

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

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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 Cr<sup>6</sup> 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/m<sup>3</sup> to 5 ug/m<sup>3</sup> (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*
  - ◆ Industry Policy Forum – status of alternatives (April 2008)
  - ◆ 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*

- ◆ NASF Policy Forum – NACWA & EPA (April 2010)
- ◆ 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*

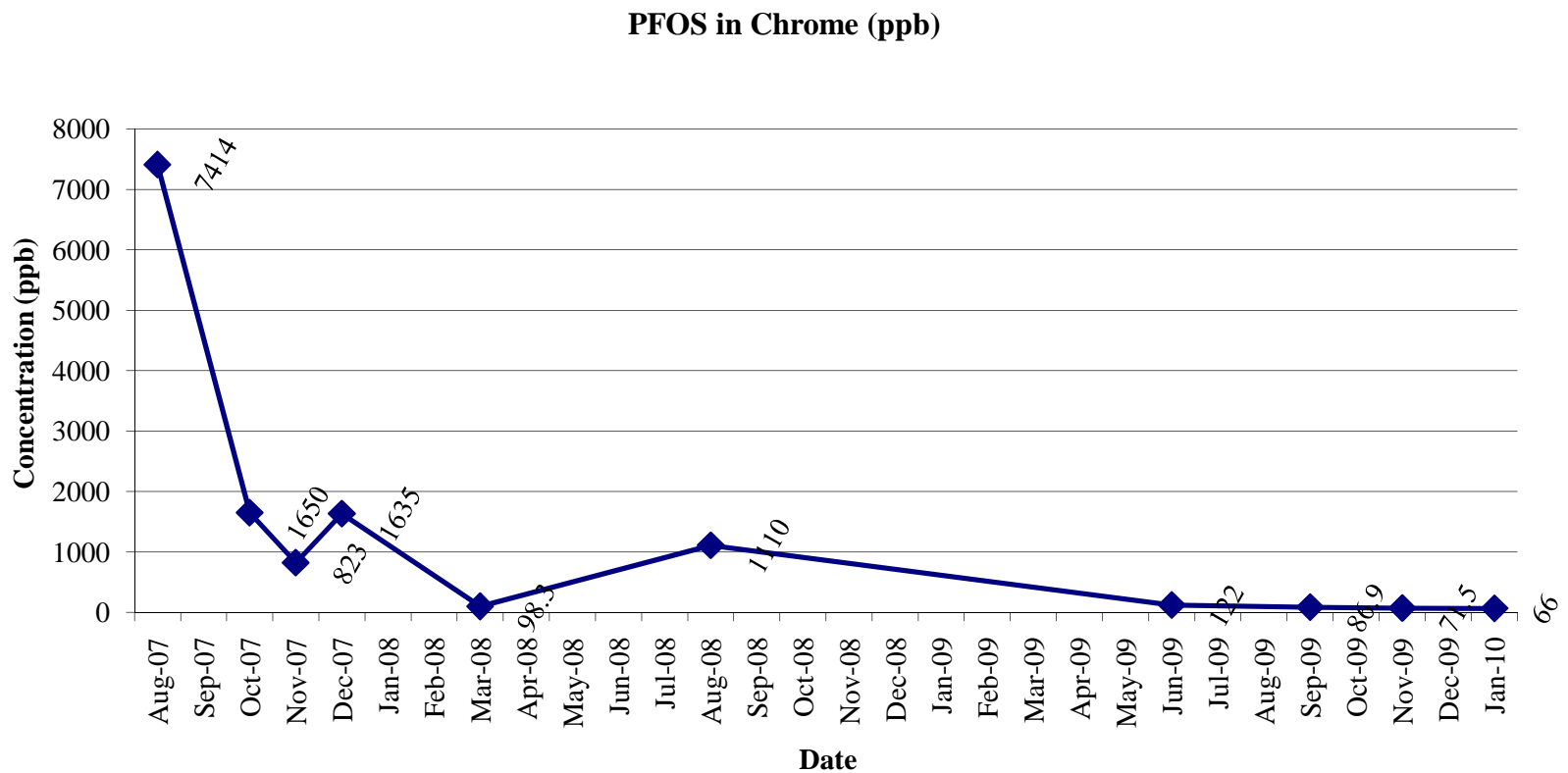
- ◆ *EPA Region 5 & Minnesota / Broader Collaboration*

## **Status of LC PFC Alternatives: Commercialization Has Advanced**

<b>Surface Coating Process</b>	<b>Status of Long-Chain PFC Alternatives</b>
<b>Hard Chromium Plating</b>	<b>Available</b>
<b>Decorative Chromium Plating</b>	<b>Available</b>
<b>Chromic Acid Etch</b>	<b>Emerging</b>
<b>Chromic Acid Anodizing</b>	<b>Not Yet Feasible</b>

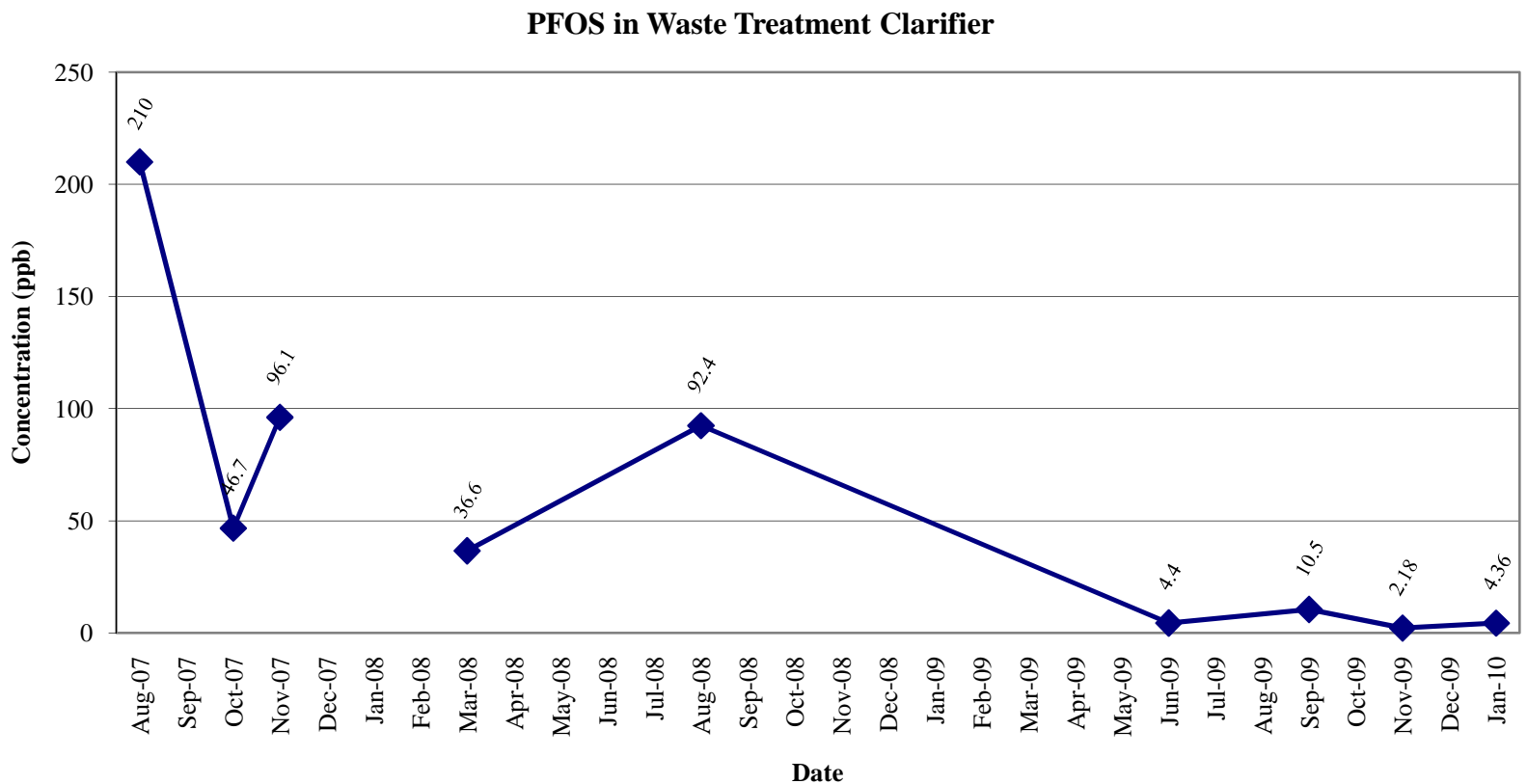
## ***Lessons in PFC Reduction***

### **Results of Switching to LC PFC Alternative: Chromium Bath at Job Shop (2007-10)**

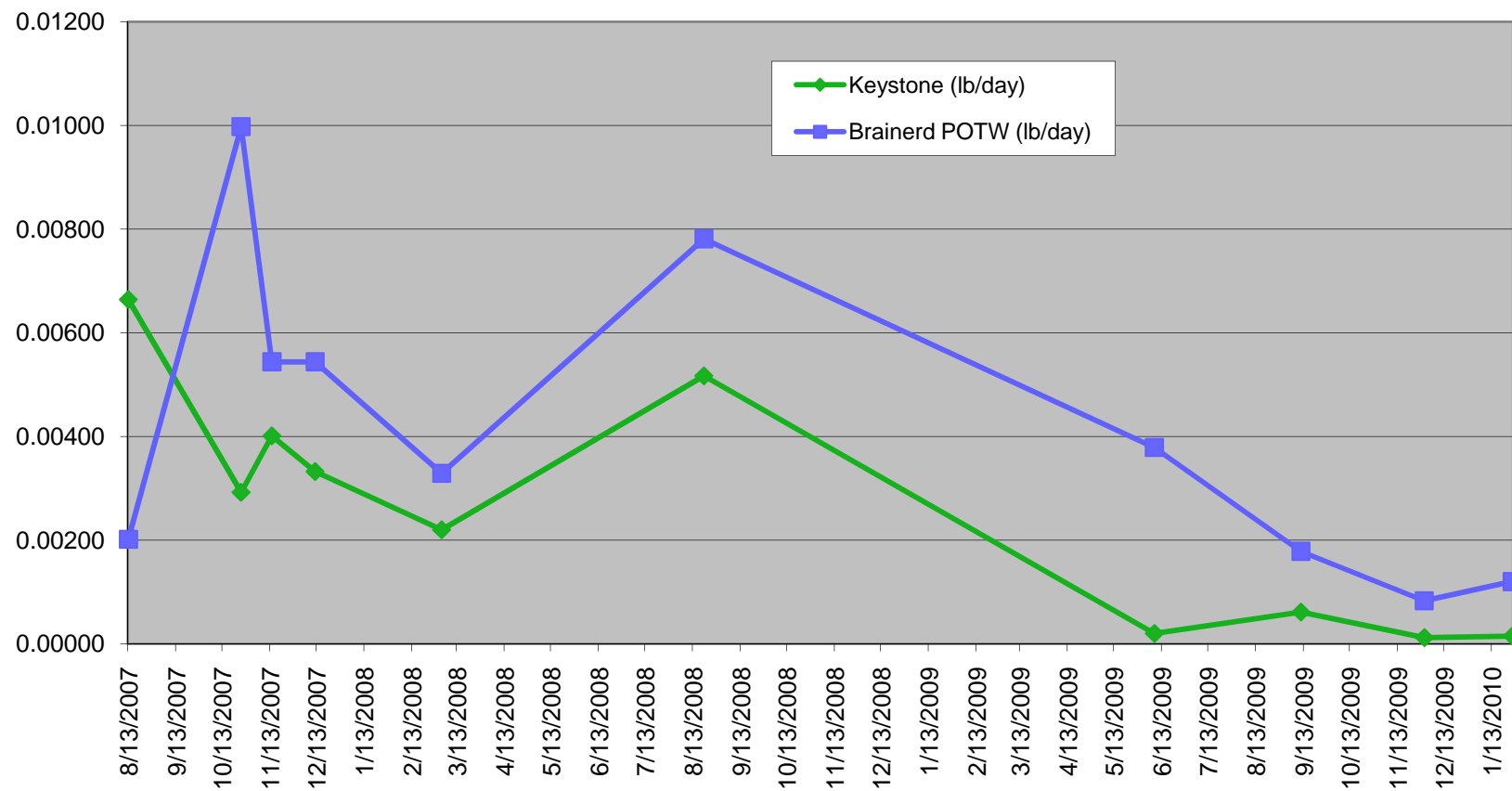




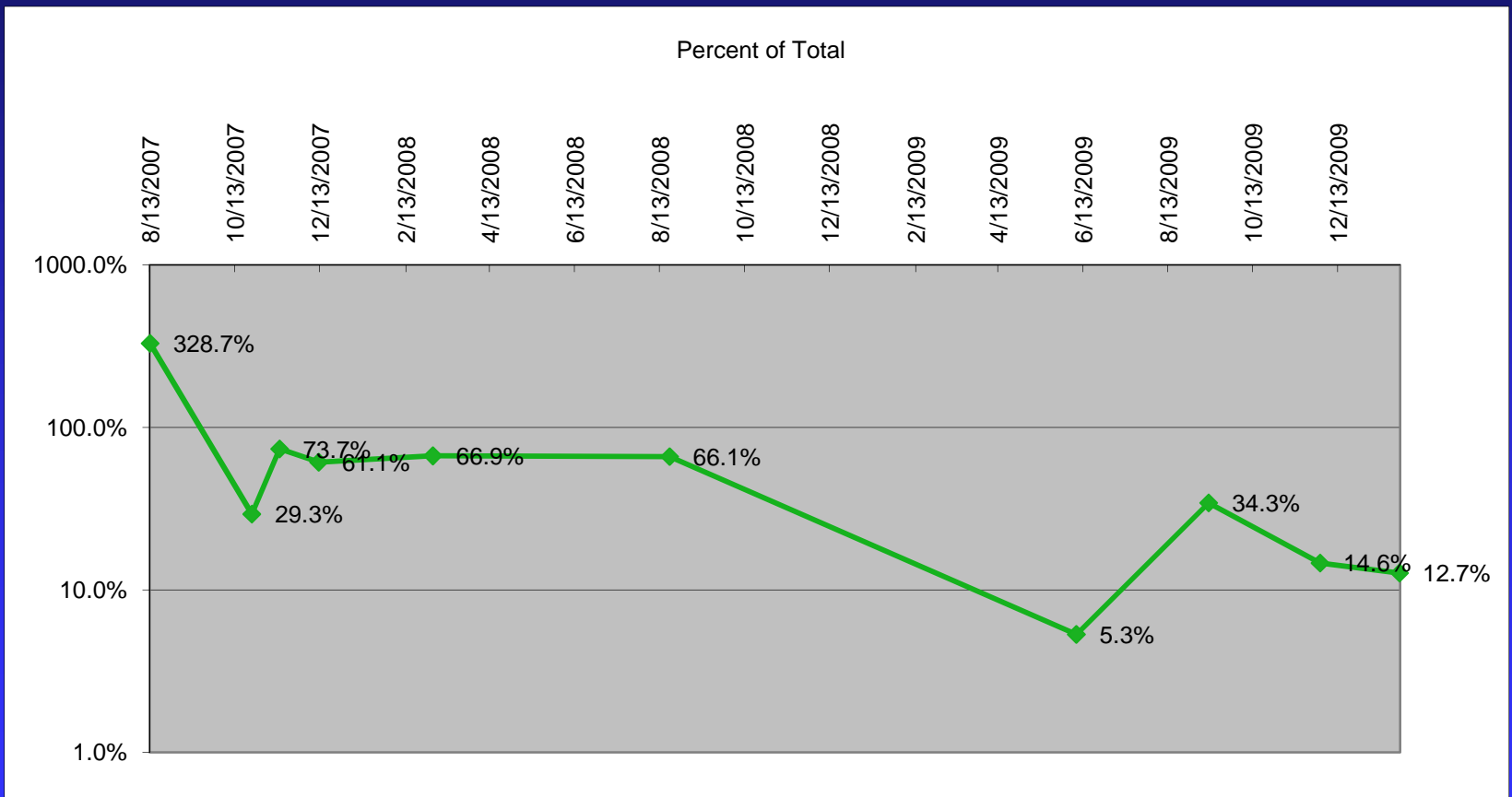
# Results of Switching to LC PFC Alternative: Waste Treatment at Job Shop (2007-10)



# 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)



# **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*