NACWA P3 Meeting: PFCs – Has the Time Come for Regulatory Action?

Phoenix, AZ
May 21, 2010

Christian Richter, NASF / The Policy Group
Washington, DC
Overview

- **Background**
- **Industry Actions**
- **What Does Success Look Like – Some Lessons**
- **Solutions – Voluntary Action & Regulation**
Uses of PFCs: Surface Finishing

Key factor: Beneficial role in minimizing Cr⁶ releases

- For chromium electroplating & other processes since 1980s
  - Ingredients in mist suppressants to reduce:
    - Air emissions
    - Worker exposures
  - “Long Chain” PFC’s persist in harsh chemical environment

- 4 key processes that have used PFCs
  - Hard Chromium
  - Decorative Chromium
  - Chromic Acid Anodizing
  - Chromic Acid Etch
Regulatory Drivers of PFC Use:
Tighter EPA & OSHA Regulations

**EPA Chromium NESHAP** – Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks (1995)
- Amended to allow compliance via fume suppressants (2004)
- New, proposed rulemaking this year (August 2010)
  - Industry has proposed “phase out” for rule

**OSHA Chromium PEL** – 53 ug/m³ to 5 ug/m³ (2006)
- The tighter PEL is technologically feasible because of effective mist suppressants

**California – South Coast AQMD Rule 1469**
- Approved certain fume suppressants for use
- Allows companies to demonstrate compliance with federal chromium NESHAP
How We Got Here: A Quick Chronology

- **EPA Action on 2007 PFC Significant New Use Rule (TSCA)**
  - Plating Industry Exemption – few, if any effective alternatives
  - Minnesota concerns – 3M & new data on plating effluent @ POTW

- **NASF Discussions with EPA HQ / Region 5**
  - EPA PFOS Provisional Health Advisory (Jan 2009)

- **EPA Region 5 Electroplating Study (September 2009)**
  - Chicago / Cleveland – NASF outreach to EPA R5 on solutions

- **Minnesota POTW & Industry Data – Brainerd (2007 – 2010)**
  - Success in reducing PFC concentrations
  - “Controlled Experiment” – model for observing reductions
  - Key findings – “Great, we’re not alone!”
Recent Developments: Industry Action

- **Outreach to NACWA & POTW Community**
  - NACWA P3 Workshop (May 2010)
  - NASF SUR/FIN, Grand Rapids (June 2010)

- **Effort to Accelerate Voluntary Technology Transition**
  - “Short Chain” PFCS or non-PFCs in pipeline, commercialized
  - Some concerns from industry community re new chemistries
    - Cost & operational effectiveness
    - Compliance problems w/EPA & OSHA standards
    - Environmental & health risks of alternatives?

- **Launch NASF Sustainable Technology Partnership**
  - EPA Region 5 & Minnesota / Broader Collaboration
Status of LC PFC Alternatives: Commercialization Has Advanced

<table>
<thead>
<tr>
<th>Surface Coating Process</th>
<th>Status of Long-Chain PFC Alternatives</th>
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<tbody>
<tr>
<td>Hard Chromium Plating</td>
<td>Available</td>
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<tr>
<td>Decorative Chromium Plating</td>
<td>Available</td>
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<tr>
<td>Chromic Acid Etch</td>
<td>Emerging</td>
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<tr>
<td>Chromic Acid Anodizing</td>
<td>Not Yet Feasible</td>
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Lessons in PFC Reduction
Results of Switching to LC PFC Alternative: Chromium Bath at Job Shop (2007-10)
Results of Switching to LC PFC Alternative: Waste Treatment at Job Shop (2007-10)
Results of Switching to LC PFC Alternative: Job Shop Effluent & POTW Influent (in lbs/day)
### Results of Moving to Alternative: Job Shop LC PFC Contribution to POTW (lbs/day)

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<thead>
<tr>
<th>Date</th>
<th>Percent of Total</th>
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Voluntary Options: Industry’s “Sustainable Technology Partnership”

Pilot project underway with EPA Region 5 – develop a practical approach to addressing Long Chain PFC concerns

- **Project Goals**
  - Limit long-chain PFC releases to the environment
  - Promote greener alternatives to long-chain PFCs
  - Encourage best practices – e.g., usage, addition to bath
  - Compliance with the EPA & OSHA standards

- **Focus**
  - Multi-media opportunity to address concurrent Air, Toxic Chemical, Clean Water & Biosolids goals

- **Industry Progress in Minnesota** – NASF members switched
Regulatory Options – is it Time?

- **Federal Toxic Substances Control Act**
  - EPA Chemical Action Plan for PFCs
  - Timeframe for Regulatory Action – 2011-2012?

- **EPA Chromium Air Emissions Rule Revisions**
  - Proposed Rule – August 2010
  - Industry approached EPA to develop LC PFC phase out

- **Minnesota State Regulatory Actions – Twin Cities**
  - POTW Inventory & potentially severe effluent limits
  - Broad universe of fluorotelomers / industry knowledge limits

- **Issues** – Manageable Timeframes, Standards, Uniformity