

## **APPENDIX F**

### **REASONABLY AVAILABLE CONTROL MEASURE (RACM) AND REASONABLY AVAILABLE CONTROL TECHNOLOGY (RACT) ANALYSIS**

**Appendix F**

**Reasonably Available Control Measure (RACM) and Reasonably Available Control Technology (RACT) Analysis**

Table F-1: RACM and RACT Analysis 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 TCEQ Permit 1147A	Yes	Yes	
Blast furnace fugitives	Full enclosure with negative pressure ventilation to high efficiency PTFE-membrane baghouse	Agreed Order 2011-0521-MIS TCEQ Permit 1147A	Yes	Yes	
Reverberatory furnace fugitives	Full enclosure with negative pressure ventilation to high efficiency PTFE-membrane baghouse	Agreed Order 2011-0521-MIS TCEQ Permit 1147A	Yes	Yes	
Refining/casting kettle fugitives	Full enclosure with negative pressure ventilation to high efficiency PTFE-membrane baghouse	Agreed Order 2011-0521-MIS TCEQ Permit 1147A	Yes	Yes	

Lead Emissions Source	Control Measure	Enforceable Mechanism	Is this Control Measure RACM?	Is this Control Measure RACT?	Notes
Slag treatment/fixation fugitives	Full enclosure with negative pressure ventilation to high efficiency PTFE-membrane baghouse	Agreed Order 2011-0521-MIS TCEQ Permit 1147A	Yes	Yes	
Raw materials storage fugitives	Full enclosure with high efficiency cartridge filter	Agreed Order 2011-0521-MIS TCEQ Permit 1147A	Yes	Yes	
Raw materials storage fugitives	Full enclosure with negative pressure ventilation to high efficiency PTFE-membrane baghouse	Agreed Order 2011-0521-MIS TCEQ Permit 1147A	Yes	Yes	
Raw materials handling fugitives	Full enclosure with negative pressure ventilation to high efficiency PTFE-membrane baghouse	Agreed Order 2011-0521-MIS TCEQ Permit 1147A	Yes	Yes	

Lead Emissions Source	Control Measure	Enforceable Mechanism	Is this Control Measure RACM?	Is this Control Measure RACT?	Notes
Lead oxide reactor fugitives	Full enclosure with negative pressure ventilation to high efficiency PTFE-membrane baghouse	If contingency measure became required, it would be enforceable under TCEQ Permit 3048A	No	No	The control measure is not RACM or RACT 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 4.3.2 for additional discussion.
Lead oxide reactor fugitives	Partial enclosure with hooding vented to high efficiency PTFE-membrane baghouse	If contingency measure became required, it would be enforceable under TCEQ Permit 3048A	Yes	Yes	The control measure is required under TCEQ Permit 3048A.
Slag handling fugitives	Full enclosure with negative pressure ventilation to high efficiency PTFE-membrane baghouse	Agreed Order 2011-0521-MIS TCEQ Permit 1147A	Yes	Yes	
Blast furnace charging fugitives	Re-sealing existing emissions capture and ventilation hooding systems	Agreed Order 2011-0521-MIS TCEQ Permit 1147A	Yes	Yes	

Lead Emissions Source	Control Measure	Enforceable Mechanism	Is this Control Measure RACM?	Is this Control Measure RACT?	Notes
Reverberatory furnace charging fugitives	Replace hydraulic ram with rotary screw feeder	Agreed Order 2011-0521-MIS TCEQ Permit 1147A	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 but is beyond RACM and RACT.
Site traffic/truck loading and unloading fugitives	Minimize traffic route area through facility	Agreed Order 2011-0521-MIS TCEQ Permit 1147A	Yes	Yes	This includes relocating Exide's 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 Code of Federal Regulations (CFR) Part 63, Subpart X	Yes	Yes	The control measure is required under TCEQ Permit 1147A.

Lead Emissions Source	Control Measure	Enforceable Mechanism	Is this Control Measure RACM?	Is this Control Measure RACT?	Notes
Battery breaking, furnace, refining, lead oxide operation, and transport fugitives	Operational and housekeeping requirements	TCEQ Permit 1147A and 3048A; 40 CFR Part 63, Subpart X	Yes	Yes	The control measure is required under TCEQ Permit 1147A and 3048A.

Table F-2: RACM and RACT 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	The control measure is required under TCEQ Permit 1147A.
Battery breaker stack	High efficiency PTFE-membrane baghouse	Agreed Order 2011-0521-MIS TCEQ Permit 1147A	Yes	Yes	
Blast furnace stack	High efficiency PTFE-membrane baghouse	Agreed Order 2011-0521-MIS TCEQ Permit 1147A	Yes	Yes	
Reverberatory furnace stack	High efficiency PTFE-membrane baghouse	Agreed Order 2011-0521-MIS TCEQ Permit 1147A	Yes	Yes	
Blast furnace stack	Metallurgical scrubber	TCEQ Permit 1147A; 40 CFR Part 63, Subpart X	Yes	Yes	The control measure is required under TCEQ Permit 1147A.

<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>
Reverberatory furnace stack	Metallurgical scrubber	TCEQ Permit 1147A; 40 CFR Part 63, Subpart X	Yes	Yes	The control measure is required under TCEQ Permit 1147A.
Refining kettles/casting stacks	High efficiency PTFE-membrane baghouse	Agreed Order 2011-0521-MIS TCEQ Permit 1147A	Yes	Yes	
Lead oxide reactor stacks	High efficiency PTFE-membrane baghouse	Agreed Order 2011-0521-MIS TCEQ Permit 3048A	Yes	Yes	
Slag fixation/treatment stacks	High efficiency PTFE-membrane baghouse	Agreed Order 2011-0521-MIS TCEQ Permit 1147A	Yes	Yes	
Feed Dryer	High efficiency PTFE-membrane baghouse	Agreed Order 2011-0521-MIS TCEQ Permit 1147A	Yes	Yes	
Building ventilation exhaust streams	High efficiency cartridge filters	TCEQ Permit 1147A; 40 CFR Part 63, Subpart X	Yes	Yes	The control measure is required under TCEQ Permit 1147A.

Lead Emissions Source	Control Measure	Enforceable Mechanism	Is this Control Measure RACM?	Is this Control Measure RACT?	Notes
Lead point sources	High efficiency PTFE-membrane baghouse with secondary high efficiency particulate air filters	Agreed Order 2011-0521-MIS  TCEQ Permit 1147A and 3048A	No	No	The control measure is not RACM or RACT because it is not economically feasible. The measure was included in the agreed order but is beyond RACM or RACT. See Section 4.3.2 for additional discussion.
Lead point sources	High efficiency PTFE-membrane baghouse with secondary wet electrostatic precipitators	TCEQ Permit 1147A and 3048A	No	No	The control measure is not economically feasible. See Section 4.3.2 for additional discussion.