

# **APPENDIX B**

**Exide's 2011 and 2013 Project Update Documents**





Date October 16, 2013 KDHE Onsite Visit Salina, KS

Statuses of all projects completed or in process are listed below. Each project includes the date(s) each project is finished or anticipated completed date. All of the baghouse dates are the actual start up dates and stack test dates. The diverter valves and ball mill dates are the dates the CER's were closed out.

Oxide Mill #7 – Completed on 01/30/11 (stack test date 03/17/11)

Oxide Mill #8 – Completed on 02/03/11 (stack test date 05/05/11)

Project Summary Listed Below for Oxide Mills

This capital project is designed to install two new Eagle/Linklater M1500 Oxide Reactors with automated controls for the oxide operations in Salina, KS. This project is phase four of five with the replacement of existing oxide mills 7 & 8. With the completion of phases one and two (oxide mills 1-4), we have seen a significant process improvement for lead in air. This is an EHS-category project required to improve our air quality in our oxide manufacturing process to help reduce our lead in air to the Lowest Feasible Limits (LFL).

Oxide Mill #9 – Completed on 03/24/11 (stack test date 05/06/11)

Oxide Mill #10 – Completed on 03/24/11 (stack test date 05/05-06/11)

Project Summary Listed Below

This capital project is designed to install two new Eagle/Linklater M1500 Oxide Reactors with automated controls for the oxide operations in Salina, KS. This project is phase five of five with the replacement of existing oxide mills 9 & 10. The automatic controls & mechanical upgrades on reactors allows uniform control of both throughput & oxide particle classification (particle size). With the completion of all five phases, we have seen a significant process improvement for lead in air. This is an EHS-category project required to improve our air quality in our oxide manufacturing process to help reduce our lead in air to the Lowest Feasible Limits (LFL).

Environmental baghouse #4 – Completed on 07/04/11 (stack test date 08/10/11)

Project Summary Listed Below

This capital project is designed to replace our existing environmental baghouse #4 with a 120,000 ACFM Pulse-Jet Dust Collector system to ventilate six Pasting line stackers and four Oxide Mills in Salina, KS. This is an EHS-category project required to maintain air quality compliance required by recently released "National Emissions Standards for Hazardous Air Pollutants (NESHAP)" standard for the Lead Acid Battery Manufacturing industry and achieve compliance to the NAAQS level of .15 ug/m<sup>3</sup> effective January 1, 2010. The Salina facility contracted Bjerkan & Co. air ventilation engineers to determine the best baghouse configuration and capacity requirements to adequately support the 4 Oxide Mills & 6 pasting line stackers. They recommended installing a 120,000 ACFM Pulse-Jet style Dust Collector system. Installing a new baghouse will reduce overall lead emissions that were modeled lead emissions in an effort to

achieve compliance with the National Ambient Air Quality Standard (NAAQS) This is an EHS-category project required to maintain air quality compliance in light of the recently released "National Emissions Standards for Hazardous Air Pollutants (NESHAP)" standard for the Lead Acid Battery Manufacturing industry and achieve compliance to the NAAQS level of .15 ug/m<sup>3</sup> effective January 1, 2010.

Environmental baghouse #5 – Completed on 05/25/12 (stack test date 06/27/12)

Project Summary Listed Below

This capital project is designed to replace our existing environmental baghouse #5 with a 120,000 ACFM Pulse-Jet Dust Collector system to ventilate the Metals, Past Mixing and 2 Assembly lines in Salina, KS. This is an EHS- category project required to maintain air quality compliance required by recently released "National Emissions Standards for Hazardous Air Pollutants (NESHAP)" standard for the Lead Acid Battery Manufacturing industry and achieve compliance to the NAAQS level of .15 ug/m<sup>3</sup> effective January 1, 2010.

The Salina facility contracted Bjerkan & Co. air ventilation engineers to determine the best Baghouse configuration and capacity requirements to adequately support the Metals, Past Mixing and 2 Assembly lines. They recommended installing a 120,000 ACFM Pulse-Jet style Dust Collector system. Installing a new baghouse will reduce overall lead emissions that were modeled lead emissions in an effort to achieve compliance with the National Ambient Air Quality Standard (NAAQS) This is an EHS-category project required to maintain air quality compliance in light of the recently released "National Emissions Standards for Hazardous Air Pollutants (NESHAP)" standard for the Lead Acid Battery Manufacturing industry and achieve compliance to the NAAQS level of .15 ug/m<sup>3</sup> effective January 1, 2010.

Relocation of oxide mill diverter valves – Completed on 07/18/12

Project Summary Listed Below

This project is necessary to help the Salina Facility achieve the standards set forth in the "National Emissions Standards for Hazardous Air Pollutants (NESHAP)" standard for the Lead Acid Battery Manufacturing industry, achieve compliance to the NAAQS level of .15 ug/m<sup>3</sup> effective January 1, 2010 and was committed to the Kansas Department of Health and Environment in response to an escape issue that was experienced.

With the completion of this project the Salina Facility will have a new Oxide delivery layout with an auxiliary set of valves installed in a parallel system along with making the building air tight in the areas where the highest potential of Oxide fugitives escaping the Plant exist. This is one of 3 projects the Salina Facility has submitted to KDHE (Kansas Department of Health and Environment) as corrective action in order to help us stay in compliance with NAAQS level of .15 ug/m<sup>3</sup> (the projects include the Ball Mill Ventilation and Bahouse #5 Replacement projects which are both approved.

Upgrade ball mill ventilation – Completed on 11/18/11

Project Summary Listed Below for Ball-Mill

The purpose of this Capital project is to help remove excessive heat that builds up in our Ball Mill manufacturing room. Currently the Ball Mill is under ventilated thus allowing the heat generated by the production and equipment in the mill to raise the ambient temperature to a level intolerable by personnel, equipment and controls. The Ball Mill room has several exterior doors that could be opened to allow fresh cooler air into the mill however we are not able to open them due to the

possibility of lead Oxide escaping into the atmosphere. This project will allow us to bring fresh air in our Ball Mill room and evacuate some of the heat without any concerns of Oxide fugitives escaping the room. This project will also allow us to create a safer working environment for our employees.

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October 03, 2013 Response

Statuses of all projects completed or in process are listed below. Each project includes the date(s) each project is finished or anticipated completed date.

<b>Project Title</b>	<b>Action</b>	<b>Anticipated or Completed Date(s)</b>
Baghouse (BH1)	Replace baghouse and increase height to 80 feet per Salina's attainment demonstrated SIP plan	07/01/2013 – 02/15/2014
Baghouse (BH11- BH15), ball mill stacks	Increase stack heights by 37 feet demonstrated per Salina's attainment demonstrated SIP plan	07/08/2013 – 07/19/2013
Oxide Mill (OM1- OM10), oxide mill stacks	Manifold to new stack, 65 feet from ground level demonstrated per Salina's attainment demonstrated SIP plan	07/08/2013 – 10/01/2013
In-plant roadways	Pave all internal roadways and parking lots subject to vehicular traffic on the North West section per Salina's attainment demonstrated SIP plan. (Total area to be paved 15220 SQ. Yards).	07/01/2013 – 03/31/2014
Plant process fugitive control	Establish negative pressure building ventilation and maintain local exhaust ventilation at process points	09/21/2011 COMPLETED

**Roadways:**

Traffic on-site follows two primary routes which have been designated the Delivery Route and the Shipping Route. Most delivery vehicles check in at the security building at the southwest corner of the property and proceed clockwise around the facility to drop off or pick up their delivery. This route is designated Delivery Route (see Figure 2-1c). Trucks picking up batteries check in with security then proceed along Berg Road which is the southern boundary of the facility to the Eastern Distribution Center (DC) then return along a similar route along Berg Road. This route is designated Shipping Route in the model and is depicted on Figure 2-1d. Vehicular fugitive emissions were modeled as ground level adjacent volume sources. Volume source input parameters were calculated using the USEPA's recommended approach in Table 3-1 of USEPA 2004a and according to the guidance provided in the USEPA's Haul Road

Workgroup Final Report (USEPA, 2012b). Road fugitive volume sources were calculated using a vehicle height of 3 meters above grade level and a vehicle width of 3 meters. Sections passing along Berg Road along the southern boundary of the site were modeled using a two-lane approach with a road width of 6 meters. The model used a total of 144 volume sources on the Delivery Route and 82 volume sources on the Shipping Route. Delivery Route sources were included in source groups DELRD1, DELRD2, and volume sources on the Shipping Route were included in model source groups called SHPRD1, SHPRD2, SHPRD3, and SHPRD4.

Several groups have been assigned to each route to separate two-lane from one-lane segments. Traffic fugitive emissions were quantified using the Paved Roads section of Chapter 13.2.1 from AP-42 (USEPA 2011). The equations in AP-42 require site specific data including the fleet average vehicle weight and a silt loading value for Paved Roads. Site-specific silt and lead content sampling were completed for the Salina facility in 2012. A representative sample of silt and lead content from an area free from off-pavement dust tracking was used for these parameters.

In order to achieve attainment, it is expected that lead-in-roadway silt loading will need to decrease. It is further expected that paving all unpaved road sections would be an appropriate method of achieving the reduced silt load. The measures are aimed at reducing the silt load and lead content to the levels similar to the dust loading and lead content currently measured on the South WDC roadway (see Fig 2-1c). This area is considered representative of paved roadways with adequate silt control strategies in place. To capture the impact of the proposed changes, all roadways in this modeling exercise were modeled as paved (using AP-42 emission factors for Paved Roads) and assuming the silt load and the lead content of the samples collected from South WDC. The currently projected implementation timing for this proposed change is provided in the Table listed above.

The fleet average weight and vehicle activity (path length, and number of passes / year) were used to estimate annual emissions of TSP, and then the percentage of particulate measured to be lead was used to estimate the annual lead emissions from each roadway segment. The total annual lead emissions were distributed evenly throughout the day, and amongst each of the volumes representing the line source associated with each segment of roadway. Details of the calculations are provided as attachment 1 in Salina's Air Quality Dispersion Modeling Report for SIP Attainment Demonstration listed below.

### **Air Quality Dispersion Modeling Report for SIP Attainment Demonstration**



Salina SIP  
Demonstration Full Re

### **Salina Paved Parking Map 7000-2013-PLP**



7000-2013-PLP.pdf



January 24, 2011

Mr. Tom Gross  
Kansas Department of Health and Environment  
Air Monitoring and Permitting Chief  
Bureau of Air and Radiation  
1000 SW Jackson, Suite 310  
Topeka, KS 66612

Re: Outlined NAAQS Compliance Projects  
Exide Technologies - Salina Battery Plant

Dear Mr. Gross:

As requested during our December 14, 2010 conference call regarding ambient air quality, enclosed please find a list of projects Exide Technologies has been working on with regard to reducing lead emissions and ambient lead in air levels around its Salina KS facility. The list is broken down in projects completed to date, projects in the process of being completed, and the remaining projects planned for completion.

If you have questions on this information, please contact me at (785) 823-4029 or [Matthew.Spencer@na.exide.com](mailto:Matthew.Spencer@na.exide.com).

Regards,

A handwritten signature in black ink that reads "Matthew Spencer".

Matthew Spencer  
EHS Manager

Enclosure

cc: M. Bowman, KDHE  
J. Pfeiffer, Exide - Salina  
F. Ganster, Exide - Reading  
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Exide Technologies  
Salina, KS  
2008 NAAQS for Lead

**Items completed:**

1. 5 year project commenced April 2006 to replace the 10 Oxide Mills. This project included replacement of the process oxide mills, associated baghouses, and the addition of HEPA filters to the emissions controls for each source. Current status:

- Oxide Mills 1 & 2 – completed Sept. 2006
- Oxide Mills 3 & 4 – completed July 2009
- Oxide Mills 5 & 6 – completed Oct. 2010

2. Exide Technologies has replaced 2 (two) of the existing environmental baghouses (Baghouse #2 and #3) with high efficiency Pulse-Jet Dust Collector systems.

- Baghouse #3 was replaced – Sept. 2009
  - Stack test results show a 46% improvement in emissions from previous stack test results.
- Baghouse #2 was replaced – Nov. 2010
  - Stack test results show a 95% improvement in emissions from previous stack test results.

**Projects in progress:**

1. Continue Oxide mill replacements. Oxide Mills 7 & 8 replacement commenced Jan. 2011.
2. Replace Environmental baghouse #4 – project started Jan. 2011

**Planned projects:**

1. Complete Oxide mills replacement (9 & 10)
2. Replace Environmental baghouse #5
3. Relocate oxide mill diverter valves to lower level in ventilated enclosed building
4. Upgrade Ball Mill Ventilation