Thermal Spraying ATCM
Third Public Workshop

September 16, 2004
Sacramento

California Environmental Protection Agency

Air Resources Board

Agenda

- **Introductions**
- **Background**
- **Thermal Spraying ATCM Development**
  - Updated Survey Findings
  - Completed Activities
  - Workshop Draft Regulatory Language
  - Preliminary Emissions & Risk Assessment
  - Costs
  - Schedule

ARB's Thermal Spraying Project

Background

- **ATCM would apply to thermal spraying processes that use chromium or nickel**
  - Flame Spraying
  - Twin-Wire Electric Arc
  - Detonation Gun
  - Plasma Spraying
  - HVOF
- **ATCM would protect public health by requiring BACT**

Thermal Spraying ATCM

Updated Survey Findings

Total Active Facilities =	**51**	
Use Products w/Cr or Ni	37	73 %
Permitted	28	55 %
Unpermitted	23	45 %
Conduct Spraying in a Booth	46	90 %
Have Existing Control Devices	45	88 %
Have HEPA Filters	20	39 %

Thermal Spraying ATCM

Completed Activities

- Two Thermal Spraying Surveys
- Air Dispersion Modeling
- Two Public Workshops
- Revised Workshop Draft Regulatory Language
- Draft Emissions Methodology
- Preliminary Risk Assessment

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Draft Regulatory Language

New & Modified Facilities **(upon initial startup)**	**- HEPA Filter**
Existing Facilities **(by 1/1/06)**	**- BACT** **- Exempt from additional controls if remote and have low emissions**
All Facilities	**- Permitting** **- Monitoring** **- Recordkeeping** **- Hourly Nickel Limit**

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Draft Regulatory Language

Existing Facilities - POINT Sources:

	Annual Emissions (lbs/yr)*		Minimum Required Control Efficiency
Tier	Hex. Chrome	Nickel	
1	≥ 0.004 and ≤ 0.04	≥ 2.1 and ≤ 20.8	90%
2	> 0.04 and ≤ 0.4	> 20.8 and ≤ 208	99.999% @ 0.5 um
3	> 0.4	> 208	99.97% @ 0.3 um

** These are controlled emissions, if a control device exists.*

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Draft Regulatory Language

Existing Facilities - VOLUME Sources:

	Annual Emissions (lbs/yr)		Minimum Required Control Efficiency
Tier	Hex. Chrome	Nickel	
1	$\geq$ 0.001 and $\leq$ 0.01	$\geq$ 0.3 and $\leq$ 3.1	99%
2	> 0.01 and $\leq$ 0.1	> 3.1 and $\leq$ 31	99.999% @ 0.5 um
3	> 0.1	> 31	99.97% @ 0.3 um

** These are controlled emissions, if a control device exists.*

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Exemption for EXISTING Facilities

- Additional controls are not required if an EXISTING facility meets all of the following criteria:

a) The facility is located at least 500 meters from a sensitive receptor

b) Annual emissions of hexavalent chromium do not exceed 0.5 pound

c) Facility reports annual emissions to district for annual district review

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NEW Facilities

- New facilities emitting hexavalent chromium or nickel must meet all of the following criteria:

  a) The facility must be equipped with a HEPA Filter

  b) The facility must be located outside of and at least 150 meters from the boundary of an area zoned residential or mixed-use

  c) A site-specific analysis must be conducted to assure public health protection

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Preliminary Impact Summary

Facilities that Use Cr or Ni =	**37**
Need HEPA Upgrade	1
Need Dry Filter Install	3
May Qualify for Exemption	9
Already Have HEPA	17
Already Have non-HEPA BACT	7

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Hexavalent Chromium Emissions

- Used ATCM Emission Factors, based on chromium usage
- 30 Facilities have Cr^{+6} Emissions
- Statewide total: 9 - 66 lbs/yr Cr^{+6}

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Nickel Emissions

- Used ATCM Emission Factors, based on nickel usage
- 35 Facilities have Ni Emissions
- Statewide total: 105 - 740 lbs/yr Ni

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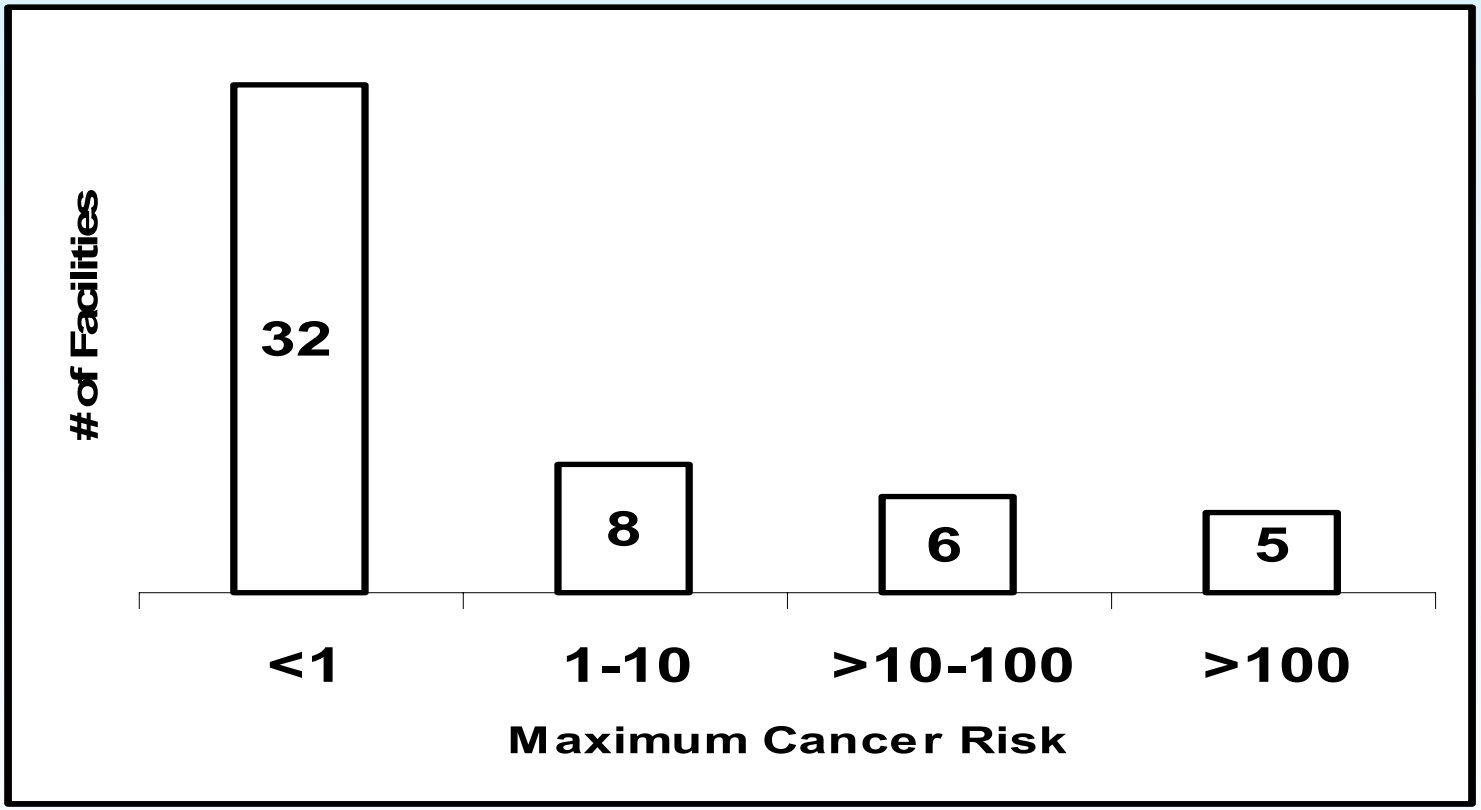
Potential Risk: Hexavalent Chromium



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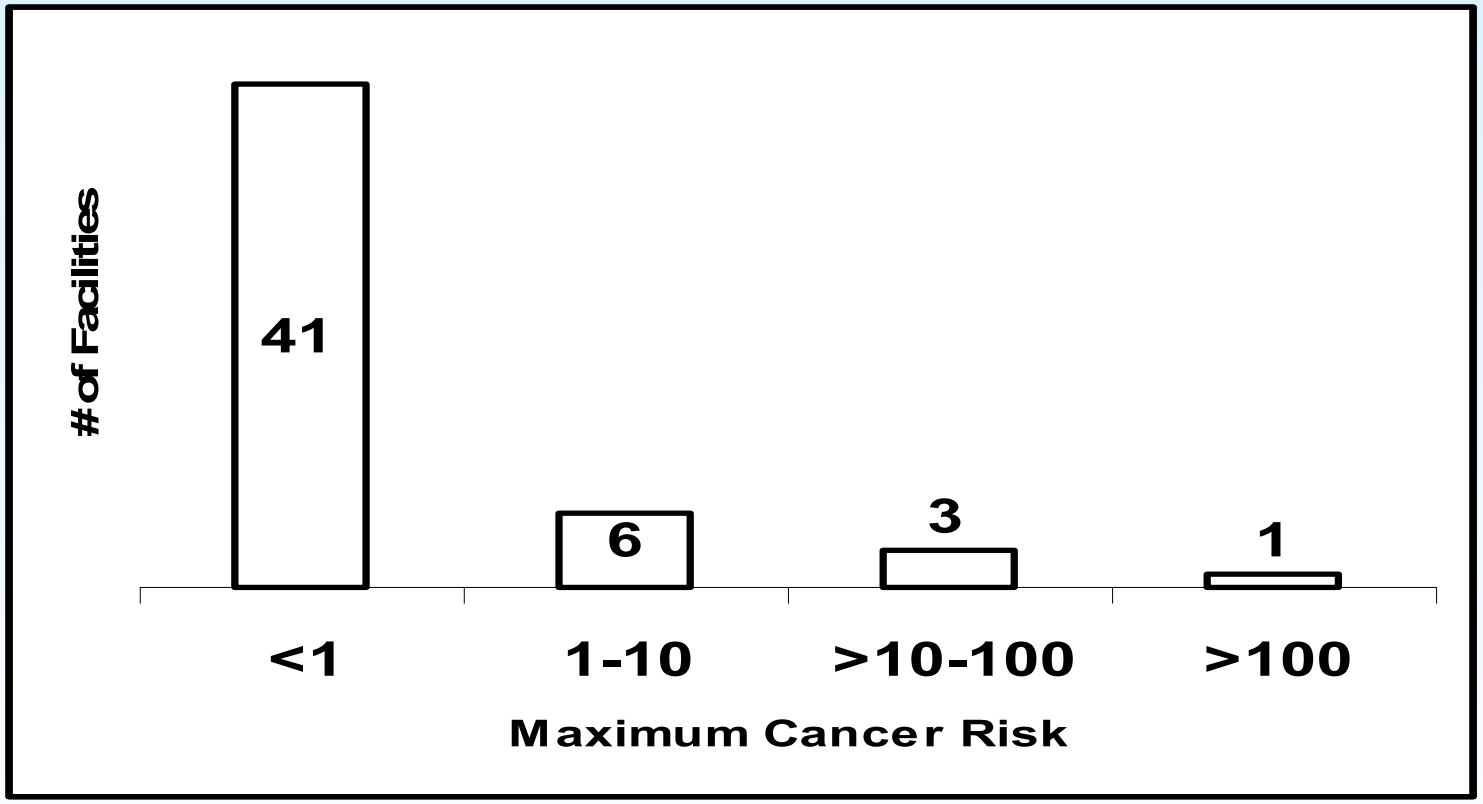
Potential Risk: Nickel



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Reduction in Emissions ATCM will achieve -

Emission Reduction for Uncontrolled Volume Sources	**≥99%**
Overall Emission Reduction for Hexavalent Chromium	**76%**
Overall Emission Reduction for Nickel	**51%**

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Reduction in Risk From ATCM

- **Residual Cancer Risk is <1 to 3 potential cancer cases per million.**
- **<1 Acute Hazard Index from Nickel Exposure**

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Cost Estimate

HEPA Filter Installation	= $163,000
Dry Filter Installation	= $103,000
Permitting Fees	= $ 2,300
Annual Recordkeeping	= $ 600

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Potential Initial Cost = $513,000

# of Facilities	Impact	Initial Cost	Annualized Cost
1	HEPA	$163,000	$42,000
3	Dry Filters	$103,000	$18,000
18	Permitting	$2,300	$1,000
15	Records	$0	$600

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Schedule

- **Sept 23** — **Comments Due**
- **October 22** — **Proposed Regulation and Staff Report**
- **December 9** — **Tentative Board Hearing Date**

ARB's Thermal Spraying Project

Public Involvement

- **Website:**
  http://www.arb.ca.gov/coatings/thermal/thermal.htm
- **Sign up for List Server to get updates**
- **Provide Comments**
- **Meet with ARB**
- **Attend Board Hearing**
  (can participate via internet)

ARB Points of Contact

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QUESTIONS?