APPENDIX F

Contingency Measure Compliance

- Exide Technologies' Contingency Measure Compliance Plans Report
- Exide Technologies' Hi-Volume Air Inspection Form

CONTINGENCY MEASURE COMPLIANCE PLANS
Exide Technologies, Salina, Kansas

SUMMARY

These compliance plans are being submitted by Exide Technologies (Exide) to the Kansas Department of Health and Environment (KDHE) as required by Section XI of Air Emission Source Construction Permit (Source ID No. 1690035) [the "permit"] issued on August 18, 2014. These plans, which propose contingency measures to reduce the impact of lead emissions from Exide's battery manufacturing facility in Salina, Kansas, are to be implemented in accordance with Section XII of the permit in the event that data from KDHE's ambient monitor, located just north of the facility, shows an exceedance of the 2008 National Ambient Air Quality Standards (NAAQS) for lead based on a rolling 3-month average for any 3-month period beginning after July 31, 2014.

BACKGROUND

In 2008, USEPA revised the NAAQS ambient standard for lead, reducing it from 1.5 ug/m^3 to 0.15 ug/m^3. Subsequently, it was determined, based on monitoring data, that the area around Exide's plant in Salina, Kansas was not attaining the new standard. KDHE, with the assistance of Exide, determined a set of emission-reducing countermeasures to be implemented by Exide to bring the area back into attainment. These changes consisted of replacing a baghouse, raising stacks, improving fugitive capture inside buildings, and paving a large section of roadway at the plant site. Dispersion modeling provided by Exide indicated that the area would be in attainment with the 2008 lead standard upon implementation of these modifications. These changes were completed as of July 31, 2014.

On August 18, 2014 KDHE issued an Air Emission Source Construction Permit requiring Exide to develop compliance plans for contingency measures to be implemented in the event that the monitoring data shows nonattainment after the above-described changes have been made. As described in Section XI of the permit, these plans are to include:

A. An analysis of site conditions and operations that potentially may impact, directly or indirectly, KDHE ambient air monitors. The analysis shall include, but not be limited to: a description of the site's root cause analysis and corrective/preventive action process as it relates to attaining and maintaining the 0.15 ug/m^3 standard; potential improvements to work practices or procedures; possible modifications to operating conditions or controls; ideas for optimization of plant logistics; possible improvements to startup/shutdown procedures and preventive maintenance; and any other

improvements that may become evident based on identified potential sources of lead emissions. Each measure identified in the analysis shall be assigned an implementation timeline and may be ranked with respect to ease of implementation, cost, and effectiveness.

B. A fugitive dust control plan for the site that shall include an implementation timeline for each measure. The plan may include, but not be limited to, the following: new enclosures, total enclosures with negative pressure (not already existing) and/or improvements to existing negative pressure enclosures; regular, periodic inspections of plant buildings, material handling and storage areas, plant roadways, groundcover conditions, etc.; accidental release measures- preventive and corrective; roadway treatment- paving, cleaning; vehicular traffic -logistics, control; work practices for minimizing fugitive dust emissions during maintenance activities; and countermeasures during periods of adverse meteorological conditions and/or agricultural conditions and practices on grounds surrounding the plant that may affect fugitive dust impact on KDHE ambient air monitors.

C. Identification and prioritization of measures, as developed per paragraphs A. and B. of this section, that shall be implemented immediately upon notification by KDHE of the first Lead NAAQS violation. Also included shall be a contingent list of measures (e.g., projects, procedures, etc.), as developed per paragraphs A. and B. of this section, that shall be implemented upon notification by KDHE of any subsequent Lead NAAQS violations. The contingent list of measures may be modified upon approval by KDHE of more effective measures identified by the root cause analysis conducted by Exide in accordance with Table II in Section XII of this permit.

These requirements are addressed in the following sections.

ANALYSIS OF SITE CONDITIONS AND OPERATIONS

Upon completion of the previously agreed-upon modifications, a thorough review of the plant site's operations was performed to determine any remaining potential changes or work practices that could be implemented if the monitoring indicates that additional reductions are needed. This review included analysis of the dispersion modeling that was submitted as part of KDHE's nonattainment implementation plan. Specifically, the analysis included identifying the impact of the various sources at the plant on the highest-impacted receptor. Additionally, analysis of recent monitoring data along with accompanying meteorological data was performed to ascertain the areas of the plant most likely creating the largest impacts. Finally, a site visit and inspection was performed by a consultant, ENVIRON International Corporation, to

capture any previously unidentified potential sources and to discuss operations that might impact ambient lead concentrations.

Based on this analysis, several potential improvements were identified that could be implemented as supplemental measures. Some of these changes will be implemented immediately, while others will be implemented upon notification by KDHE of a Lead NAAQS violation, if the root cause analysis required by the permit deems them appropriate.

Measures to be implemented immediately

Air Inspection Program –

Exide has implemented a formal procedure for inspecting and recording information regarding lead emitting operations whenever a daily reading of 0.12 ug/m^3 or greater is recorded at either of Exide's voluntary ambient lead monitors. A copy of a sample logsheet that will be used for this purpose is attached. This logsheet will allow Exide to more effectively determine the root cause of any such elevated monitor readings. Specifically, the air inspection will include recording wind speed and direction for the day(s) in question, as well as recording any unusual maintenance or upset conditions at the site.

Ball Mill Negative Pressure Measurements

The Ball Mill building has a manometer that measures the differential pressure between the interior and exterior of the building. This allows Exide to verify that the Ball Mill building is under sufficient negative pressure to prevent fugitive emissions from escaping the building through doorways and other openings. Exide currently takes readings of the pressure on a regular basis when the doorway to the Ball Mill is open. However, additional measurements will be taken as part of the Air Inspection Program mentioned above in response to any lead monitor readings in excess of 0.12 ug/m^3. The doorway will be opened during this reading to simulate the worst case operating conditions.

Potential Measures for implementation in response to root cause analysis

Route melt pot combustion stacks to a baghouse

The gases from these stacks do not normally contain lead because the melt pots are indirectly fired. However, there is some potential for minor amounts of lead to enter these exhaust streams as a result of a malfunction. If the root-cause analysis indicates that these types of malfunctions are more prevalent than initially believed, the exhausts could be collectively routed to either an existing or new baghouse.

Enclose baghouse hoppers

Maintenance of the baghouse hoppers and the dust transporting equipment presents an opportunity for lead dust to be entrained and carried off-site. If the root-cause analysis indicates that this is a significant source, the area around the hoppers could be enclosed to prevent this.

Additional ventilation of Ball Mill

If the root-cause analysis indicates that dust may be leaking from the buildingwhen doors are left open, additional ventilation could be provided to increase the inward velocity at all openings. This additional ventilation could be in the form of ducting to an existing baghouse or the installation of a new baghouse.

FUGITIVE DUST CONTROL PLAN

This fugitive dust control plan includes measures that will be taken immediately, as well as other potential measures that can be considered in the event of a future NAAQS exceedance.

Fugitive Dust Control Measures that will be implemented immediately

Silt Load Sampling

As required by the permit, the silt load on the delivery roads will be sampled and analyzed within 6 months of issuance of the permit. The results of these silt load measurements will be used to re-estimate the lead emissions from the roadways and compared with the original analysis used in the SIP demonstration model. The results of this comparison will be taken into account during any future root cause analysis performed in response to an exceedance of the NAAQS.

Potential Measures that may be implemented in response to root cause analysis

Cover/enclose oxide delivery area

In addition to producing oxide in the Oxide Mill, Exide also receives some additional oxide by truck. Delivery trucks offload the oxide by hooking up to one of the delivery ports to the south of the Ball Mill building. The oxide is then pneumatically conveyed into the building where it is stored. This area could be covered or enclosed to restrict the potential for entrainment of fugitive lead released during deliveries.

Add groundcover and/or other landscaping to unpaved areas

Exide will consider the addition of groundcover in unpaved areas where there is no traffic. This will reduce the potential for fugitive dust from these areas.

Road cleaning or wetting

If the silt load sampling performed as required by the permit and the results of root-cause analyses indicate that the roadways are a significant contributor to the overall lead impact from the plant, Exide will study the various options available for implementing a program of regular and periodic road cleaning and/or wetting. Depending on the results of this analysis and potential for reduced offsite impact, Exide may implement one or more of these options.

IDENTIFICATION AND PRIORITIZATION OF MEASURES

The following table presents the proposed changes that could be implemented upon notification of a Lead NAAQS exceedance by KDHE. This table also identifies their approximate timelines, relative ease of implementation, cost, and effectiveness.

Potential Measure	Implementation Timeline	Ease of Implementation	Relative Cost	Effectiveness
Reroute Oxide combustion stacks to designated baghouse. If available CFM or additional baghouse may be required	18 months to 3 years	Difficult (requires some downtime along with KDHE Permitting)	High	Medium/High
Enclose baghouse hoppers	18 to 24 months	Medium difficulty	High	Medium/High
Additional ventilation of Ball Mill/Oxide Mill bldgs	18 months to 3 years	Difficult (requires some downtime along with KDHE Permitting)	High	Medium/High
Truck enclosure for oxide delivery/unload area	18 months to 3 years	Difficult (requires some downtime along with KDHE Permitting)	High	Medium/High
Add ground cover and landscaping	12 to 18 months	Relatively easy	Medium	Low
Evaluation depending on silt sampling to determine cleaning. The evaluation will be made within 6 months of the completed paved project.	12 to 18 months	Relatively easy	Medium	Low/Medium

As required by Section XII of the permit, Exide will implement a root cause analysis in response to any nonattainment measurements at the state's monitor. Depending on the results of this analysis, the supplemental measures described above will be considered based on their potential to target the root cause of the exceedance.

The following steps will be taken as part of the root cause analysis:

1. Analyzing Air Inspection Logsheets

2. Identify likely sources and potential countermeasures

3. Estimate the effect of countermeasures on emissions and rerun dispersion model with proposed changes, if appropriate

4. Provide results of root cause analysis and proposed measures to KDHE

EXIDE Technologies Salina, Kansas Facility	Hi-Volume Air Inspection Form	ENV 161

Approved by: EHS Manager	Issued by: EHS Manager	8/14/2014	Revision: Two 10/15/14	Page (1 of 1)

Instructions: This inspection form shall be used in the event of a Hi-Vol result above 0.12 for any given sample day. This inspection shall be completed within 72 hours of receiving lab results. The following items listed below shall be taken under consideration while performing the inspection. Inspection form shall be kept on site for a minimum of two years.

Name: **Date:**

Weather Data (weatherunderground.com)	Data		Data
Wind Direction		Wind Maximum Gust	
Wind Speed		Average Temperature	
Wind Maximum Speed		Average Barometric Pressure	
Weather Variables (Rain Snow):			

Facility Doors / Environmental Variable	Yes	No
Facility Doors to outside open? (If yes which ones? Readings?)		

Open Doors and Readings:

Ball Mill Building Negative Pressure Reading

Ball Mill manometer reading at West dock door with door open _____ inwc

Comments:

Maintenance Work / Environmental Variable	Yes	No
Maintenance work outside? (If yes explain who, what, when, where, why)		

Work being performed:

Facility Projects / Environmental Variable	Yes	No
Facility events being performed? (If yes explain below)		

Work being performed:

Oxide Delivery	Yes	No
Was oxide delivered by truck? (If yes explain below)		

Describe delivery schedule and note if there were any mishaps (spills)

Other / Environmental Variable	Yes	No
Any other contributing factors:		

Production / Operations Performance (Changes in process, material, production goals, etc.)

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