

7 DE Admin Code 1138
Section 10

AMEND
Plating and Polishing
Standard



Public Workshops
April 23 & May 1, 2013

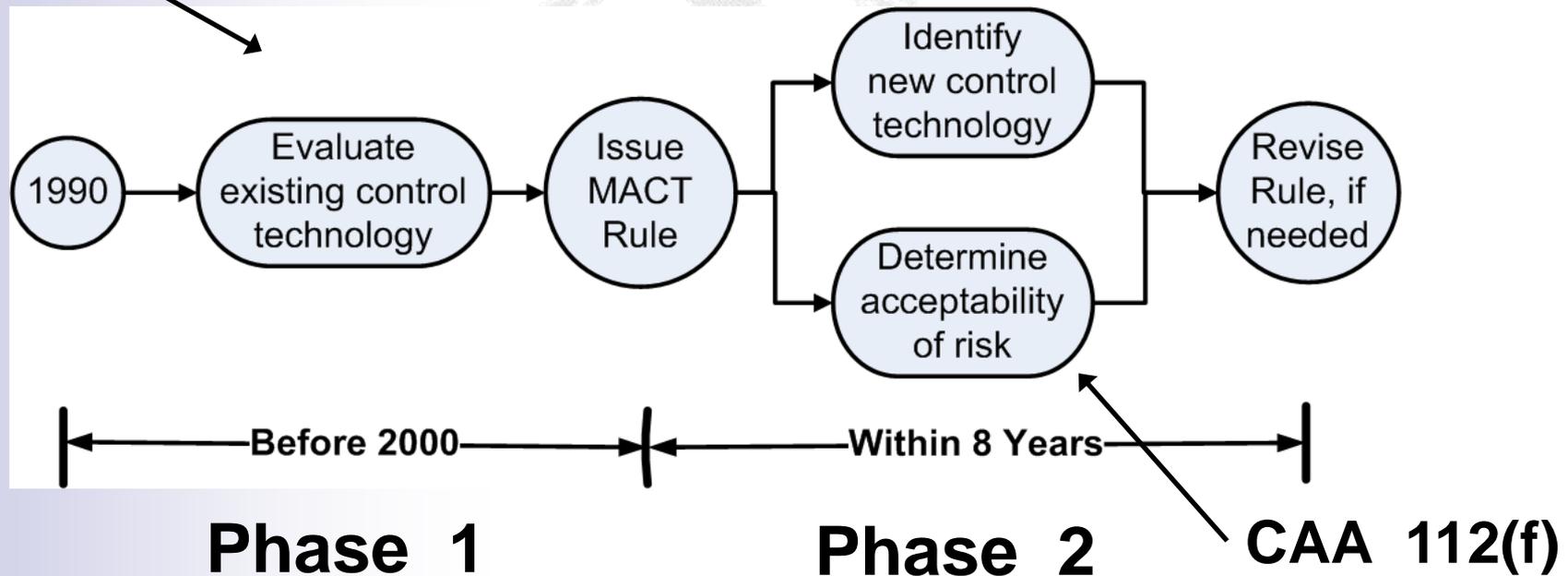
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Clean Air Act Amendments of 1990

- **Congress** prescribed EPA's rule-making "path forward" – A 2-Phase Process

CAA 112(d)(1)

CAA 112(d)(6)



Clean Air Act Amendments of 1990

EPA's Area Source Air Toxics Program



As directed by Congress in 1990

CAA 112(k)



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EPA's Area Source Air Toxics Program

- **Congress** required EPA to
 - Identify 30 **HAPs** that present the greatest threat to public health
 - Identify the types of sources that account for 90% of each of the 30 **HAPs**
 - Issue regulations to reduce adverse health effects due to the emission of HAPs from these types of sources



EPA's Area Source Air Toxics Program

- EPA activities on area sources
 - 1999 - EPA published a listing of **33** HAPs having the greatest health impact (*in handouts*)
 - By 2002 - EPA had identified 60+ area source categories (*in handouts*)
 - 2005 - EPA began to focus more resources on regulating these area sources

33 HAPs & Area Source Categories
Cadmium compounds
Chromium compounds Dichloromethane
Lead compounds
Manganese compounds
Nickel compounds
Polychlorinated biphenyls (PCBs)
1,1,2,2-tetrachloroethane
Perchloroethylene
Trichloroethylene
Vinyl chloride



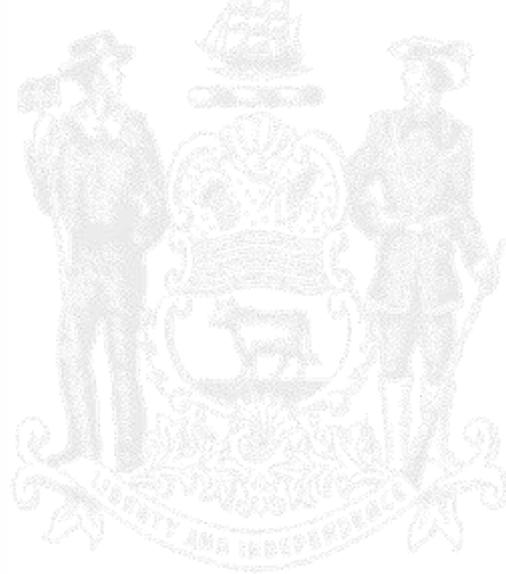
EPA's Area Source Air Toxics Program

- On July 1, 2008, EPA issued another area source standard
- Plating and Polishing Operations at Area Sources
- 40 CFR Part 63
Subpart W W W W W W W
(Sub 6Ws)



Delaware's Area Source Air Toxics Program

- On June 9, 2009, DNREC conducted a public workshop for the Department's planned adoption of Federal Sub 6Ws under Section 10



Section 10 June 9, 2009

Public Workshop Agenda

- Affected Operations
- Plating and Polishing Metal HAPs
- Health Impacts of the P&PM HAPs
- Control Technology Requirements



Affected Operations

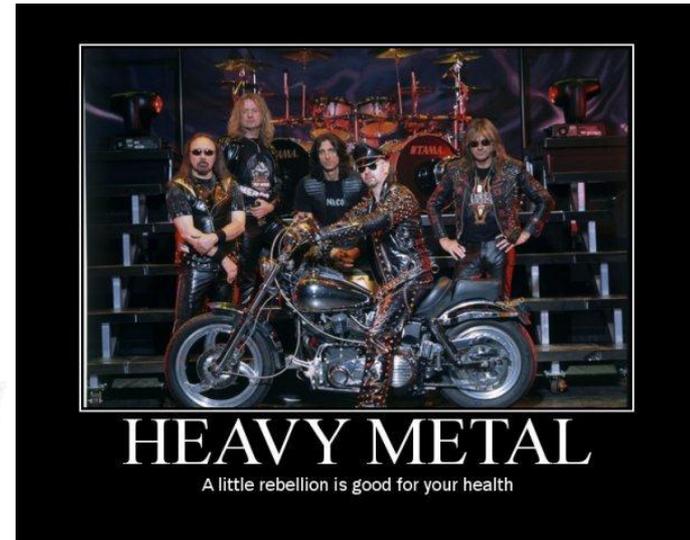
- **Electrolytic plating operations**
 - Non-cyanide electroplating
 - Cyanide electroplating
 - Flash electroplating
- **Non-electrolytic plating operations**
 - Electroless plating
 - Other metal coating operations
 - Chromate conversion or MnPO_4 coatings
 - $\text{Ni}(\text{C}_2\text{H}_3\text{O}_2)_2$ or $\text{Na}_2(\text{Cr}_2\text{O}_7)$ sealing
 - Thermal spraying operations
- **Dry mechanical polishing operations**

But
only if a “Plating and
Polishing Metal HAP”
is involved in the
operation
!!!!!!



Plating and polishing metal hazardous air pollutants (P&PM HAPs)

- Cadmium and its compounds
- Chromium and its compounds
- Lead compounds
- Manganese and its compounds
- Nickel and its compounds



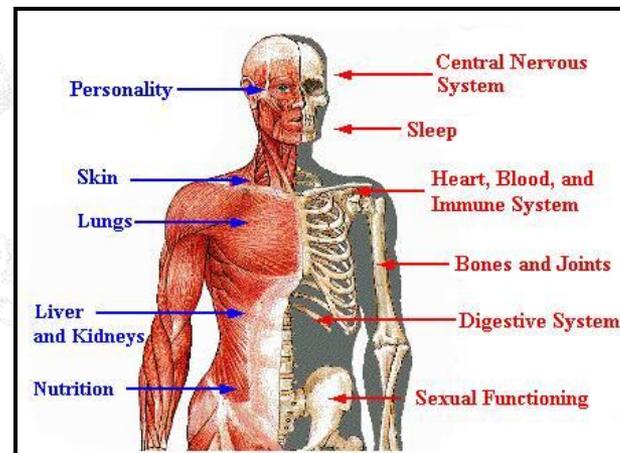
Health Impacts – Carcinogenic Effects

EPA classified known carcinogen (Group A)

- Cr+6 compounds

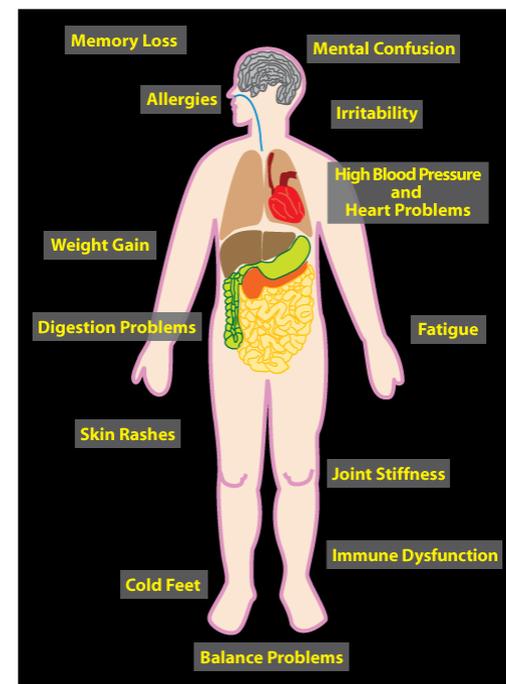
EPA classified probable carcinogen (Group B1/B2)

- Cadmium and its compounds
- Cr+3 compounds
- Lead compounds
- Nickel and its compounds



Health Impacts – Non-carcinogenic Effects

- Renal System – Cd
- Respiratory System – Cd Cr+3 Mn Ni
- Central Nervous System – Pb Mn
- Blood – Pb
- Skin – Ni
- Development –
Cd (fetus)
Pb (fetus & children)



Requirements for Affected Operations

- **Control Technology Requirements**
 - Fume Suppressants
 - Capture & Control Systems (filters)
 - Equipment Covers
 - Reduced Operating time
- **Management Practices**
- **Compliance Demonstration**
- **Other Miscellaneous Requirements**



Delaware's Area Source Air Toxics Program

- On August 25, 2009, DNREC held a public hearing on the proposed new Section 10 in Regulation 1138
- On Nov. 11, 2009, Section 10 became **Final and Effective**



For the information,
on that 2009 adoption go to
Section 10 Regulatory Web Page

www.dnrec.delaware.gov/whs/awm/Info/Regs/Pages/PandP.aspx



Well Time Passes



The July 1, 2010
Compliance Date
Approaches



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And Inquiring Minds Want to Know



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Regulated Industry Requested Clarifications

- 1. On “Affected” and “Exempted” operations**
- 2. On how to determine the P&PM metal HAPs concentration**
- 3. On the proper “replenishment” of tank baths**
- 4. On meaning of “startup” when monitoring pH**
- 5. On use of cartridge filter for thermal spray operations**
- 6. On applicable recordkeeping requirements for tank covers and for limiting operating time**



In Addition, EPA Needed/Wanted Changes

- 7. To correct the initial notification submittal date for new sources**
- 8. To add a requirement to amend NOCS IF the source changed the control technology in use**
- 9. To clarifying that the “management practices” were applicable to ALL affected sources**
- 10. To updated the SS&M provisions to be consistent with the 12/19/08 D.C. District Court decision in *Sierra Club vs. EPA***



EPA's Area Source Air Toxics Program

- **By June 20, 2011**, EPA concluded discussions and rule writing; EPA published a “direct final” amendment to Sub 7Ws to address

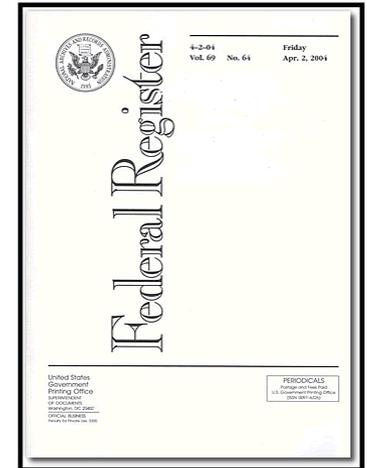
“aspects of the rule as promulgated [that] led to misinterpretations, inconsistencies, and confusion regarding the applicability of the rule.”

Effective Date to be September 19, 2011



EPA's Area Source Air Toxics Program

- EPA received one meritorious comment and withdrew the “direct final rule”
- On September 19, 2011, EPA republished, as final, their amendment to Sub 7Ws



Effective Date to be October 19, 2011



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**Which Brings
Us to
Today's
Public Workshop**

Staying



**A Focused Review of the
Planned Changes to Section 10**



Planned Changes to Section 10 to Address

- Revisions made by EPA to resolve the 10 Issues and other need changes
- Revisions made by Delaware to
 - Associated w/ EPA's revisions
 - Provide/maintain clarity and consistency
 - Maintain State's format/style
 - Correct technical errors



EPA Revisions

Examples of the changes Made to the “original” Sub 6Ws

Example of Changes EPA made to 40 CFR
Part 63 Subpart WWWWWW

1. Clarified issues on the whether certain plating and polishing operations were “affected” by or “exempted” from Sub 6Ws.

Clarified that the dry mechanical polishing of thermally plated parts **was subject** to Sub 6Ws

10.1.1.1.4 Dry mechanical polishing of finished metals ~~or~~ **and** formed products ~~parts~~ after plating ~~or~~ thermal spraying.

Clarified that “bench-scale operations” **were NOT subject** to Sub 6Ws

“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.



EPA Revisions

1. Clarified “Affected” and “Exempted” operations

- **Affected** operations include



- Dry mechanical polishing of thermal sprayed parts is also an affected operation, similar to dry mechanical polishing of plated parts



EPA Revisions

1. Clarified “Affected” and “Exempted” operations

- **Exempted operations include**



- Bench-scale operations



- Spray coating at room temperature



EPA Revisions

1. Clarified “Affected” and “Exempted” operations

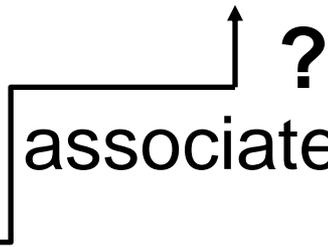
- **Exempted operations**



- All operations, not just thermal spray, conducted to repair surfaces or equipment



- ??? All operations undertaken with maintenance



EPA Revisions

2. Determination of P&PM HAPs concentrations

- 6 ■ **Determination** is not limited to just Material Safety Data Sheets
 - ✓ Chemical analyses or testing
 - ✓ Engineering estimates
 - + Concentration is based on “as metal” content

- 7 ■ **Determination** can be based on the actual tank contents “as used” for plating & polishing



EPA Revisions

3. To replenish WA/FS in the tank bath

- 
- Return the tank bath to its original make-up
 - Don't add the original quantities

4. For CN^{-1} electroplating, measure pH at startup means . . .

- 
- Initially and after each replenishment
- X Not on every batch or restart**



EPA Revisions

10 5. A cartridge filter is an acceptable control technology for thermal spray operations, not just for dry mechanical polishing operations

11 6. Clarified recordkeeping for tank covers and limiting plating times

- Disregard, we got it right the first time

12 7. Clarified that new sources must submit the “initial notification” upon startup, not 120 day after startup



EPA Revisions

13 8. Added requirement to submit amended NOCS within 30 days, if source changes control technology

14 9. Clarified management practices were applicable to ALL plating and polishing operations

15 10. Revised the “General Provisions” (Table 10-1) to remove compliance exemption during a startup, shutdown or malfunction

- Typical of many recent rulemakings

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Delaware Revisions

Examples of the changes Made to the “original” Section 10

Example of Delaware-only Changes made to Section 10

1. Change precipitated by EPA changes to
Sub 6Ws.

1 Clarified the meaning of “startup” for
measuring the pH for cyanide electroplating
tanks

10.7.9 The owner or operator of an affected
cyanide electrolytic process tank shall
demonstrate continuous compliance according
to 10.7.9.1 and 10.7.9.4 of this regulation.

10.7.9.1 The owner or operator shall measure
and record the pH of the tank bath upon startup
of the tank bath.

10.7.9.2 The owner or operator shall state in the
annual compliance certification report that the
pH has been measured upon startup of the tank
bath.



Delaware Revisions

1. Associated with EPA's revisions

- EPA's revised definition of "startup"
- **Added** "startup of the tank bath" throughout
- **EPA's clarification** that management practices apply to ALL plating and polishing operations

- **Added** that dry mechanical polishing operations were NOW subject to the management practices



Delaware Revisions

1. Associated with EPA's revisions

- **EPA's removal** of the compliance exemption during SS&M events



- **Added** statement that affected sources must comply at all time (versus the less obvious removal of the exemption)



Delaware Revisions

2. Provided improved clarity and consistency



- **Added** explanations for SSM revisions made to General Provisions (Table 10-1)



- **Provided** consistent terminology throughout
 - Part vs. ~~product~~ vs. ~~object~~ vs. ~~work piece~~
 - P&P operations vs. ~~P&P processes~~
 - P&P metal HAPs vs. ~~metal HAPs~~
 - etc.



Delaware Revisions

3. Conformed with DE Register Guidelines

- **Spell-out numbers** less than ten (~~5~~ five)



4. Corrected technical errors (aka mistakes)

- 10.6.12.1 ~~through~~ and 10.6.12.2

- 10.7.6.1 ~~and~~ through 10.7.6.4





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Expected Path Forward

- Publish proposed regulation in Delaware Register of Regulation – June 1, 2013
- Public hearing – June 27, 2013
- Publish final regulation in Delaware Register of Regulation – Aug - Nov 1, 2013
- Regulation effective date – Aug - Nov 11, 2013

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For More Information on Section 10

- Contact Jim Snead
 - (302) 323-4542
 - james.snead@state.de.us
- Contact Harry, Phaniel, or Joe



For the latest information,
follow the ongoing development on
Section 10 Regulatory Web Page

www.dnrec.delaware.gov/whs/awm/Info/Regs/Pages/AmendSection10.aspx

