

Chromium Electroplating NESHAP

**NASF Presentation to Office of
Information and Regulatory Affairs
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Summary of NASF January 2012 Presentation

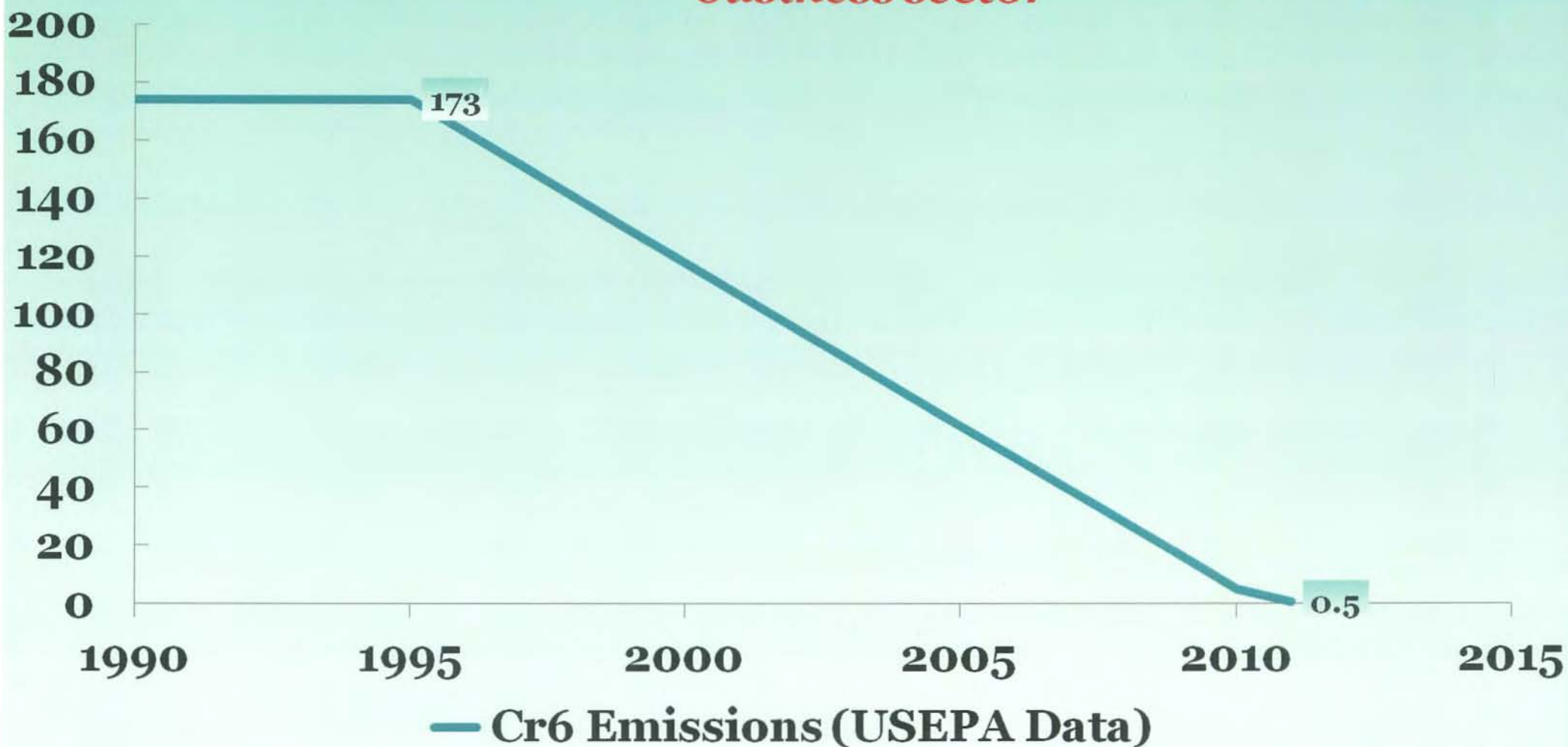


- No Need to Revise Successful Existing Standard
- Acceptable Risk
- No New Technology
 - Non-PFOS Fume Suppressant Less Effective in Reducing Emissions
 - No Data to Support Technology Solution
- No Environmental Benefits
 - No Emissions Reductions
 - No Risk Reduction
- Proposed Emission Limits Are NOT Cost-Effective
- Compliance Costs Would Impose Unnecessary Burden on Industry without any Benefit
- No Reasonable Technology or Technical Basis to Support Proposed Rule

U.S. Cr6 Electroplating Industry Emissions

(from 1995 NESHAP to present, in tons per year)

*A Major Clean Air Act Success – 173 TPY to ~ 0.5 TPY
Total U.S. emissions reduced by 99.7 % in a small
business sector*



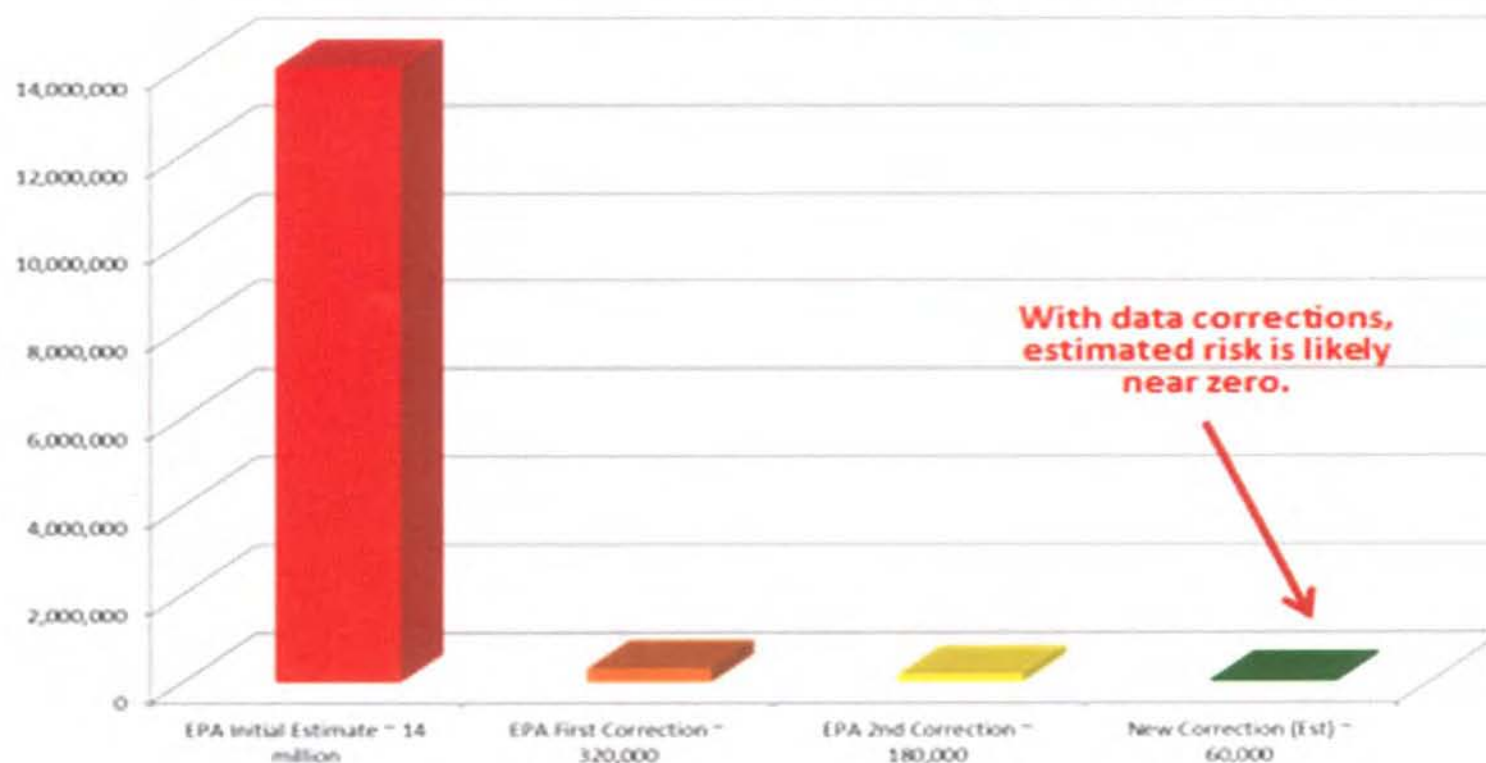
Individuals Potentially Exposed to Cancer Risk



USEPA's U.S. Population Exposure Estimates for Cr6 Electroplating w/no further revisions to NESHAP

(USEPA's # of U.S. individuals exposed down by 99.5% per pending data corrections)

USEPA Population Exposure Estimates of U.S. Individuals Exposed



Key Developments – Feb 2012 Proposal

EPA Decisions

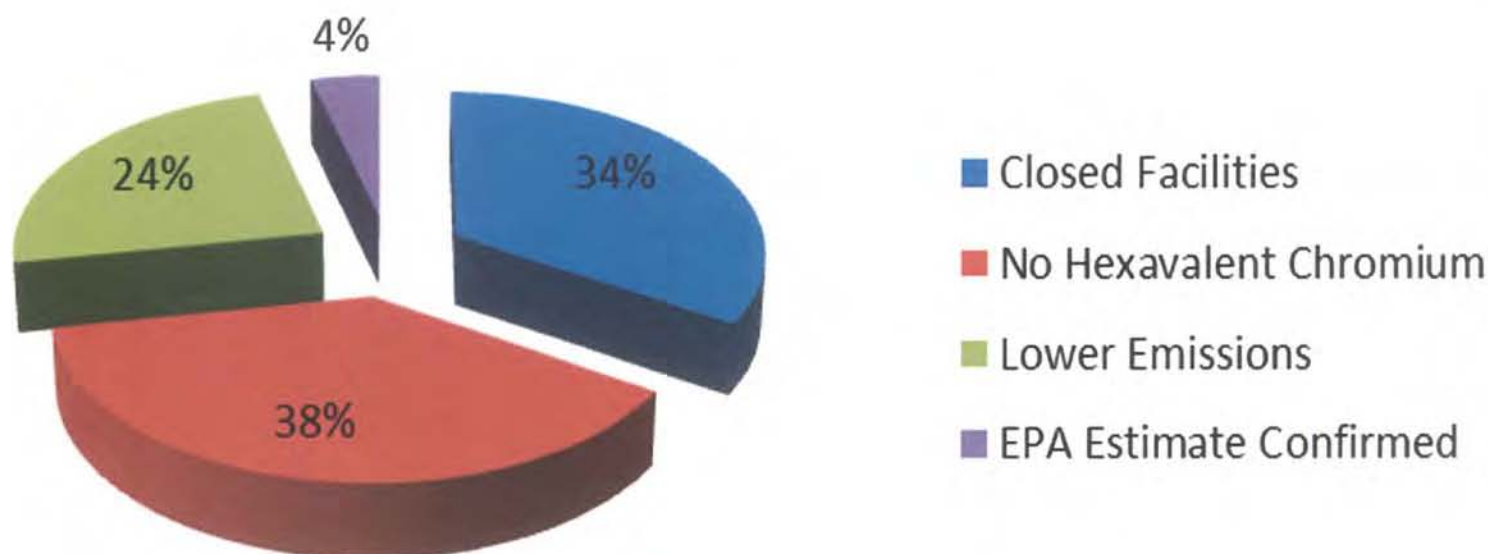


- Risk is **ACCEPTABLE**
- **Process and Data Flaws**
 - Over-Estimated Emissions Estimates
 - Inaccurate Emission Limits Compliance Estimates
- **Technology**
 - No New Technology Identified
 - Fume Suppressants Cannot Achieve Proposed Limits (Recent German Study)
 - Facilities Are Already Using Composite Mesh Pads
 - HEPA Filters NOT COST EFFECTIVE
- **Impacts on Small Business**
 - Capital Investment Needed for Technology Option
 - Comparison with Key EU Member Economy: German Emission Limits – $50 \mu\text{g}/\text{m}^3$

NASF Data Collection Efforts – 2012



Revising EPA Emissions Estimates



**Responses from 182 Facilities in EPA Database:
Chromium Emissions from these Facilities Were Reduced
from 353.939 pounds to 23.36 pounds (93% Reduction)**

NASF Data Collection Results



- **182 responses from NASF survey (130 + 52)**
 - 62 facility closures (34%),
 - 69 facilities that no longer have hexavalent chromium processes or any plating processes (38%),
 - 43 facilities with revised emissions estimates (24%), and
 - 8 facilities that confirmed EPA's estimates (4%)
- EPA's estimated emissions for these 182 facilities were ***353.939 pounds that were reduced to 23.360 pounds for a reduction of 93 percent***

No Technical Support for Proposed Changes



- **Acceptable Risk** -- EPA concluded that risk posed by chromium electroplating and anodizing operations is ACCEPTABLE
- **Meeting Proposed Limits** -- EPA identified some facilities that use existing pollution control equipment and fume suppressants that can meet the proposed limits
- **No New Technology** -- EPA has not identified any new control technology for chromium emissions
- **Option Not Cost Effective** -- EPA incorrectly concluded that those facilities that did not meet the proposed limits could do so easily and cost effectively by adding fume suppressants

Fume Suppressants as Control Technology



- **Technical Feasibility** -- EPA's conclusion is wrong – it is not technically feasible to achieve proposed emission limits by adding fume suppressants
- **No Data** -- EPA reached conclusion without any data on the use of non-PFOS fume suppressants
- **Non-PFOS & Limits** -- Non-PFOS fume suppressants are effective in maintaining the proposed surface tension levels, but not the proposed emission limits
- **New Study** -- Recent German study concludes that PFOS and non-PFOS fume suppressants that maintain the same surface tension levels vary significantly in controlling chromium emissions

Technology Options



- EPA's estimated # of facilities meeting the proposed emission limits is in error
- **No new technology** identified to control chromium emissions
- In proposed rule EPA claims that most facilities will use fume suppressants to achieve the new proposed emission limits -- ***No data supports this claim***
- **EPA's Recent Re-Analysis** -- EPA has revised its claims and cost analysis regarding which technology facilities will use to achieve the new proposed emission limits – ***EPA has no technical basis or any reliable data to support these claims***

EPA's Recent Re-Analysis



- For ***small hard chrome*** platers EPA assumes that
 - 80% will use fume suppressants to meet the new proposed emission limits
 - 15% will install new composite mesh pad (CMP) emission control systems
 - 5% will install HEPA filters to existing control equipment
- For ***large hard chrome*** platers EPA assumes that
 - 10% will use fume suppressants to meet the new proposed emission limits
 - 70% will install new CMP emission control systems
 - 20% will install HEPA filters to existing control equipment
- **Faulty Assumptions for Each Technology**
 1. **Non-PFOS fume suppressants** cannot reduce chromium emissions to the levels of the new proposed limits
 2. Hard chrome platers already have **CMP technology** in place to control chromium emissions, so facilities would not need to add new CMP technology. In addition, EPA has also not identified any tweaks to existing controls that would enable facilities to meet the new proposed emission limits
 3. EPA has already concluded that the use of **HEPA filters** is not a cost-effective control technology

EPA's Cost Effectiveness Analysis for HEPA Filter Retrofit



	No. of plants	Net reductions, tons/yr	Annualized cost, \$/yr	Cost effectiveness, \$/ton	Reductions per facility lbs/yr	Annualized cost per facility	Cost effectiveness \$/lb
Small Hard Chrome	553	0.24	\$17,640,000	\$73,400,000	0.87	31,899	36,665
Medium Hard Chrome	158	0.48	\$12,953,000	\$27,200,000	6.07	81,981	13,505
Large Hard Chrome	79	0.73	\$13,375,000	\$18,400,000	18.48	169,304	9,161
Total	790	1.44	\$43,968,000		3.65	55,656	15,248
			Overall	\$30,500,000			

EPA estimates that the average annual emissions are 2.62 pounds for large hard chrome facilities and 0.56 pounds for small hard chrome facilities. Accordingly, EPA significantly over-estimated average reductions from HEPA filter retrofit. HEPA filter cost effectiveness for both small and large hard chrome facilities would, therefore, be over \$50,000 per pound of chromium emissions reduced.

Significant Impact on Small Business



- **Technology and Cost Summary**
 - Fume Suppressants Not Technically Feasible
 - CMP Technology Already in Place
 - HEPA Filters Not Cost Effective
- **Comparison with European Standards**
 - German emissions limit for chromium is 50 $\mu\text{g}/\text{m}^3$
 - 2-3 times higher than existing U.S. emission limits
- **Rule Would Impose Unnecessary Burdens on a Critical Industry of Small Businesses and Harm Economic Growth and Jobs:**
 - no environmental benefit
 - no risk reduction
 - no data to support its conclusion
 - Sectors served: automotive, aerospace/defense, energy/renewables, medical, housing, and a range of other industries