

AIR EMISSION SOURCE CONSTRUCTION PERMIT

Source ID No.: 1690035

Effective Date: 8/18/2014 (Modified Date)

Source Name: Exide Technologies

SIC Code: 3691, Storage Batteries

NAICS Code: 335911, Battery Manufacturing

Source Location: 413 E. Berg Rd.
Salina, KS

Mailing Address: 413 E. Berg Rd.
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I. Authority

KDHE, as the permitting authority, is issuing this permit pursuant to K.S.A. 65-3008 and K.A.R. 28-19-300 *et seq.* and as authorized by K.S.A. 65-3005. All documents related to applications for permits or approvals shall be submitted to the Permits Section in the Bureau of Air.

KDHE is the compliance and enforcement authority, and all documents related to compliance activities such as reports, tests, and notifications shall be submitted to the Compliance and Enforcement Section in the Bureau of Air.

II. General Information

The purpose of this document is to implement federally enforceable limitations and conditions applicable to Exide Technologies within the 2008 Lead NAAQS nonattainment area in Salina, Kansas. This comprehensive construction permit authorizes Exide modifications and improvement activities at the Salina plant to reduce lead emissions and support attainment of the 2008 Lead NAAQS.

The conditions of this permit supplement all air construction and operation permits and approvals previously issued to this source. Unless otherwise specified, these conditions are in addition to all other applicable permit or approval conditions and regulations.

This permit is based on information provided by the owner or operator of the subject air emission sources. Each emission unit or stationary source is required to be operated in compliance with all applicable requirements of the Kansas Air Quality Act and the federal Clean Air Act.

The original permit was issued August 18, 2014 and updated in 2016. The 2016 update includes increases in emission limits for baghouses 2 and 3. The emission limit increases are for the purpose of upgrading the plant ventilation system. The ventilation system upgrade includes increased airflow from certain process areas, replacement of baghouse fans, increased air flow to baghouses 2 and 3, modifications to existing makeup air (MUA) systems, and installation of new MUA systems.

III. Facility Description

Exide Technologies operates a lead acid battery and lead oxide manufacturing facility in Salina, Kansas (Saline County). The Exide property is approximately 46 acres in size and is located about six kilometers south of downtown Salina. This facility operates under a Class II Operating Permit issued on January 15, 2004, and is a non-major source of hazardous air pollutant (HAP) emissions.

The production operations at this facility consist of 7 pasting lines, 5 ball mills and 10 oxide mills with emissions controlled by 15 process baghouses, 16 battery assembly lines, and 41 lead reclaim pots with 29 of those lead reclaim pots emissions controlled by 5 baghouses. Pressure differential is monitored across each fabric filter control device for these sources.

General process and control equipment description:

In grid casting, lead alloy ingots are charged to a melting pot, from which the molten lead flows into molds that form the battery grids. Paste is made in a batch process. A mixture of lead oxide powder, water, and sulfuric acid produces a positive paste, and the same ingredients in a slightly different proportion with the addition of an expander make the negative paste. Pasting machines then force the pastes into the interstices of the grids, which are then made into plates. The pasted plates are then cured through alternating cycles of steaming and drying. From the ovens, the cured plates are loaded into the assembly process where they are automatically stacked in an alternating positive/negative order. Emissions from the battery manufacturing process are controlled by baghouses.

IV. Project Summary

Exide has completed or is completing various improvement projects to reduce lead emissions. Projects include: oxide mill replacements; baghouse replacements; new stacks and stack height increases; and fugitive emissions controls (production facility and roadways). Performance results were considered from these improvement projects when setting emission limits were used for the air dispersion modeling to demonstrate compliance with the 2008 Lead NAAQS of 0.15 $\mu\text{g}/\text{m}^3$ on a rolling 3-month average basis.

V. Significant Applicable Air Pollution Control Regulations

The facility is subject to the Kansas Administrative Regulations Chapter 28 Article 19 relating to air pollution control.

The state and federal regulations that may have associated requirements include, but are not limited to:

K.A.R. 28-19-650 Emissions Opacity Limits.

K.A.R. 28-19-20 Particulate Matter Emission Limitations.

40 C.F.R. Part 60, Subpart KK, Standards of Performance for Lead-Acid Battery Manufacturing Processing Plants, which is adopted by reference in K.A.R. 28-19-720 New Source Performance Standards.

40 C.F.R. Part 60, Subpart A, General Provisions.

40 C.F.R. Part 63, Subpart PPPPPP, National Emission Standards for Hazardous Air Pollutants for Lead Acid Battery Manufacturing Area Sources, which is adopted by reference in K.A.R. 28-19-750 Hazardous Air Pollutants; Maximum Achievable Control Technology.

40 C.F.R. Part 63, Subpart A, General Provisions.

VI. Permit Conditions

The following conditions apply to all emissions sources in section VII of this permit:

- A. Emission control practices shall be implemented and air pollution control equipment shall be operated continuously while operating the associated emission unit or units. [K.A.R. 28-19-501(d)(1)]
- B. A written air pollution control equipment maintenance plan shall be maintained on-site to assure proper operation of the air pollution control equipment. [K.A.R. 28-19-501(d)(2)]
- C. The owner or operator shall maintain records showing the date of all routine or other maintenance or repairs of the control equipment, the action taken on such date, and any corrective action or preventive measures taken. [K.A.R. 28-19-501(d)(3)]
- D. Source and stack parameters, including but not limited to stack heights, stack diameters, exhaust temperatures, emission rates, and exit velocities, shall be consistent with data provided for the dispersion modeling analysis. Actual operational conditions shall be consistent with data provided for the dispersion modeling analysis. If significant changes are proposed, or modeling parameters are not representative of site conditions, the owner or operator shall re-model, document compliance with the 2008 Lead NAAQS and any other applicable NAAQS, and submit documentation of compliance to KDHE prior to making the changes. Mitigation shall be required if modeling indicates a potential NAAQS exceedance.
- E. The owner or operator shall comply with the emissions limits listed in Tables 2, 4, and 7.
- F. The owner or operator shall conduct performance testing to demonstrate compliance with the emissions limits in Tables 2, 4, and 7 in Section VII of this permit. For each test, the owner or operator shall submit a performance test protocol, which includes a description of the test and applicable test methods, to the KDHE Air Compliance and Enforcement Section at least 30 days prior to testing. A written report of the performance test results shall be submitted to KDHE within 30 days following each test. Performance testing shall be conducted as follows:

1. Stack testing for the Oxide Mill (OM) was conducted in 2013 and shall be conducted every fifth year thereafter.
2. Stack testing for Baghouse #1 (BH1) was conducted in 2014, after installation and commissioning, and then every fifth year thereafter.
3. Stack testing for Baghouse #3 (BH3) shall be conducted within 180 days after completion of upgrading the plant ventilation system, increasing air flow to the baghouse, and replacing the baghouse fan. Stack testing shall be repeated every fifth year thereafter.
4. Stack testing for Baghouse #2 (BH2) shall be conducted in within 180 days after completion of upgrading the plant ventilation system, increasing air flow to the baghouse, and replacing the baghouse fan. Stack testing shall be repeated every fifth year thereafter.
5. Stack testing for Baghouse #4 (BH4) shall be conducted in 2016 and every fifth year thereafter.
6. Stack testing for Baghouse #5 (BH5) and for each Ball Mill Baghouse (BH11 through BH15) shall be conducted in 2017 and every fifth year thereafter.
7. For any stack test result that exceeds the respective emissions limit (as provided in Tables 2, 4, and 7 in Section VII of this permit), a retest shall be required within 60 days of the test date for which the limit was exceeded.
8. For any calendar year, January through December, in which the annual number of pounds of lead processed by the facility increased by fifteen (15) percent or more above the annual rate during the year of the last stack test, the owner or operator shall conduct stack testing within the first three months of the following calendar year for Baghouses 1 through 5 (BH1-BH5), Oxide Mill (OM: OM1-OM10), and Ball Mill Baghouses 11 through 15 (BH11-BH15).

The performance test schedule is illustrated in Table 1 below.

Table 1. Schedule for Required Performance Testing.

Year	Source ID										
	BH1	BH2	BH3	BH4	BH5	OM	BH11	BH12	BH13	BH14	BH15
2013						✓					
2014	✓		✓								
2015		✓									
2016				✓							
2017					✓		✓	✓	✓	✓	✓
2018						✓					
2019	✓		✓								
2020		✓									
2021				✓							
2022					✓		✓	✓	✓	✓	✓

VII. Activities and Plant-wide Enforceable Conditions for the Attainment and Maintenance of the

2008 Lead NAAQS

Exide's NAAQS compliance projects are summarized in Attachment 1.

A. Facility Baghouses

Facility Baghouse Replacement

This project includes replacing existing environmental (facility) baghouses with new high-efficiency Pulse-Jet Dust Collector systems. Table 2 lists each facility baghouse and provides the completion date for each baghouse replacement. Table 2 also identifies the applicable point source emissions limits, as developed and modeled for demonstrating ambient impacts less than the 2008 Lead NAAQS and for meeting the applicable federal New Source Performance Standard (NSPS) and National Emission Standards for Hazardous Air Pollutants (NESHAP).

Table 2. Facility Baghouses with Respective Enforceable Emissions Limits.

Source ID	Source Description	Facility Emissions Controlled	Replacement Status	Lead Emission Limit, grams/second (g/s)	Lead Emissions Limit, pounds/hour (lb/hr)
BH3	Baghouse #3	COS / Assembly U-Lines 1-5, 10-12, 17; 18 Stacker; and break room air shower	Completed September 2009 Emission unit modifications permitted 2016 with emission increases at baghouse	1.26 E-02	1.00 E-01
BH2	Baghouse #2	Oxide (Barton) Mill Process and General Exhaust Ventilation; Pasting lines 4-7; Central Vacuum 2	Completed November 2010 Emission unit modifications permitted 2016 with emission increases at baghouse	2.52 E-03	2.00 E-02
BH4	Baghouse #4	Pasting Lines 1-3; Ball Mill Exhaust Ventilation; Oxide Mill General Exhaust; Storage Bins bin vent; Curing Rooms/Ovens (26) and Central Vacuums 3 and 4	Completed July 2011 Emission unit modifications permitted 2016 without an emission increase at baghouse	1.85 E-02	1.47 E-01
BH5	Baghouse #5	COS / Assembly Lines 15 and 16; Grid Casting; RLS Barcaster; Cominco Re-melt Pot; Pasting Mixers; Flash Dry Ovens; Metals department; Oxide transfer and screening	Completed May 2012 Emission unit modifications permitted 2016 without an emission increase at baghouse	1.63 E-03	1.29 E-02

BH1	Baghouse #1	Cast On Strip (COS) / Assembly U-Lines 6, 7, 8, and 9; 18 Repair Table; QC Lab Drop; and Central Vacuum 1	Installation Completed February 19, 2014 Emission unit modifications permitted 2016 without an emission increase at baghouse	3.71 E-03	2.94 E-02
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Baghouse #1 Replacement:

Exide's Notice of Construction or Modification for the replacement of Baghouse #1 was received by KDHE on May 28, 2013. Ref# C-11313.

The following equipment or equivalent is approved for the replacement of Baghouse #1:

One (1) 390-bag GE Energy baghouse, using Spunbonded Polyester filters.

Exide shall replace Baghouse #1 and shall increase the stack height to 80 feet as modeled for the attainment of the 2008 Lead NAAQS in the State Implementation Plan Attainment Demonstration for the Salina Nonattainment Area.

Performance Testing Requirements for Baghouse #1 Replacement:

The control equipment is being replaced and, therefore, a performance test is required to demonstrate compliance with the emissions limit in Table 2 for the exhaust from the final outlet, Baghouse #1 stack, to the atmosphere. The stack emissions subject to the NSPS require performance testing in accordance with 40 C.F.R. 60.8(a). Performance testing is required to be completed within 60 days after achieving the maximum production rate, but no later than 180 days after the initial startup of the new Baghouse #1.

The owner or operator shall conduct the performance test in accordance with the test methods described in 40 C.F.R. 60.374 or any other test method approved by KDHE to demonstrate compliance with the permitted emissions limitation in Table 2.

The owner or operator shall submit a performance test protocol which includes a description of the test and applicable test methods to the KDHE Air Compliance and Enforcement Section at least 30 days prior to testing.

A written report of the performance test results shall be submitted to KDHE within 30 days following the test.

Notifications Required for Baghouse #1 Replacement:

The following notifications are to be submitted, in accordance with 40 C.F.R. 60.7(a), to the KDHE Air Compliance and Enforcement Section in Topeka, KS.

1. The actual date of the initial start-up of Baghouse #1, postmarked within 15 days after that date;
2. Maximum production rate achieved; and

- Scheduled date for performance testing and protocol 30 days prior to testing.

The owner or operator shall notify the Air Program Field Staff at the North Central District Office in Salina at (785) 827-9639 when installation of Baghouse #1 is complete so that an evaluation can be conducted.

Facility Baghouses (BH1-BH5) Monitoring Requirements:

The following requirements apply to any emission source subject to 40 C.F.R. Part 63, Subpart P, with emissions controlled by a fabric filter.

- The owner or operator shall perform semiannual inspections and maintenance of each fabric filter as specified in 40 C.F.R. 63.11423(b)(2)(i); and
- The owner or operator shall meet the monitoring requirements of 40 C.F.R. 63.11423(b)(2)(ii).

B. Oxide Mill

Oxide Mill Replacements

This project replaces existing oxide reactors with new Eagle/Linklater M1500 Oxide Reactors with automated controls for the oxide operations. This includes replacement of the process Oxide Mills (OM1 through OM10), associated process baghouses, and the addition of HEPA filters to the emissions controls for an overall efficiency of 99.97%. Table 3 lists the Oxide Mills, OM1 through OM10, and the respective replacement completion dates.

Table 3. Oxide Mill Replacements.

Source ID	Source Description	Replacement Completed
OM1 & OM2	Oxide Mills #1 & #2	September 2006
OM3 & OM4	Oxide Mills #3 & #4	July 2009
OM5 & OM6	Oxide Mills #5 & #6	October 2010
OM7	Oxide Mill #7	January 2011
OM8	Oxide Mill #8	February 2011
OM9 & OM10	Oxide Mills #9 & #10	March 2011

Oxide Mill Stack Modifications

The following table (Table 4) describes Oxide Mill stack modifications as modeled for attainment of the 2008 Lead NAAQS in the State Implementation Plan Attainment Demonstration for the Salina Nonattainment Area. Exide shall manifold ten Oxide Mill (OM1-OM10) stacks to one new combined Oxide Mill (OM) stack, and the OM stack height shall be 65 feet from ground level. Table 4 also identifies the applicable lead emissions limit for the combined emissions from the new single Oxide Mill (OM) stack.

Table 4. Oxide Mill Stack Modification Requirements and Enforceable Emissions Limit.

Source ID	Source Description	Approved Stack Height	Status	Lead Emissions Limit,	Lead Emissions Limit,
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				grams/second (g/s)	pounds/hour (lb/hr)
OM: Oxide Mill (OM-OM10), Oxide Mill Stacks	Manifold ten OM stacks to one new combined OM stack.	65 feet from ground level	Completed October 1, 2013. Stack test completed November 22, 2013.	8.47 E-03	6.72 E-02

Performance Testing Requirements:

The stack emissions subject to the NSPS require performance testing in accordance with 40 C.F.R. 60.8(a). Performance tests for the Oxide Mill combined stack were conducted on November 22, 2013.

Oxide Mill Corrective / Preventive Action

The action identified in Table 5 below is designed to eliminate the potential for a leak from the oxide mill building to the outside environment in the event of a release resulting from a malfunction of the lead oxide conveyance system within the building. This action fulfills Exide's commitment to KDHE for corrective action measures in response to a minor lead oxide release event in October 2010.

Table 5. Action Taken to Prevent Lead Oxide Escape from Oxide Mill.

Activity	Description	Status
Relocate Oxide Mill Diverter Valves	Implement a new oxide delivery layout with an auxiliary set of valves installed in a parallel system. Exide shall enclose sections of the oxide mill building where the highest potential exists for the escape of lead oxide.	Completed July 2012

Inspection and Repair Requirements:

Exide shall inspect the Oxide Mill building structure/enclosure at least once every other month. Exide shall repair any gaps, breaks, separations, leak points or other possible routes for emissions of lead to the atmosphere within 30 days of identification. If a repair cannot be completed within 30 days, then the repair shall be completed within the shortest amount of time practically achievable and the reason(s) for the delay shall be recorded. Inspection and repair information shall be recorded and records kept on site for a minimum of two years. Records shall be made available to KDHE upon request.

C. Ball Mill

Ball Mill Stack Modifications

The following table (Table 6) identifies the Ball Mill stack modifications project as modeled for attainment of the 2008 Lead NAAQS in the State Implementation Plan Attainment Demonstration for the Salina Nonattainment Area.

Table 6. Ball Mill Stack Modifications.

Project	Action	Status
Baghouses 11-15 (BH1 –BH15), Ball Mill Stacks	Stack heights shall be increased by 37 feet.	Completed July 19, 2013. Stack test completed November 22, 2013.

Table 7 lists each Ball Mill Baghouse, the stack heights approved by KDHE, and the lead emissions limit that applies, as modeled for the attainment of the 2008 Lead NAAQS in the State Implementation Plan Attainment Demonstration for the Salina Nonattainment Area.

Table 7. Stack Height Requirements and Enforceable Emissions Limits for Ball Mill Baghouses.

Source ID	Source Description	Approved Stack Height, meters (m)	Approved Stack Height, feet (ft)	Lead Emission Limit, grams/second (g/s)	Lead Emission Limit, pounds/hour (lb/hr)
BH11	Ball Mill 11 Baghouse	24.512	80.420	8.82 E-04	7.00E-03
BH12	Ball Mill 12 Baghouse	24.559	80.574	8.82 E-04	7.00E-03
BH13	Ball Mill 13 Baghouse	24.533	80.489	8.82 E-04	7.00E-03
BH14	Ball Mill 14 Baghouse	24.512	80.420	8.82 E-04	7.00E-03
BH15	Ball Mill 15 Baghouse	24.788	81.325	8.82 E-04	7.00E-03

Performance Testing Requirements:

The stack emissions subject to the NSPS require performance testing in accordance with 40 C.F.R. 60.8(a). Performance tests for the Ball Mill stacks were conducted on November 22, 2013.

Ball Mill Baghouses (BH11-BH15) Monitoring Requirements:

The following requirements apply to any emission source subject to 40 C.F.R. Part 63, Subpart P, with emissions controlled by a fabric filter.

1. The owner or operator shall perform semiannual inspections and maintenance of each fabric filter as specified in 40 C.F.R. 63.11423(b)(2)(i); and
2. The owner or operator shall meet the monitoring requirements of 40 C.F.R. 63.11423(b)(2)(ii).

Ball Mill Fugitive Emissions Reduction

The improvement activities in Table 8 below are designed to reduce fugitive dust impact on KDHE ambient air monitors.

Table 8. Ball Mill Improvement Activities to Reduce Fugitive Dust.

Activity	Description	Status
Plant Process Fugitive Control (Ball Mill)	Establish negative pressure Ball Mill building ventilation and maintain local exhaust ventilation at process points.	Completed September 2011
Upgrade Ball Mill Ventilation	Improve ventilation in Ball Mill room by bringing fresh air in and evacuating some of the heat without risk of oxide fugitives escaping the room.	Completed November 2011

Ball Mill Process Fugitive Emissions Control Requirements:

Ball Mill process emissions shall be contained in a negative pressure total enclosure with maintained local exhaust ventilation at process points, reducing the Ball Mill process fugitive emissions by 99 percent from 338 pounds of lead per year to 3.38 pounds of lead per year. Total enclosure means that the building is completely enclosed with a floor, walls, and a roof to prevent exposure to the elements and to assure containment of lead bearing material with limited openings to allow access and egress for people and vehicles. The total enclosure must provide an effective barrier against fugitive dust emissions with the direction of air flow being inward through any openings and with the enclosure being maintained under constant negative pressure. Ball Mill process fugitive emissions of lead shall be less than or equal to 4.86×10^{-5} grams per second (3.86×10^{-4} pounds per hour; 3.38 pounds per year), as modeled for the attainment of the 2008 Lead NAAQS. Negative pressure shall be maintained in the total enclosure at all times. The Ball Mill total enclosure standards are identified below under Inspection and Repair Requirements.

Inspection and Repair Requirements:

1. The total enclosure must be free of significant cracks, gaps, corrosion, or other deterioration that could cause lead bearing material to be released from the primary barrier.
2. Measures must be in place to prevent the tracking of lead bearing material out of the enclosure by personnel or equipment.
3. The total enclosure must be ventilated to ensure negative pressure values of at least 0.013 mm of mercury (0.007 inches of water).
4. An inward flow of air must be maintained through all natural draft openings.
5. The total enclosure must be inspected at least once per month. Any gaps, breaks, separations, leak points, or other possible routes for emissions of lead to the atmosphere must be repaired within 30 days of identification unless an approval for an extension is obtained from KDHE before the repair period is exceeded. Inspection and repair records shall be kept on site for a minimum of two years and shall be made available to KDHE upon request.

D. Plant Roadways

The following table (Table 9) describes a plant roadways improvement activity that was designed to reduce fugitive dust impact on KDHE ambient air monitors. The project was completed July 15, 2014.

Table 9. Roadways Improvement Activity to Reduce Fugitive Dust.

Activity	Description	Status
Paving Plant Roadways	Pave all internal roadways and parking lots subject to vehicular traffic on the northwest section. Total area paved was 15,220 square yards.	This paving project was completed July 15, 2014.

Paving Plant Roadways:

Exide’s Notice of Construction or Modification for the Paving Plant Roadways project was received by KDHE on May 28, 2013. Ref# C-11314. This project was aimed at reducing the silt load and lead content

to the levels similar to the dust loading and lead content on other paved roadways on the property and reducing the fugitive dust impact on KDHE ambient air monitors, as modeled for the attainment of the 2008 Lead NAAQS.

Requirements for Paving Plant Roadways and for Fugitive Emission Reduction:

All internal roadways and parking lots subject to vehicular traffic on the northwest section of the fenced plant site, a total area of 15,200 square yards, shall be paved to achieve the necessary results per the State Implementation Plan attainment demonstration modeling, which demonstrates a roadways fugitive lead emission reduction of 0.04 tons (80 pounds) per year, from 0.056 tons of lead per year to 0.016 tons of lead per year. This paving project was completed July 15, 2014. A map of the area to be paved is included as Attachment 2.

Notifications Required for the Paving Project:

Exide shall notify the KDHE Bureau of Remediation in Topeka, KS, at least 30 days prior to paving the roadways and parking lots on the northwest section of the site.

Exide shall notify the KDHE Air Compliance and Enforcement Section in Topeka, KS, of the actual date of the paving project completion, postmarked within 15 days after that date.

Sampling Required After Paving Project Completion:

Within six months following completion of the paving project, the following shall be completed.

Exide shall conduct a silt content analysis, using sampling locations identical to those for which results were used in the attainment demonstration modeling.

Exide shall submit to KDHE the sampling results and a demonstration of the effect on roadway fugitive emissions, with a roadway fugitive lead emissions limitation of 0.016 tons per year.

Reporting Excess Emissions

All emission limits and standards (applicable regulations in Section V and Tables 2, 4, and 7 in Section VII) apply at all times, including during startup and shutdown periods. K.A.R. 28-19-11, Exceptions Due to Breakdowns or Scheduled Maintenance, is not an applicable regulation. In lieu of K.A.R. 28-19-11, the following requirements apply.

A. Notification Required for Excess Emissions Due to Maintenance, Startup, and Shutdown:

Exide shall notify the KDHE Bureau of Air at least ten days prior to any maintenance, startup, or shutdown activity that is expected to cause an excess release of emissions. If notification cannot be given ten days prior, notification shall be given as soon as practicable prior to the maintenance, startup, or shutdown activity that is expected to cause excess emissions. If prior notification is not given for any maintenance, startup, or shutdown activity that resulted in an excess release of emissions, notification shall be given within two business days of the release. In all cases, the notification shall be a written report and shall include, but not be limited to, the following:

1. Name and location of the affected source or emissions unit.

2. Name and telephone number of the person responsible for the affected source or emissions unit.
3. Identity of the equipment involved in the maintenance, startup, or shutdown activity.
4. Time and duration of the period of excess emissions.
5. Type of activity and the reason for the maintenance, startup or shutdown.
6. Estimate of the magnitude of the excess emissions and the operating data and computations used in estimating the magnitude.
7. Measures taken to mitigate the extent and duration of the excess emissions.
8. Measures taken to correct the situation that caused the excess emissions and measures taken or planned to prevent recurrence.

B. Notification Required for Excess Emissions Due to Malfunction:

Exide must notify KDHE by telephone, facsimile, or electronic mail transmission within two working days following the discovery of any failure of air pollution control equipment, process equipment, or of the failure of any process to operate in a normal manner, resulting in excess emissions. A written notification shall be submitted within ten days of the event and shall include the following:

1. A description of the malfunctioning equipment or abnormal operation.
2. The date of the initial malfunction and the period of time of excess emissions due to the malfunction.
3. The cause of the malfunction and the methods utilized to mitigate emissions and restore normal operations.
4. An estimate of the magnitude of the excess emissions and the data and computations used in estimating the magnitude.

Compliance with this malfunction notification shall not automatically absolve the owner or operator of liability for the excess emissions resulting from such event.

C. The following criteria will be considered by KDHE in evaluating whether or not excess emissions due to malfunction warrant KDHE enforcement action:

1. Whether the excess emissions were caused by a sudden, unavoidable, breakdown of technology beyond the control of the owner or operator;
2. Whether the excess emissions did not stem from any activity or event that could have been foreseen and avoided, or planned for, and could not have been avoided by better operation and maintenance practices;
3. Whether, to the extent practicable, the air pollution control equipment or processes were maintained and operated in a manner consistent with good practices for minimizing emissions;

4. Whether repairs were made in an expeditious fashion when the operator knew or should have known that excess emissions were occurring. Off-shift labor and overtime must have been utilized, to the extent practicable, to ensure that such repairs were made as expeditiously as practicable;
5. Whether the amount and duration of the excess emissions (including any bypass) were minimized to the maximum extent practicable during periods of such emissions;
6. Whether all possible steps were taken to minimize the impact of the excess emissions on ambient air quality;
7. Whether all monitoring systems were kept in operation if at all possible;
8. Whether the owner or operator's actions in response to the excess emissions were documented by properly signed, contemporaneous operating logs, or other relevant evidence;
9. Whether the excess emissions were not part of a recurring pattern indicative of inadequate design, operation, or maintenance; and
10. Whether the owner or operator properly and promptly notified the appropriate regulatory authority.

D. Summary reports of excess emissions shall be submitted semi-annually to the KDHE Air Compliance and Enforcement Section and shall include the following information:

1. The magnitude of excess emissions, including the computations and conversion factors used, and the date and time of commencement and completion of each time period of excess emissions.
2. Specific identification of each period of excess emissions that occurs during startups, shutdowns, maintenance, and malfunctions of the facility. The nature and cause of any malfunction (if known), the corrective action taken or preventive measures adopted.
3. The date and time identifying each period during which a continuous monitoring system or monitoring device was inoperative (except for zero and span checks) and the nature of the system or device repairs or adjustments.

E. Records of excess emissions shall be kept on site for a minimum of two years and made available to KDHE upon request.

VIII. Emissions Inventory Reporting

Annual Emissions Inventory Required:

Exide shall, on or before April 1 of each year, submit to KDHE an annual emissions inventory. If April 1 falls on a Saturday, Sunday, or legal holiday, then the submission shall be due on or before the next business day after April 1. The information required shall be submitted on the KDHE Emissions Inventory Class I forms.¹ Criteria pollutant emissions that must be reported include oxides of nitrogen (NO_x), particulate matter with diameter of 10 micrometers or less (PM₁₀), particulate matter with diameter of 2.5 micrometers or less (PM_{2.5}), volatile organic compounds (VOCs), sulfur dioxide (SO₂),

¹ Emission inventory forms are available on KDHE's website, <http://www.kdheks.gov/emission/forms.html>.

carbon monoxide (CO), and ammonia (NH₃) emissions. The hazardous air pollutants (HAPs) listed in K.A.R. 28-19-201(a) must be reported, including lead (Pb) and lead compounds.

IX. Reasonable Further Progress (RFP) Requirements for Attainment of the 2008 Lead NAAQS

Reasonable further progress for Exide, as the primary contributor to lead emissions in the Salina nonattainment area, will be monitored and evaluated by KDHE and will be based on the following:

- A. Achieving a highest 3-month rolling average KDHE ambient air monitor value less than or equal to 0.15 µg/m³ for any 3-month period beginning after July 31, 2014 (i.e., beginning with the 3-month rolling average for Aug-Oct 2014).
- B. On-schedule completion of projects, which include those listed below in Table 10.

Table 10. Projects Required to be Completed for Reasonable Further Progress.

Project	Action	Completion Date
Baghouses 11-15 Stacks (BH11-BH15)	Increase Ball Mill stack heights by 37 feet as demonstrated in attainment modeling.	Completed July 19, 2013 Stack test November 22, 2013
Oxide Mill Stacks (OM1-OM10)	Manifold to new stack, 65 feet from ground level per attainment demonstration.	Completed October 1, 2013 Stack test November 22, 2013
Baghouse 1 (BH1)	Replace baghouse and increase height to 80 feet per attainment demonstration modeling.	Installation Completed February 19, 2014. Stack test March 20, 2014
Paving Plant Roadways	Pave all internal roadways and parking lots subject to vehicular traffic on the northwest section per attainment demonstration modeling. Total area to be paved is 15,220 square yards. (See map - Attachment 1)	Completed July 15, 2014.

Section 172(c)(9) of the federal Clean Air Act requires the implementation of specific measures if the nonattainment area fails to maintain reasonable further progress. *Upon failure to achieve and maintain reasonable further progress (RFP), root cause analysis and corrective/preventive action provisions shall be implemented in accordance with Table 11, Section XI.*

X. Contingency Measures

Within 60 days after the effective date of this permit, Exide shall develop, and submit to KDHE for approval, compliance plans that shall be implemented in accordance with section XII of this permit and include the following:

- 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 µg/m³ 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 11 in Section XI of this permit.

XI. Contingency Measures Implementation

Section 172(c)(9) of the federal Clean Air Act requires the implementation of specific measures if the nonattainment area fails to maintain reasonable further progress (see Section X) or to attain the NAAQS by the applicable attainment date.

Contingency measures shall be triggered upon the following determination made by KDHE:

KDHE ambient air monitoring shows that the nonattainment area fails to meet the 0.15 µg/m³ based on a 3-month rolling average for any 3-month period beginning after **July 31, 2014** (i.e., beginning with the 3-month rolling average for Aug-Oct 2014).

Table 11. Contingency Measures to be Implemented and Allotted Time Frames for Completion.

Measures	Completion Time
<ul style="list-style-type: none"> • For each NAAQS violation on the KDHE ambient air monitor (i.e., 3-month rolling average greater than 0.15 µg/m³) or for failure to maintain reasonable further progress, Exide shall develop and submit to KDHE a root cause analysis, which shall include but not be limited to: the investigation of production/operations performance, including startup, shutdown, malfunction and maintenance periods and the resulting data and discussion; meteorological data for the site and surrounding area; Exide’s fence line site monitoring data; and any other conditions or events that may be relevant to lead emissions and/or that may influence or impact KDHE ambient air monitor results. Exide shall develop and submit to KDHE documentation of corrective actions taken for each occurrence for which there is found to be a controllable or preventable contributing factor or root cause. 	30 days after KDHE notifies Exide of Lead NAAQS violation

<ul style="list-style-type: none"> In addition to the above-mentioned root cause analysis and corrective/preventive action process, Exide shall implement selected and approved contingency measures as outlined in the compliance plans developed by Exide per Section XI (Contingency Measures) of this permit. Exide shall submit to KDHE documentation of implemented measures, including identification of measures and timeline for implementation and effect. 	<p>To be implemented in accordance with KDHE-approved schedule as part of compliance plans developed per Section XI Contingency Measures</p>
<ul style="list-style-type: none"> Exide shall compile analyses and results from the contingency measures described above in addition to performing the following: <ul style="list-style-type: none"> Exide shall implement further compliance plan measures for controls on sources and areas of lead emissions on site that were identified pursuant to Section XI of this permit or as a result of Exide’s root cause analysis and corrective/preventive action process or other analyses. Exide shall submit to KDHE documentation of implemented measures, including identification of measures and timeline for implementation and effect. Exide shall implement measures from the fugitive dust control plan for the site as developed by Exide per Section XI of this permit. Exide shall submit to KDHE documentation of implemented measures, including identification of measures and timeline for implementation and effect. 	<p>To be implemented in accordance with KDHE-approved schedule as part of compliance plans developed per Section XI Contingency Measures</p>
<ul style="list-style-type: none"> Exide shall conduct stack testing on an increased frequency as determined by KDHE. The scope and frequency of the increased stack tests will be based on an evaluation by KDHE of the information submitted in the root cause analysis triggered by a violation of the lead standard. The supplemental stack tests required by KDHE will be limited to those stacks that the root cause analysis shows have the potential to contribute to the increase in monitored lead concentrations. KDHE will reduce the required frequency to the frequencies outlined in Table 1 of this permit once the additional stack tests demonstrate that the stacks in question do not show a significant increase above their baseline stack test rates. 	<p>Upon notification by KDHE to Exide</p>
<ul style="list-style-type: none"> Exide shall re-model with proposed changes to emission rates and/or work practices, improvements to the remainder of roadways and parking lots within plant boundaries, and any proposed changes to other parameters or conditions (which may include throughput). Exide shall submit to KDHE for approval a revised demonstration for the timely attainment and maintenance of the 2008 Lead NAAQS, which shall include the implemented changes and a timeline for implementation and effect. 	<p>60 days after KDHE notifies Exide</p>

XII. General Provisions

- A. Pursuant to K.A.R. 28-19-300, a construction permit or approval must be issued by KDHE prior to commencing any construction or modification of equipment or processes.
- B. Upon presentation of credentials and other documents as may be required by law, representatives of KDHE (including authorized contractors of KDHE) shall be allowed to:

1. Enter upon the premises where a regulated facility or activity is located or conducted or where records must be kept under conditions of this document;
 2. Have access to and copy, at reasonable times, any records that must be kept under conditions of this document;
 3. Inspect, at reasonable times, any facilities, equipment (including monitoring and control equipment) practices or operations regulated or required under this document; and
 4. Sample or monitor, at reasonable times, for the purposes of assuring compliance with this document or as otherwise authorized by the Secretary of KDHE, any substances or parameters at any location.
- C. The emission units or stationary sources that are the subject of this document shall be operated in compliance with all applicable requirements of the Kansas Air Quality Act and the federal Clean Air Act.
- D. This document is subject to periodic review and amendment as deemed necessary to fulfill the intent and purpose of the Kansas Air Quality Statutes and Regulations and rules promulgated in accordance therewith.
- E. This document does not relieve the facility of the obligation to obtain any other approvals, permits, licenses or documents of sanction that may be required by other federal, state or local government agencies.
- F. Issuance of this document does not relieve the owner or operator of any requirement to obtain an air quality operating permit under any applicable provision of K.A.R. 28-19-500.

Permit Writer

Amanda Spade
Environmental Specialist
Air Permitting Section

Date Signed

c: Joshua Webb, NCDO
C - 13556