



Recent National Emission Standards for Hazardous Air Pollutants (NESHAPs) Potentially Affecting Surface Finishers

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Overview

- Background – Why are we developing these regulations?
- Overview recent area source NESHAPs
 - Paint stripping and miscellaneous surface coating, 40 CFR Part 63 Subpart HHHHHH (6H)
 - Plating and polishing, 40 CFR Part 63 Subpart WWWWWW (6W)
 - Nine metal fabrication and finishing source categories, 40 CFR Part 63 Subpart XXXXXX (6X)

Background

- July 19, 1999 Urban Air Toxics Strategy
 - EPA required to list 30 HAPs from area sources which pose the greatest potential public health threat in urban areas
 - EPA must regulate area sources categories accounting for 90 percent of the emissions of 30 listed HAPs
 - EPA listed 70 area source categories, including paint stripping operations, plastic parts and products surface coating, plating and polishing, nine metal fabrication and finishing categories

Background

- Area Sources - federal HAP emissions less than 10 tons per year (TPY) of any one, and less than 25 TPY of all combined
- Subparts 6H, 6W, 6X Target Metal HAPs
 - Cadmium (Cd) & compounds
 - Chromium (Cr) & compounds
 - Lead (Pb) compounds
 - Manganese (Mn) & compounds
 - Nickel (Ni) & compounds

NESHAP: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources; Final Rule

- 40 CFR Part 63 Subpart HHHHHH (6H)
- Published in the Federal Register on January 9, 2008 (73 FR 1738)

Subpart 6H Affected Source Categories

- Paint stripping operations
 - using Methylene Chloride (MeCl) to remove dried paint from wood, plastic, metal or other
- Motor vehicle and mobile equipment spray-applied surface coating operations
- Miscellaneous surface coating
 - spray application of coatings containing Cr, Pb, Mn, Ni, or Cd (target HAPs) to any metal or plastic parts or products that are not motor vehicles or mobile equipment

Subpart 6H Sources NOT Affected

- Surface coating or paint stripping by Armed Forces, NASA, or National Nuclear Security Administration operations
- Surface coating or paint stripping of military munitions or equipment for use by Armed Forces
- Surface coating or paint stripping by individuals on personal vehicles, possessions, or property as a hobby or maintenance, or done by individuals for others without compensation.
 - But, rule covers surface coating by individuals of more than 2 vehicles or mobile equipment in a year, whether or not compensated

Subpart 6H Sources NOT Affected

- Research and laboratory activities
- Quality control activities
- Activities covered under any other area source
NESHAP
- Motor vehicle and mobile equipment spray-applied surface coating operations who successfully **petition** EPA for exemption, demonstrating that no target HAPs used in any coatings
 - Petition to include description of the coatings sprayed and certification that not spray applying any coatings containing target HAP
 - May rely on formulation data from manufacturer or supplier, such as MSDS sheets

Subpart 6H Activities NOT Included

- spray-applied applications using hand-held device with a cup capacity no more than 3.0 fluid ounces (89 cc)
- powder coating
- hand-held, non-refillable aerosol containers
- non-atomizing technology
 - brushes, rollers, hand wiping
 - coating techniques – flow, dip, electrodeposition, web, coil
 - touch up markers or marking pens
- thermal spray operations using solid metallic or non-metallic materials

Subpart 6H Coatings Activities NOT Included

- Definition of coating¹ excludes:
 - decorative, protective, or functional materials that consist only of protective oils for metal, acids, bases, or any combination
 - paper film or plastic film that may be pre-coated with adhesive
 - adhesives, sealants, maskants, or caulking materials
 - temporary protective coatings, lubricants, or surface preparation materials
 - in-mold coatings that are spray-applied in the manufacture of reinforced plastic composite parts

¹ Coating means a material spray applied to a substrate for decorative, protective, or functional purposes.

Subpart 6H New Sources

- A source is new if
 - Source commenced construction after September 17, 2007 by installing new equipment; and
 - the new equipment is used at a source not actively engaged in paint stripping and/or surface coating prior to September 17, 2007
 - construction of new paint booths, enclosed spray gun cleaners, paint stripping equipment to reduce MeCl emissions, or spray guns to comply with the rule does not make an existing source new



Subpart 6H Compliance Dates

- New sources must comply by January 9, 2008 or start-up of operations
- Existing sources must comply by January 10, 2011



Subpart 6H Paint Stripping Standards

- Minimize emissions of MeCl using management practices
- If operation uses more than one ton of MeCl in a year
 - develop and implement a written MeCl minimization plan
 - post the plan in areas where activity occurs

Subpart 6H Surface Coating Requirements

- All painters must be certified to have completed training every 5 years
- All spray applied coatings must be applied in a spray booth, preparation station, or mobile enclosure and
 - Fitted with filters achieving 98% capture of paint overspray, or use waterwash spray booths operated to manufacturer's specs

Subpart 6H Surface Coating Requirements

- All spray applied coatings must be applied using
 - High-volume low pressure (HVLP) guns, electrostatic application, airless, air-assisted airless, or equivalent transfer efficiency
- Spray gun cleaning should prevent atomized mist or avoid spraying cleaning solvent and paint residue outside container used to collect waste solvent
 - acceptable options include:
 - hand cleaning of disassembled gun
 - flush gun with solvent, without spraying
 - use fully enclosed gun cleaner
 - combination of non-atomizing methods

Subpart 6H Reports

- Initial Notification due
 - new sources - 180 days after start up, or January 9, 2008, whichever is later
 - existing sources - by January 11, 2010
- Initial Notification includes:
 - company name
 - owner/operator name, title, street address, phone, email (if available), and signature
 - street address for location of compliance records, if different from source
 - identify NESHAP: 40 CFR part 63, subpart HHHHHH
 - description of operations
 - statement of compliance
 - paint strippers must identify if > 1 ton MeCL

Subpart 6H Reports

- Notification of Compliance status
 - Existing sources due by March 11, 2011
 - New sources due with initial notification
- Annual notification of changes report
 - Required if information previously reported has changed or a deviation from rule requirements occurred

Subpart 6H Records

- records of paint strippers containing MeCl
- copy of MeCL minimization plan kept on site, if required
- records of any deviations from requirements in the rule
- painter training certification
- documentation of filter efficiency
- copies of all notifications and reports required
- documentation of any approved spray gun technology alternatives



NESHAP: Area Source Standards for Plating and Polishing Operations

- 40 CFR Part 63 Subpart WWWW (6W)
- Published in the Federal Register on July 1, 2008 (73 FR 37728)

Subpart 6W Applicability

- Applies to any plating and polishing facility that:
 - Is an area source of HAP emissions, and
 - Uses or has plating and polishing emissions of one or more of the five metal HAP: Cd, Cr,* Pb, Mn, Ni (target HAP)

*except Cr used in electroplating, which is already covered under Subpart N

Subpart 6W Affected Sources

- Any tank that contains any of the five metal HAP used for:
 - Non-chromium electroplating
 - Electroforming
 - Electropolishing
 - Electroless plating
 - Other electroless coating processes (e.g, chromate conversion coating, nickel acetate sealing, sodium dichromate sealing, manganese phosphate coating)



Subpart 6W Affected Sources

- Thermal spraying operations that apply any of the five metal HAP
- Dry mechanical polishing operations performed after plating or thermal spraying, that have the potential to emit any of the five metal HAP

Subpart 6W Affected Sources NOT included

- Does not apply to:
 - Chromium electroplating tanks (units subject to 40 CFR Part 63 Subpart N)
 - Process units that are used strictly for educational purposes
 - Thermal spraying processes conducted to repair surfaces
 - Dry mechanical polishing conducted to restore the original finish to a surface
 - Any plating or polishing process that does not use Cd, Cr, Pb, Ni in amounts $\geq 0.1\%$ by weight, or Mn in amounts $\geq 1\%$ by weight



Subpart 6W Compliance Dates

- Source is “new” if construction, reconstruction of affected source began after March 14, 2008
- New sources must achieve compliance by July 1, 2008, or upon initial startup of the affected source, whichever is later
- Existing sources must achieve compliance by July 1, 2010

Subpart 6W Standards and Management Practices

- Non-cyanide electroplating, electroforming, or electropolishing tank with PH less than 12:
 - Use wetting agent/fume suppressant (WAFS) in tank; OR
 - Add-on capture and control device (e.g., composite mesh pad, packed bed scrubber, mesh pad mist eliminator); OR
 - Use covers: 95% of plating time for batch tanks; 75% of surface area for reel-to-reel/continuous electroplating

Subpart 6W Standards and Management Practices

- Electroplating tank that uses cyanide in the plating bath and operates at PH > 12
 - Must measure and record PH upon start-up
- Flash" or short-term electroplating tank:
 - Operate for no more than 1 hour per day or 3 minutes per hour of plating time, whichever is less; OR
 - Use a tank cover at least 95% of the plating time
- All affected tanks:
 - Management practices in the rule, to be performed as practicable

Subpart 6W Standards and Management Practices

- 12 Management Practices for processes to be done, as practicable
 - (1) Minimize bath agitation when removing tank parts
 - (2) Maximize dripping of bath solution back into tank by extending drip time, and using drain boards
 - (3) Use tank covers, if available
 - (4) Minimize bath contamination
 - (5) Maintain quality control of chemicals
 - (6) Perform general good housekeeping

Subpart 6W Standards and Management Practices

- 12 Management Practices (cont'd)
- (7) Optimize the design of barrels, racks, and parts to minimize dragout of bath solution (e.g., use slotted barrels or tilted racks)
- (8) Minimize or reduce heating during tank operation and when tanks not in use
- (9) Perform regular repair and maintenance
- (10) Minimize spills and tank overflow
- (11) Use squeegee rolls in continuous or reel-to-reel plating
- (12) Conduct regular inspections

Subpart 6W Standards and Management Practices

- Dry Mechanical polishing operations
 - Operate particulate matter (PM) capture system that transports emissions to cartridge, fabric, or HEPA filter, or equivalent
- Thermal spraying operations
 - Existing sources: operate PM capture system that transports emissions to water curtain, fabric filter, or HEPA filter, or equivalent
 - New sources: operate PM capture system that transports emissions to fabric, or HEPA filter or equivalent

Subpart 6W Notification and Reporting

- Initial notification due
 - New sources by July 1, 2008, or upon startup, whichever is later
 - Existing sources by October 29, 2008
- Notification of Compliance Status due on the compliance date
- Annual Compliance Certification
 - Must prepare by January 31 each year following compliance date and keep in readily-accessible location
 - Must certify that you are in compliance
 - If a deviation from rule requirements, you must submit with deviation report by January 31

Subpart 6W Recordkeeping

- Must keep records of:
 - Initial Notifications and Notification of Compliance Status
 - Records to show compliance with applicable standards and management practices (e.g. amount of WAFS added initially to electroplating tanks)
 - Manufacturers operating manuals for control devices

NESHAP: Area Source Standards for Nine Metal Fabrication and Finishing Source Categories

- 40 CFR Part 63 Subpart XXXXXX
(6X)
- Published in the Federal Register on
July 23, 2008 (73 FR 42978)

Subpart 6X Affected Source Categories

9 Metal Fabrication and Finishing Categories (15 NAICS codes)

- Electrical and Electronic Equipment Finishing Operations
 - Electric Machinery, Equipment, and Supplies, not elsewhere classified
 - Motors and Generators Manufacturing
- Fabricated Metal Products, not elsewhere classified
- Fabricated Plate Work (Boiler Shops)
- Fabricated Structural Metal Manufacturing
- Heating Equipment, except Electric
- Industrial Machinery and Equipment: Finishing Operations
 - Construction Machinery Manufacturing
 - Oil and Gas Field Machinery Manufacturing
 - Pumps and Pumping Equipment Manufacturing
- Iron and Steel Forging
- Primary Metals Products Manufacturing
- Valves and Pipe Fittings, not elsewhere classified

Subpart 6X Applicability

- Rule applies to any facility “primarily engaged” in one of the 9 source categories
- Only applies to operations that use target metal HAP above levels:
 - 0.1 percent Cd, Cr, Ni, Pb*
 - 1.0 percent Mn*
 - From MSDS or other similar information provided by suppliers

* As the metal on weight/weight basis

Subpart 6X Affected Sources

(1) Dry Abrasive Blasting

- Small enclosed unvented blast chambers
- Products in chambers vented to control devices
- Products not enclosed
 - >8 feet in size, inside as well as outside

(2) Dry grinding & polishing (large stationary machines)

(3) Machining

(4) Spray-painting (of coatings containing target metal HAP)

- Products in spray booths
- Products not in spray booths
 - >15 feet or at Fabricated Structural Metal facilities

(5) Welding

- Welding rod use > 2,000 lb
- Welding rod use ≤ 2,000 lb

Subpart 6X Affected Sources NOT Included

- Operations performed on site at installations owned and operated by Armed Forces, NASA, or National Nuclear Security Administration operations
- Operations that produce military munitions or equipment for use by Armed Forces
- Tool or equipment repair operations, facility maintenance, quality control
- Research or laboratory facilities

Subpart 6X Compliance Dates

- Source is “new” if construction, reconstruction of affected source began after April 3, 2008
- New sources must achieve compliance by July 23, 2008, or upon initial startup of the affected source, whichever is later
- Existing sources must achieve compliance by July 25, 2011

Subpart 6X Abrasive Blasting Operations Standards and Management Practices

(1) Small totally-enclosed unvented blast chambers

- Management practices to minimize emissions
 - Minimize dust generation during emptying of abrasive blasting enclosures
 - Operate all dry abrasive blasting operations according to manufacturers instructions

(2) Products in chambers in vented enclosures

- Capture emissions and vent to filtration control device
- Management practices to minimize emissions
 - Minimize excess dust, as practicable
 - Enclose dusty abrasive material storage areas and holding bins, seal chutes, and conveyors that transport abrasive materials
 - Operate all dry abrasive blasting operations according to manufacturers instructions

Subpart 6X Abrasive Blasting Operations Standards and Management Practices

(3) Objects greater than 8 feet and products not vented to a control device

- Management practices to minimize emissions
 - Minimize excess dust, as practicable
 - Enclose dusty abrasive material storage areas and holding bins, seal chutes, and conveyors that transport abrasive materials
 - Operate all dry abrasive blasting operations according to manufacturers instructions
 - Do not reuse blasting media unless contaminants have been removed and the blast media returns to its original size
 - Switch from high PM-emitting blast media (e.g., sand) to low PM-emitting blast media (e.g., crushed glass, specular hematite, steel shot, aluminum oxide), whenever practicable
- Visible emission monitoring (Method 22) in graduated schedule (Daily/Weekly/Monthly/Quarterly)

Subpart 6X Machining Standards and Management Practices

- Management practices to minimize emissions (only)
 - Minimize dust in surrounding area, to extent practicable
 - Operate all machining equipment according to manufacturers instructions



Subpart 6X Dry Grinding and Polishing Standards and Management Practices

- Capture emissions and vent to a control device
- Management practices to minimize emissions
 - Minimize excess dust in surrounding area, to extent practicable
 - Operate all equipment according to manufacturers instructions
- Applies to large stationary machines only

Subpart 6X Spray Painting Standards and Management Practices

- Spray paint in spray booths or spray rooms
 - Fitted with paint overspray filters (98% capture)
 - Regular inspections and replacement of filters according to manufacturers instructions
 - OR operate a spray booth or spray room with a water curtain and achieve 98% control of target metal HAP
- HVLP spray guns, electrostatic application, airless, air-assisted airless, or equivalent transfer efficiency
- All painters must be certified to have completed training every 5 years
- **Except Products >15 feet or at Fabricated Structural Metal facilities**
 - HVLP spray gun use and training (only)

Subpart 6X Spray Painting Standards and Management Practices

- Management Practices
 - Store all materials in closed containers
 - Minimize spills
 - Convey paints in closed containers/pipes
 - Cover mixing vessels except when in use
 - Minimize emissions during cleaning

Subpart 6X Welding Standards and Management Practices

Two welding categories:

- Use **<2,000 lb** welding rod or wire*
 - Management practices only
- Use **≥2,000 lb** welding rod or wire*
 - Management practices
 - Monitoring for visible emissions (VE) or opacity ≤20% in graduated schedule (D/W/M/Q)
 - 3-Tier compliance monitoring

* MFHAP-containing at levels 0.1/1% of metal.

Subpart 6X Welding Standards and Management Practices

Management practices, as practicable to the type of welding/product, while maintaining required welding quality using sound engineering judgment

- Use welding processes with reduced fume generation capabilities (*e.g.*, Gas metal arc welding (GMAW))
- Use welding process variations (*e.g.*, pulsed GMAW, which can reduce fume generation rates)
- Use welding filler metals, shielding gases, carrier gases, or other process materials which are capable of reduced welding fume generation
- Optimize welding process variables (*e.g.*, electrode diameter, voltage, amperage, welding angle, shield gas flow rate, travel speed) to reduce the amount of welding fume generated
- Use of fume capture and control system

Subpart 6X Reporting

- Initial Notification due
 - new sources - 120 days after start up, or November 20, 2008, whichever is later
 - existing sources – by July 25, 2011
- Notification of Compliance Status Report
 - new sources - 120 days after start up, or November 20, 2008, whichever is later
 - existing sources – by November 22, 2011
- Annual Certification and Compliance Reports due January 31, 2012 and each year thereafter



Subpart 6X Records

- Notifications and reports
- Applicability determinations
- Visual emissions records
- Visual opacity emissions records
- Spray paint booth filter records
- HVLP gun or other high transfer technology records
- Painter training documentation
- Site specific welding emissions management plan, if required
- Manufacturers instructions

Where to Send Notifications and Reports

- Sources in New England send notifications to:
U.S. EPA – New England
Air Compliance Clerk
1 Congress Street
Suite 1100 (SEA)
Boston MA 02114

For More Information

- For Sources in New England:

Susan Lancey

U.S. EPA New England

617-918-1656

lancey.susan@epa.gov



For More Information

<http://www.epa.gov/ttn/atw/area/arearules.html>

- Brochures
- One-page summaries
- Flow charts
- Example Notification forms
- List of SIC/NAICS for applicability determinations for nine metal fabricating source categories