



# OSHA's Proposed Chrome PEL

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## OSHA Proposed PEL: Background Summary

- Litigation by Public Citizen and Unions
- Current PEL 52 ug/m<sup>3</sup>
- Proposed PEL 1ug/m<sup>3</sup>
- Proposed Action Level 0.5 ug/m<sup>3</sup>

# OSHA Regulatory Schedule for Revised Hexavalent Chromium Standard

<b>Regulatory Action</b>	<b>Date</b>
Proposed Rule (69 Fed. Reg. 59306)	October 4, 2004
Notice & Comment Period Deadline	January 3, 2005
OSHA Administrative Hearings	February 1 – 15, 2005
Post-Hearing Submission of New Data	March 21, 2005
Post-Hearing Comments	April 20, 2005
Final Rule Deadline	January 18, 2006



## Industry Impacts: Selected Industry Sectors

Electroplating

Welding

Aerospace

Shipbuilding

Chromate Production

Pigments & Catalysts

Portland Cement

Chemical Distributors

Refractory Brick

Stainless Steel

Industrial Laundries

Steel Production

Fiberglass Mfg.

Defense Supply Chain

Electric Utilities

Construction



# Industry Impacts:

## Key Metal Finishing Operations

- Hard Chrome Plating
- Decorative Chrome Plating
- Chromic Acid Anodizing
- Chromate Conversion Coatings (e.g., Zn, Cd & Al)
- Plating on Plastics
- Passivation
- Welding and Fabricating
- Polishing and Grinding
- Chemical Mixing & Blending

## Occupational Exposure Limits: Comparison of Selected Countries (2002)

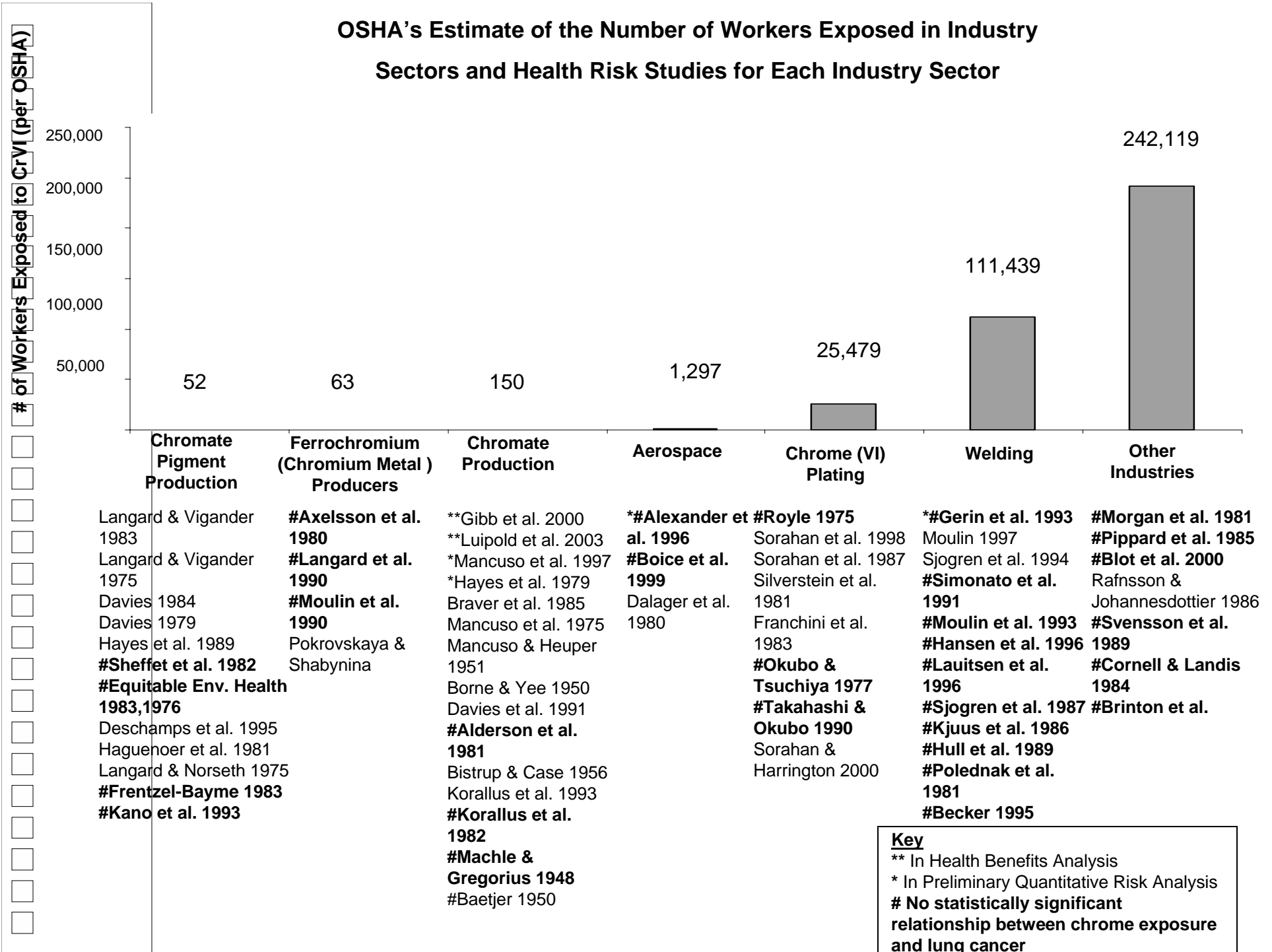
Country	Occupational Exposure Limit
United States ◆ OSHA Proposed ◆ OSHA Current	1.0 ug/m <sup>3</sup> 52 ug/m <sup>3</sup>
Japan	50 ug/m <sup>3</sup>
European Union	50 ug/m <sup>3</sup>
France, Germany, UK, Finland	50 ug/m <sup>3</sup>
China	50 ug/m <sup>3</sup>
India	50 ug/m <sup>3</sup>
<i>Sweden</i>	<i>20 ug/m<sup>3</sup></i>
<i>Denmark</i>	<i>5 ug/m<sup>3</sup></i>



## Health Studies: Industry Concerns

- Chromate Production Facilities – 1930s thru 1970s
  - ◆ Very high exposures, often of short duration
- OSHA Uses Linear Model to Extrapolate Past Risks at Very High Levels to Much Lower Current Exposures
- Expert review of Cr studies show different results
  - ◆ Crump Study –  $23\text{ug}/\text{m}^3$  is protective
  - ◆ SBREFA process recommended  $23\text{ ug}/\text{m}^3$  - Spring 2004
- Uncertainty in OSHA's Risk Assessment

## OSHA's Estimate of the Number of Workers Exposed in Industry Sectors and Health Risk Studies for Each Industry Sector







## Technical Feasibility

- OSHA recommendations not appropriate
  - ◆ Systems cannot be “tweaked”
  - ◆ Fume suppressants not the answer
  - ◆ Engineering controls identified by OSHA not sufficient
- Engineering Controls
  - ◆ OSHA’s data do not demonstrate technical feasibility
  - ◆ Difficult to achieve PEL lower than 10 ug/m<sup>3</sup>
  - ◆ Consistent compliance with action level needed
  - ◆ Process and sampling variability concerns
- Substitutes and customer specifications limit process options

# Compliance Cost of Proposed PEL: Metal Finishing Industry (\$/year, in millions)

Selected Requirements	OSHA Cost	Industry Cost
Engineering Controls	38,179	204,218
Exposure Monitoring	3,766	66,486
Personal Protective Equipment	12,163	65,861
Hygiene Areas and Practices	1,689	14,710
Housekeeping	9,189	9,392
Respirator Protection	2,190	14,938
Training & Information	.500	2,579
<b><i>Total Annualized Cost</i></b>	<b><i>\$ 68 million</i></b>	<b><i>\$ 380 million</i></b>
<b><i>TOTAL COST (inc. 100 % more affected facilities vs. OSHA est.)</i></b>		<b><i>\$ 760 million</i></b>

# Annual Compliance Costs

<b>Facility</b>	<b>Engineering Controls</b>	<b>Plus Respirators</b>
Model Facility		\$226,777
Facility A	\$114,963	\$405,070
Facility B	\$75, 879	\$212,469
Facility C	\$404,467	\$592,621
Facility D	\$85,965	\$177,525
Facility E	\$89,348	\$165,133
Facility F	\$96,833	\$188,338



# Economic Impact Analysis

## ■ OSHA – No Significant Impacts

- ◆ Based on Low Estimated Compliance Costs
- ◆ Average Costs Compared to Average Ability to Pay
- ◆ Did not Differentiate Large from Small Facilities

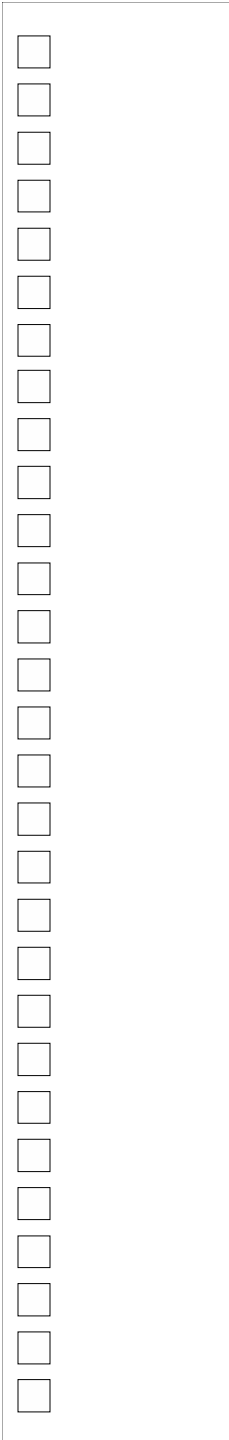
## ■ Industry – Proposed PEL Would Close More than Half the Industry

- ◆ Critique OSHA's Crude Economic Impact Analysis
- ◆ Use EPA's MP&M Economic Impact Analysis
  - ◆ 50% Closure at \$61,000/Facility/Year
- ◆ Detailed Affordability Case Studies for 6 Facilities



# Criteria for a Good Analysis of Economic Feasibility for an Industry

Criteria	OSHA	EPA	Us
Accurate compliance cost estimates		OK	EXC
Accurate data on ability to pay		EXC	EXC
Site-by-site affordability analysis		EXC	EXC
Good closure test(s)	OK	EXC	OK
Consider market price response		OK	OK
Representative sites		EXC	OK
Scale up to entire industry	OK	EXC	OK
Analyze small entities well		EXC	OK





## Benefit-Cost Assessment: Industry Review

- OSHA Asserts Total Benefits from the PEL Exceed Costs by \$140 million annually (includes health benefits across all affected sectors)
- Industry Analysis Launched to:
  - ◆ Formulate new cost estimates vs. OSHA cost estimates
  - ◆ Review how OSHA arrived at benefits estimates
  - ◆ Evaluate analytical methods and additional health studies and recalculate benefits
- Goal: Credibly Compare Costs and Benefits for Alternative PELs
  - ◆ Position – Net benefits should be positive for any final PEL
  - ◆ Conclusion – Even without changing OSHA compliance cost estimates, benefits are much less than costs
  - ◆ Conclusion – OSHA drastically underestimated costs



## Re-Calculated Benefits

- Instead of using cancer slope range estimated from only 2 studies, use average of all 6 studies cited by OSHA
- Use best estimate for cancer latency, not OSHA's range
- Apply more accurate Value of Statistical Life estimate
- For purposes of this calculation, accept most of OSHA's other estimates



**Costs & Benefits – Summary Comparison:  
Proposed PEL and Alternatives (\$ millions, 2003)**

PEL (ug/m <sup>3</sup> )	0.5	1.0	5	10	20
OSHA's COST	\$ 402	<b>\$ 223</b>	\$ 125	\$ 95	\$ 84
OSHA's Benefit Range	\$26 - 745	<b>\$25 - 701</b>	\$18 - 490	\$ 14 - 342	\$ 8 - 175
OSHA's Midpoint Benefit Estimate	\$ 386	<b>\$ 363</b>	\$ 254	\$ 178	\$ 92
OSHA's NET BENEFITS	\$ -17	<b>\$ 140</b>	\$ 128	\$ 82	\$ 7
Corrected Benefit Estimate	\$ 75	<b>\$ 71</b>	\$ 50	\$ 35	\$ 19
Corrected NET BENEFITS	\$ -327	<b>\$ -152</b>	\$ -75	\$ -60	\$ -65



# Strategic Approach

- Industry Coalition
- Dept. of Labor/OSHA
- Interagency
  - ◆ Dept of Defense
  - ◆ EPA
  - ◆ Dept of Commerce
  - ◆ Small Business Administration
- White House/OMB
- Congress