

NEW! (1) An owner or operator of a facility performing metal finishing shall submit a Tank Inventory Report to the Executive Officer by the following deadline:

(A) No later than February 1, 2022 for tank information at the facility as of January 1, 2022; or

(B) Prior to operation of a process tank for facilities that become subject to this rule after January 1, 2022.

NEW! (2) An owner or operator of a facility performing metal finishing shall include the following information in the Tank Inventory Report:

NEW! (3) Prior to changing any process tank operating parameters listed in subparagraph (h)(2)(F), an owner or operator of a facility performing metal finishing shall create a new version of the Tank Inventory Report, to reflect any changes.

NEW! (4) An owner or operator of a facility performing metal finishing shall keep onsite and make available all versions of the Tank Inventory Report(s) to the Executive Officer upon request.

- Added reporting requirements
  - (h)(1): Must submit and maintain a Tank Inventory Report
  - (h)(2): Information required for Tank Inventory Report
  - (h)(3): Provisions to update Tank Inventory Report
  - (h)(4): Provisions for availability of Tank Inventory Report

Exemptions (i)

Current Rule 1426 Rule 1402 Inventory/Exemption Requirements

(f) Rule 1402 Inventory Requirements

The owner or operator of a facility that is in compliance with this rule will not be required to submit an emission inventory to the Executive Officer for emissions of toxic compounds subject to this rule, pursuant to subparagraph (n)(1)(B) of Rule 1402 - Control of Toxic Air Contaminants from Existing Sources.

(g) Exemptions

The owner or operator of a facility that has submitted an inventory prepared pursuant to Rule 1402 - Control of Toxic Air Contaminants from Existing Sources, subdivisions (n) [Emissions Inventory Requirements] that has been approved by the Executive Officer, and that contains process and tank information for all of the tanks subject to this rule is exempt from complying with the requirements of paragraphs (c)(1), (c)(2) and (c)(3).

- Removed emission inventory requirements and exemptions for Rule 1402 or Rule 1426
- Since initial compliance reporting is obsolete and no longer needed, these exemptions were removed

Exemptions (i)

NEW!

(1) A tank shall be exempt from the requirements of subdivisions (d), (e), and (f) provided:

NEW!

(2) A facility performing metal finishing shall be exempt from this rule provided:

- Tank(s) demonstrated to have a metal concentration less than 1,000 ppm through laboratory analysis once every 180 days
- South Coast AQMD permit(s) do not specify an operating condition 1,000 ppm or greater
- Laboratory analysis reports are kept on-site

- A facility or tank can be exempted from a portion of or the entire rule based on metal concentration
- 1,000 ppm threshold consistent with NESHAP 6W and South Coast AQMD Rule 1469

Exemptions (i)

(3) A facility performing metal finishing that is required to comply with a specific equivalent or more stringent provision of Rule 1469 – Hexavalent Chromium Emissions from Chromium Electroplating and Chromic Acid Anodizing Operations or Rule 1420 – Emissions Standard for Lead, for a specific metal shall only comply with that equivalent or more stringent provision for that specific metal.

- Added exemption to prevent duplicative rule requirements for facilities complying with PAR 1426 and Rule 1469 and Rule 1420
- Facilities would be required to comply with most stringent requirement (e.g. frequency, building enclosure construction)

Next Steps

- Release Preliminary Draft Staff Report and Preliminary Draft Amended Rule before Public Workshop ~January 2021
- Public Workshop January 2021

PAR 1426 Staff Contacts

Min Sue
(909) 396-3241
msue@aqmd.gov

Neil Fujiwara
(909) 396-3512
nfujiwara@aqmd.gov

Jillian Wong
(909) 396-3176
jwong1@aqmd.gov

Susan Nakamura
(909) 396-3105
snakamura@aqmd.gov