

# Chromium Electroplating and Anodizing Proposed MACT Rule

National Association for Surface Finishing  
Meeting with  
Office of Information and Regulatory Affairs  
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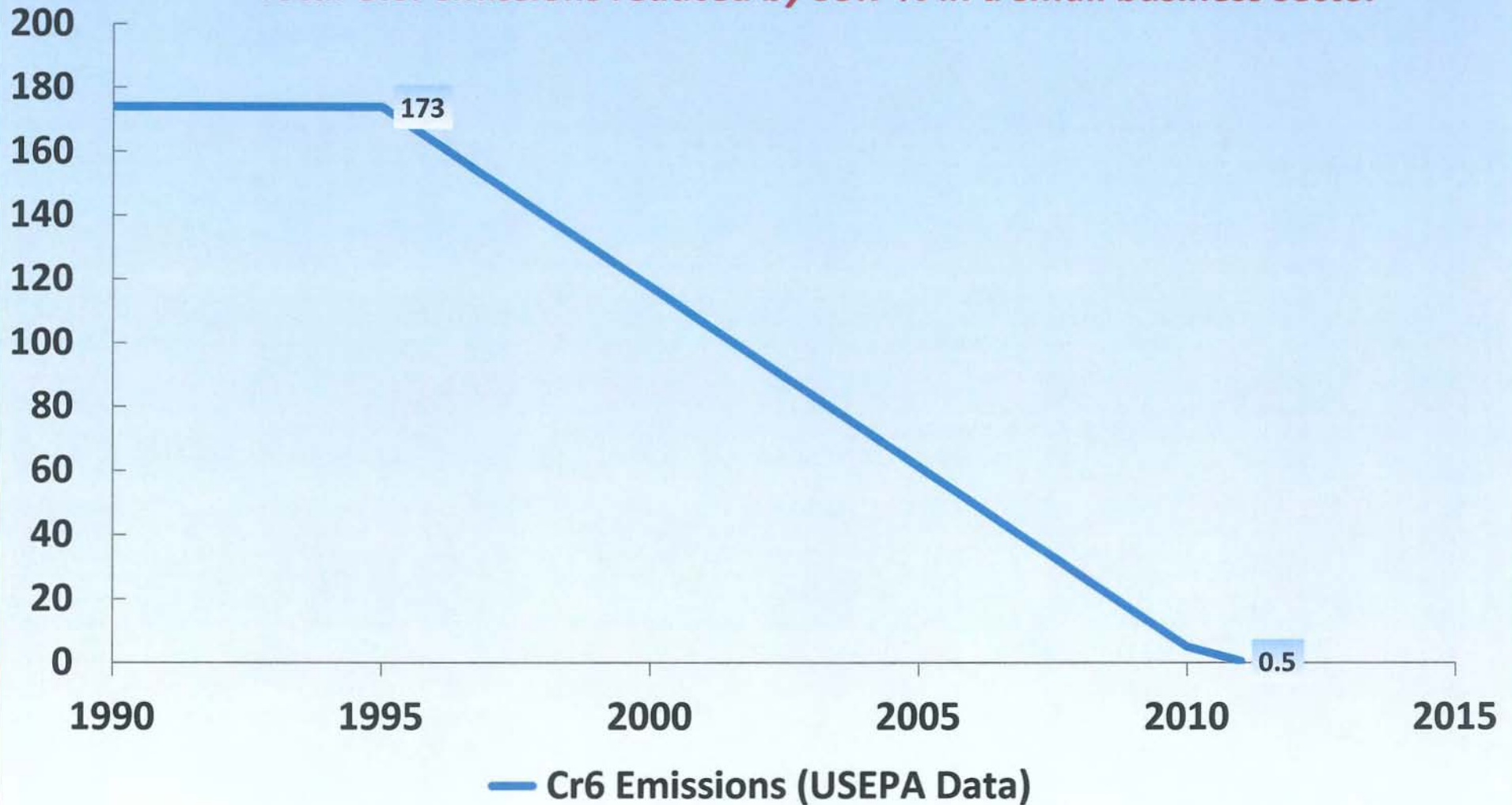
# Summary

- No Need to Revise Successful Existing Standard
- No Significant Risk
- No New Technology
  - New Technology (Non-PFOS Alternatives) Less Effective
  - No Data to Support Technology Solution
- No Environmental Benefits
  - No Emissions Reductions
  - No Risk Reduction
- Proposed Rule Is NOT Cost-Effective
- No Co-Benefits from Reduction of Criteria Pollutants
- Compliance Costs Would Impose Unnecessary Burden on Industry without Any Benefit
- No Reasonable Basis to Support Proposed Rule

# U.S. Cr6 Electroplating Industry Emissions

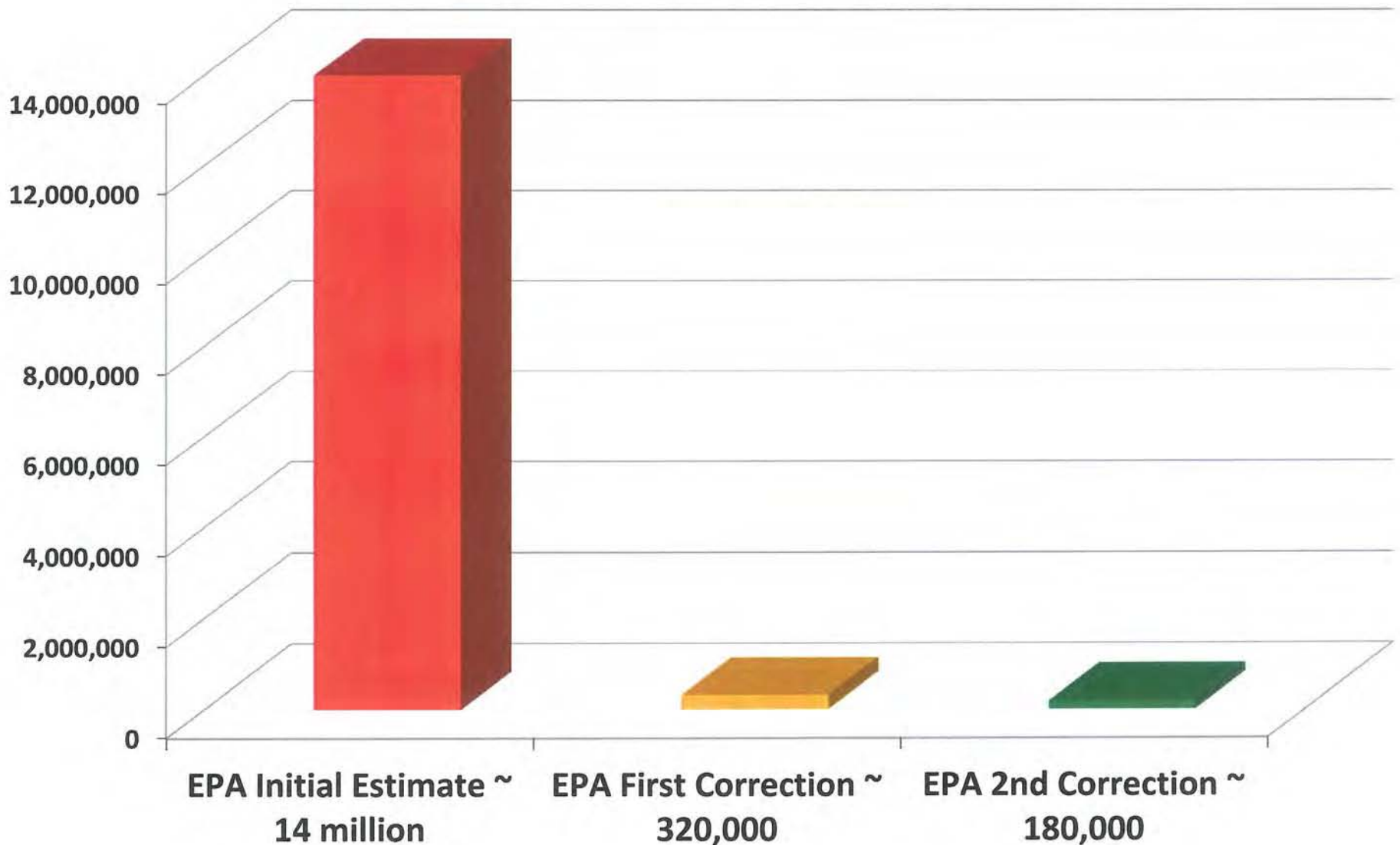
(from 1995 NESHAP to present, in tons per year)

*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*



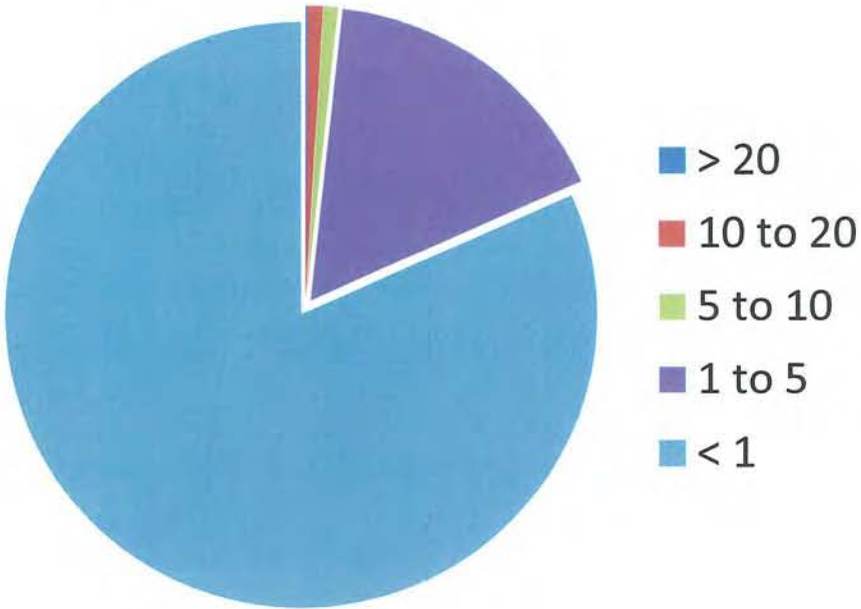
# USEPA's U.S. Population Exposure Estimates for Cr6 Electroplating w/no further revisions to NESHAP

*(USEPA's # of U.S. individuals exposed down by 98.7% per data corrections  
- But OAQPS estimates still overestimate exposure & residual risk)*





# Chromium Electroplating and Anodizing EPA's Maximum Individual Risk Analysis



MIR (x 10 <sup>6</sup> )	Number of Facilities (out of 1500)	Percentage of Total
> 20	1	< 0.1
10 to 20	13	< 1.0
5 to 10	12	< 1.0
1 to 5	249	16.6
< 1	1225	83.4

# EPA Has Greatly Over-Estimated Emissions and Ambient Concentrations of Cr(VI) and Risks

- EPA's Modeled Ambient Concentrations Exceeded Its Own Urban Air Toxics Monitoring Program Levels by a Factor of 5 (particularly for Higher Risk Facilities)
- Estimated Emission Rates Assumed Worst Case Scenarios
  - Emissions for more than 90% of facilities were based on inaccurate model plants, not source-specific data
  - Model plant emission rates from circa 1990 do not reflect implementation of controls due to EPA, OSHA and state requirements
  - EPA model plant emission rates based on high-end 94<sup>th</sup> percentile rather than mean or median
  - EPA used worst case default assumptions about facility size and subcategory (hard, decorative, or anodizing) for all facilities where data was not available (most)
  - Emissions do not reflect facility closures and reduced operations due to recession
  - We believe EPA has likely overestimated Cr(VI) emissions by roughly one order of magnitude
- Inappropriate Assumptions in Dispersion Modeling for Cr(VI)
  - EPA assumed that 100% of chromium emissions were hexavalent and did not account for rapid reduction to trivalent chromium in ambient air
  - EPA did not account for wet and dry deposition of hexavalent chromium and plume depletion
  - EPA ran model in “rural” rather than “urban” mode, so less mixing and dispersion near emission source
- Monitored Ambient Levels of Hexavalent Chromium (Reflecting ALL Sources) Are Lower than EPA's Modeled Ambient Projections for Electroplating and Anodizing Alone
  - Even Though Surface Finishing Accounts for ONLY 1% of Total Cr(VI) Based on 2005 NEI

# Lower Surface Tension Levels

- Existing Limits Achieved with PFOS Fume Suppressants
- PFOS Phased Out as Part of Rule
- Non-PFOS Alternatives – No Data
- Currently at Levels of Diminishing Returns
- No Corresponding Reduction of Emissions
- Not Cost Effective

# Lower Emission Limits

- Significant Reductions
  - 20% for decorative and anodizing
  - 50% for small hard chrome (*85 of 300 facilities would not meet limit*)
  - 26% for large hard chrome (*41 of 181 facilities would not meet limit*)
  - 40-60% for new sources
- Simply Adding Fume Suppressants and/or Tweaking Existing Controls Would Not Be Sufficient to Meet the Proposed Limits
- No Data to Support Use of Non-PFOS Fume Suppressants Technology to Achieve New Limits



# Compliance Costs

- EPA Compliance Costs Unrealistically Low
  - Capital costs of \$3.5 million
  - Annual costs of \$1.0 million
  - Average facility cost approximately \$1,000
- Corrected Compliance Costs
  - Fume suppressants \$5/operating hour (\$10,000/yr.)
  - Non-PFOS fume suppressants required more labor to monitor surface tension levels more frequently
  - Stack test \$6,000 to \$10,000
  - Maintenance of existing controls \$6,000 to \$10,000
  - Replacement of mesh pads \$15,000 to \$40,000
  - Add HEPA filter to existing controls \$5,000 to \$40,000
  - Increase costs for technical consultants
  - Average facility cost approximately \$10,000 to \$60,000
  - Costs more consistent with experience in California
- Even Modest Increases in Compliance Costs Could Negatively Impact the Industry Due to the Precarious Economic State of Most Facilities

# Cost Effectiveness

- Even at EPA's Unrealistically Low Compliance Cost Estimates, Proposal Is NOT Cost Effective
  - Surface Tension Levels - Over \$9,000/lb. of hexavalent chromium emissions reduced (assuming minimal \$350 annual increase)
  - Emission Limits – \$40,000/lb. of hexavalent chromium emissions reduced (assuming modest \$10,000 annual increase)
  - Options even less cost effective with more realistic cost estimates
- EPA Rejected HEPA Filter Technology Based on Cost Effectiveness (Over \$15,000/lb.)
- Technology Identified by EPA Is Even Less Cost Effective When Emissions Estimates and Compliance Costs Are Corrected