

**APPENDIX D**

**REASONABLY AVAILABLE CONTROL MEASURES (RACM)  
AND REASONABLY AVAILABLE CONTROL TECHNOLOGY  
(RACT) ANALYSIS**

## Appendix D

### Reasonably Available Control Measures (RACM) and Reasonably Available Control Technology (RACT) Analyses

Table 1. RACM and RACT and Analyses of Fugitive Lead-Dust Sources

Lead Emissions Source	Control Measure	Enforceable Mechanism	Is this Control Measure RACM?	Is this Control Measure RACT?	Notes
Battery breaker fugitives	Full enclosure with negative pressure ventilation to high efficiency polytetrafluoroethylene (PTFE) membrane baghouse	Agreed Order 2011-0521-MIS	Yes	Yes	
Blast furnace fugitives	Full enclosure with negative pressure ventilation to high efficiency PTFE-membrane baghouse	Agreed Order 2011-0521-MIS	Yes	Yes	
Reverberatory furnace fugitives	Full enclosure with negative pressure ventilation to high efficiency PTFE-membrane baghouse	Agreed Order 2011-0521-MIS	Yes	Yes	
Refining/casting kettle fugitives	Full enclosure with negative pressure ventilation to high efficiency PTFE-membrane baghouse	Agreed Order 2011-0521-MIS	Yes	Yes	
Slag treatment/fixation fugitives	Full enclosure with negative pressure ventilation to high efficiency PTFE-membrane baghouse	Agreed Order 2011-0521-MIS	Yes	Yes	
Raw materials storage fugitives	Full enclosure with high efficiency cartridge filter	Agreed Order 2011-0521-MIS	Yes	Yes	

Lead Emissions Source	Control Measure	Enforceable Mechanism	Is this Control Measure RACM?	Is this Control Measure RACT?	Notes
Raw materials storage fugitives	Full enclosure with negative pressure ventilation to high efficiency PTFE-membrane baghouse	Agreed Order 2011-0521-MIS	Yes	Yes	
Raw materials handling fugitives	Full enclosure with negative pressure ventilation to high efficiency PTFE-membrane baghouse	Agreed Order 2011-0521-MIS	Yes	Yes	
Lead oxide reactor fugitives	Full enclosure with negative pressure ventilation to high efficiency PTFE-membrane baghouse		No	No	The control measure is not RACM or RACT at this time because it is not economically feasible given the minimal estimated emission reductions. However, the measure was included in the agreed order as a contingency measure. See Section 4.3.1.1 for additional discussion.
Lead oxide reactor fugitives	Partial enclosure with hooding vented to high efficiency PTFE-membrane baghouse	Agreed Order 2011-0521-MIS	Yes	Yes	Partial enclosure and hooding is sufficient to control small amount of lead-dust fugitives generated from lead oxide operations.

Lead Emissions Source	Control Measure	Enforceable Mechanism	Is this Control Measure RACM?	Is this Control Measure RACT?	Notes
Slag handling fugitives	Full enclosure with negative pressure ventilation to high efficiency PTFE-membrane baghouse	Agreed Order 2011-0521-MIS	Yes	Yes	
Blast furnace charging fugitives	Re-sealing existing emissions capture and ventilation hooding systems	Agreed Order 2011-0521-MIS	Yes	Yes	
Reverberatory furnace charging fugitives	Replace hydraulic ram with rotary screw feeder	Agreed Order 2011-0521-MIS	No	No	The control measure is not RACM or RACT because it is not economically feasible given the minimal estimated emissions reductions. Any emissions associated with this source would be controlled through the furnace area enclosure. The measure was included in the Agreed Order as a voluntary control measure beyond RACM and RACT.

Lead Emissions Source	Control Measure	Enforceable Mechanism	Is this Control Measure RACM?	Is this Control Measure RACT?	Notes
Site traffic/truck loading and unloading fugitives	Minimize traffic route area through facility	Agreed Order 2011-0521-MIS	Yes	Yes	At the Exide, Frisco plant this includes relocation of the slag treatment building to a location adjacent to the furnace and refining operations.
Site traffic/truck loading and unloading fugitives	Regular wet vacuum cleaning	TCEQ Permit 1147A*; 40 CFR Part 63 Subpart X	Yes	Yes	
Battery breaking, furnace, refining, lead oxide operation, and transport fugitives	Operational requirements and housekeeping	TCEQ Permit 1147A*; 40 CFR Part 63 Subpart X	Yes	Yes	

\* This control is required under existing TCEQ Permit 1147A which is not included in this SIP revision.

Table 2. RACT and RACM Analysis of Lead Point Sources

Lead Emissions Source	Control Measure	Enforceable Mechanism	Is this Control Measure RACM?	Is this Control Measure RACT?	Notes
Battery breaker stack	Wet Scrubber	TCEQ Permit 1147A*; 40 CFR Part 63 Subpart X	Yes	Yes	

<b>Lead Emissions Source</b>	<b>Control Measure</b>	<b>Enforceable Mechanism</b>	<b>Is this Control Measure RACM?</b>	<b>Is this Control Measure RACT?</b>	<b>Notes</b>
Battery breaker stack	High efficiency PTFE-membrane baghouse	Agreed Order 2011-0521-MIS	Yes	Yes	
Blast furnace stack	High efficiency PTFE-membrane baghouse	Agreed Order 2011-0521-MIS	Yes	Yes	
Reverberatory furnace stack	High efficiency PTFE-membrane baghouse	Agreed Order 2011-0521-MIS	Yes	Yes	
Blast furnace stack	Metallurgical scrubber	TCEQ Permit 1147A*; 40 CFR Part 63 Subpart X	Yes	Yes	
Reverberatory furnace stack	Metallurgical scrubber	TCEQ Permit 1147A*; 40 CFR Part 63 Subpart X	Yes	Yes	
Refining kettles/casting stacks	High efficiency PTFE-membrane baghouse	Agreed Order 2011-0521-MIS	Yes	Yes	
Lead oxide reactor stacks	High efficiency PTFE-membrane baghouse	Agreed Order 2011-0521-MIS	Yes	Yes	
Slag fixation/treatment stacks	High efficiency PTFE-membrane baghouse	Agreed Order 2011-0521-MIS	Yes	Yes	
Feed Dryer	High efficiency PTFE-membrane baghouse	Agreed Order 2011-0521-MIS	Yes	Yes	

Lead Emissions Source	Control Measure	Enforceable Mechanism	Is this Control Measure RACM?	Is this Control Measure RACT?	Notes
Building ventilation exhaust streams	High efficiency cartridge filters	TCEQ Permit 1147A*; 40 CFR Part 63 Subpart X	Yes	Yes	
Lead point sources	High efficiency PTFE-membrane baghouse with secondary high efficiency particulate air filters	Agreed Order 2011-0521-MIS	No	No	The control measure is not RACM or RACT at this time because it is not economically feasible. However, the measure was voluntarily included in the agreed order. See Section 4.3.1.1 for additional discussion.
Lead point sources	Wet Electrostatic Precipitation		No	No	The control measure is not economically feasible. The estimated capital cost is \$20 to \$25 million, \$6,000 per ton of lead emission reductions.

\* This control is required under existing TCEQ Permit 1147A which is not included in this SIP revision.