Managing Aluminum Industry Environmental Challenges

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Environmental regulations have high potential to impact industry operations.

Limiting these impacts requires member collaboration and transparent advocacy.

Aluminum Association has a strong track record, ready for the future.
EPA environmental agenda covers broad range of topics/issues
Association focus on Agency initiatives with highest potential risk

**Air Toxics & Ambient Standards**
- Primary Aluminum
- Secondary Aluminum
- Boilers and Process Heaters
- Ambient SO2, ozone, fine particulate

**Waste/Chemical Releases**
- Salt Cake Landfill Disposal
- Chemical Data Reporting
- Toxic Release Inventory

**Climate Change Impacts**
- Voluntary Emission Reductions
- GHG Reporting
- Clean Power Plan

**Water Quality**
- Water quality criteria
- Waters of United States
- Stormwater Permitting
Federal regulatory requirements can have significant impacts

- Primary Aluminum Air Toxics
- Secondary Aluminum Air Toxics
- Salt Cake Landfill Disposal
- Ambient Standards
- Emission Control Costs
- Reduced Operating Flexibility
- Administrative Burdens
- Compliance Risks
- Asset Impairment
Regulation has led to reduced impacts & improved performance

Baghouses on anode bake furnaces and paste plants
- Reduced carcinogenic emission of coal tar pitch

Technology to measure chlorine gas usage
- Less chlorine gas use and storage; lowered HCl emissions

HF and PFC monitoring tools
- Reduced fluoride and Greenhouse Gas emissions from smelting
Association Provides a Leadership Framework

Vision: Workable Regulations that Achieve Environmental Protection

Environmental Committee

- Air
  - Primary WG
  - Secondary WG
  - PFC/NAAQS WG
- Water WG
- Materials
  - Saltcake WG
  - PBT WG
  - Alumina WG
“None of Us is as Smart as All of Us”
– Kenneth Blanchard / Roy Carwile
Successful Regulatory Engagement Requires Teamwork and Integrity

| Collaboration between Work Group members | • Knowledgeable company representatives  
|                                           | • Open sharing of ideas and concerns  
|                                           | • Compromise or consensus positions  |
| Education of Agency Staff                | • Technical understanding = Better Regulations  
|                                           | • Real data & solutions  
|                                           | • Valid technical arguments  |
| Transparent and honest approach          | • Agency relationships built on trust  
|                                           | • Open and helpful communications  |
| Positive Industry Reputation             | • Commitment to environmental protection  
|                                           | • Balanced political involvement  
|                                           | • Only litigate when necessary and right  |
Industry Has Enjoyed Numerous Successful Regulatory Engagements

- **VAIP/PFC Emissions**
  - Partnership with EPA
  - Climate change benefits
  - Early action paid dividends
  - 70% reduction in PFC emissions since program start

  US PFC Emissions Intensity
  (2010 & 2011 production modeled based on nameplate capacity)

- **Saltcake**
  - Landfill lockout threatened due to reactivity concerns
  - Research initiated with EPA
  - Multiple joint investigations
  - Evaluations resulted in continued non-hazardous waste status
  - Avoided significant cost/burden
Recent Favorable Outcomes for Primary Aluminum Air Toxics Rule

- New Hazardous Air Pollutant emission limits
  - Achievable without new control equipment
  - Avoided limits for some toxic air pollutants

- Alternative to Bag Leak Detection Systems (BLDS)
  - Avoids $5 million industry cost for BLDS

- EPA Found Health Risks Acceptable
  - Determination that air toxic standards adequately protect community health
EPA Proposal for Melt Furnace Testing:
• Install temporary capture hoods to measure fugitive emissions from furnace doors
• Reduce emission standard by 33% if hood not used

Industry Technical Comments:
• Practical/safety /cost concerns with temporary hoods
• Poor data accuracy for 33% assumption

EPA Final Rule:
• Install temporary capture hoods for testing
• Reduce emission limit by 20% if hood not used
• Option to obtain exemption from Permitting Authority
• Round-top furnaces entirely exempt from hoooding
Members to Prepare Compliance Guidance for New Rules
Estimated Cost Savings or Avoidance from Environmental Advocacy

“It could have been much worse!”

<table>
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<tr>
<th>Year</th>
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Unfortunately Many Challenges Still Lie Ahead….

- Implement Primary and Secondary air toxics rules
- Implement SO\textsubscript{2} standards for primary smelters
- State revisions for Startup/Shutdown exemptions
- Potential impacts from the Clean Power Plan
- New ozone rule
- Revisions to waste corrosivity definition
- New aluminum water quality criteria
- Environmental Justice and community engagement
Keys to Past and Future Success

- Support from member companies
- Early awareness and action on emerging issues
- Open and honest interaction
Thanks!
Advancing each generation.