

**TEXAS COMMISSION ON ENVIRONMENTAL QUALITY**  
**AGENDA ITEM REQUEST**  
**for Adoption of an Agreed Order**

**AGENDA REQUESTED: August 8, 2012**

**DATE OF REQUEST: July 20, 2012**

**INDIVIDUAL TO CONTACT REGARDING CHANGES TO THIS REQUEST, IF NEEDED: Joyce Spencer Nelson, 239-5017**

**CAPTION: Docket No. 2011-0521-MIS.** Consideration of adoption of an Agreed Order with Exide Technologies (Exide) in Collin County to require Exide to install and implement control strategies for lead emissions as part of the Collin County Attainment Demonstration State Implementation Plan (SIP) Revision for the 2008 Lead National Ambient Air Quality Standard (NAAQS). The Agreed Order also includes contingency measures that are required by the Federal Clean Air Act to be part of an attainment demonstration SIP revision.

This Agreed Order with Exide will make legally enforceable control strategies and contingency measures for the Collin County Attainment Demonstration SIP Revision for the 2008 lead NAAQS. (Brian Foster, Amy Browning)

Steve Hagle, P.E.  
**Deputy Director**

David Brymer  
**Division Director**

Joyce Spencer Nelson  
**Agenda Coordinator**

**Copy to CCC Secretary? NO  YES**

# Texas Commission on Environmental Quality

## Interoffice Memorandum

**To:** Commissioners **Date:** July 20, 2012

**Thru:** Bridget C. Bohac, Chief Clerk  
Zak Covar, Executive Director

**From:** Steve Hagle, P.E., Deputy Director, Office of Air

**Docket No.:** 2011-0521-MIS

**Subject:** Commission Approval for Adoption of Agreed Order for Exide Technologies Lead Acid Battery Recycling Plant in Collin County

**Background and reason(s) for the Agreed Order:**

On October 15, 2008, the United States Environmental Protection Agency (EPA) substantially strengthened the National Ambient Air Quality Standard (NAAQS) for lead. The new standard, set at 0.15 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ) measured as a rolling three-month average, is 10 times more stringent than the previous standard of  $1.5 \mu\text{g}/\text{m}^3$  measured as a quarterly average. Effective December 31, 2010, the EPA designated an area surrounding Exide Technologies (Exide) located in Frisco, Collin County, as nonattainment for the 2008 lead NAAQS (75 FR 71033).

Section 110(a)(1) of the Federal Clean Air Act (FCAA) requires states to submit a state implementation plan (SIP) revision for areas that have been designated nonattainment to provide for the implementation, maintenance, and enforcement of the NAAQS. For lead, states are required to adopt and submit attainment demonstration SIP revisions within 18 months of designation. In accordance with FCAA, §172 and implementation guidance published with the November 12, 2008, final lead NAAQS (73 FR 66964), the SIP revision contains a reasonably available control measure analysis, a reasonably available control technology analysis, demonstration of attainment through air dispersion modeling, a control strategy demonstration, an emissions inventory, a demonstration of reasonable further progress, and contingency measures.

This Agreed Order between the Texas Commission on Environmental Quality (TCEQ) and Exide will make the control measures and contingency measures contained in the SIP revision legally enforceable.

**Scope of the Agreed Order:**

**A.) Summary of what the Agreed Order will do:**

The control measures and contingency measures that have been identified for the Collin County Lead Attainment Demonstration SIP revision will be enforceable through this Agreed Order, which is between the TCEQ and Exide, the primary source of lead in the nonattainment area. The Agreed Order will include legally binding requirements for Exide to relocate, enclose, and install specific control devices for some operational areas and implement other maintenance and control measures as soon as possible but no later than January 6, 2014. The requirements contained in the Agreed Order are listed in paragraphs 15 through 40. The Agreed Order will also include legally binding contingency measures

Re: Docket No. 2011-0521-MIS

that are to be implemented if the area fails to meet milestones described in the Agreed Order.

Instead of implementing control measures identified in the SIP revision and Agreed Order, Exide may close the plant and cease all production activities. Exide shall notify the TCEQ that it intends to select this alternative by November 1, 2012, and the latest date by which Exide would cease operations would be January 6, 2014. Should Exide implement this option, Exide shall remove equipment and demolish facilities within one year of cessation of operations and void all air quality authorizations associated with the plant by December 31, 2015, other than any authorizations required for operation of the wastewater treatment plant.

**B.) Scope required by federal regulations or state statutes:**

In accordance with FCAA, §172(c) and implementation guidance published with the final 2008 lead NAAQS (73 FR 66964), an attainment demonstration for lead must contain specific elements including control strategies and a contingency plan. This Agreed Order makes enforceable the control strategies and contingency measures that are required for the lead attainment demonstration SIP.

**C.) Additional staff recommendations that are not required by federal rule or state statute:**

None

**Statutory authority:**

The authority to adopt this Agreed Order is derived from Texas Health and Safety Code, Texas Clean Air Act (TCAA), §382.002, which provides that the policy and purpose of the TCAA is to safeguard the state's air resources from pollution; TCAA, §382.011, which authorizes the commission to control the quality of the state's air; TCAA, §382.012, which authorizes the commission to prepare and develop a general, comprehensive plan for the control of the state's air; and Texas Water Code, §5.02, General Powers, and §5.013, General Jurisdiction of the Commission.

FCAA, 42 United States Code, §§7401, *et seq.*, requires states to submit SIP revisions that specify the manner in which the NAAQS will be achieved and maintained within each air quality control region of the state. Additionally, the specific requirements for the 2008 lead NAAQS were published in the November 12, 2008, issue of the *Federal Register* (73 FR 66963).

**Effect on the:**

**A.) Regulated community:**

The affected regulated community currently consists only of Exide. The Agreed Order requires Exide to install controls, implement new work practices, and comply with additional monitoring and recordkeeping requirements. For further information, please refer to the executive summary of the Collin County Attainment Demonstration SIP

Commissioners

Page 3

July 20, 2012

Re: Docket No. 2011-0521-MIS

revision for the 2008 Lead NAAQS, which contains details of the controls set out in the Agreed Order.

**B.) Public:**

The general public in the Frisco area will benefit from improved air quality from reduced lead emissions.

**C.) Agency programs:**

This Agreed Order will have no new effect on agency programs.

**Stakeholder meetings:**

A stakeholder meeting for the Agreed Order and the Collin County Lead Attainment Demonstration SIP revision was held on January 19, 2011, in Frisco. Stakeholders expressed numerous concerns about air quality, public health, industry-related emissions, proposed control strategies, and property values.

**Public comment:**

The public comment period opened on June 24, 2011, and closed on August 8, 2011. Notice of the public hearing for this Agreed Order and SIP revision was published in the *Texas Register* and various newspapers. Written comments were accepted via mail, fax, and through the TCEQ's eComments system.

The commission held a public hearing for the proposed Agreed Order and the proposed Collin County Attainment Demonstration SIP revision for the 2008 Lead NAAQS (2011-001-SIP-NR) on July 28, 2011, at 6:00 p.m. at the Frisco City Council Chambers. During the comment period, the commission received comments from Downwinders at Risk, the EPA, Exide, Texas Campaign for the Environment, and 23 individuals.

**Significant changes from proposal:**

Due to substantial comments from the public and the EPA on the proposed SIP revision and Agreed Order, the SIP and Agreed Order have been revised. Based on the comments received, the TCEQ revised the dispersion modeling analysis to include a calculated background concentration to the maximum predicted concentration to demonstrate compliance with the lead NAAQS and to account for potential fugitive emissions from fully enclosed buildings. The compliance date for the implementation of the control measures has changed from November 1, 2012, to January 6, 2014. This change allows Exide the time to make the necessary improvements and obtain building permits from the City of Frisco as needed.

On June 4, 2012, the City of Frisco and Exide approved an agreement that would result in the sale of approximately 180 acres of undeveloped land surrounding Exide's plant. Under the terms of the agreement, the land around Exide's plant will be sold to the Frisco Community Development Corporation and the Frisco Economic Development Commission Corporation.

Commissioners

Page 4

July 20, 2012

Re: Docket No. 2011-0521-MIS

This agreement stipulates that Exide will retain ownership of the federal and state permitted plant site. As part of the proposed agreement, Exide would cease business operations no later than January 6, 2014, and would void its air quality permits by December 31, 2015, other than any authorizations required for operation of the wastewater treatment plant. Exide will assume responsibility for cleaning up the permitted plant site, including removal of all vertical structures with the exception of an administrative office building and wastewater treatment plant. The SIP revision and Agreed Order have been revised to reflect this agreement.

**Potential controversial concerns and legislative interest:**

The City of Frisco, the citizens of Frisco, and the Honorable Florence Shapiro, Texas Senator, District 8, have expressed considerable concern regarding Frisco's air quality. Parties have also expressed great interest in expediting emission reductions at the Exide facility.

**Does this Agreed Order affect any current policies or require development of new policies?**

No

**What are the consequences if this Agreed Order does not go forward? Are there alternatives to the Agreed Order?**

Failure to adopt the Agreed Order will leave the lead attainment demonstration SIP without the required enforceable control strategies that are necessary to allow Collin County to attain the 2008 lead NAAQS. Such a failure would remove a required element of the SIP revision and would potentially result in EPA disapproving the lead SIP revision.

Alternatively, the commission could propose a SIP revision that relies on rule changes as the control strategy for the SIP. This process would require a new proposal, followed by a public notice and comment period, and a revised SIP revision based on the controls required by the rulemaking.

**Key points in the adoption Agreed Order schedule:**

***Texas Register* publication of public hearing date:** June 24, 2011

**SIP revision due to the EPA:** June 30, 2012

**Agency contacts:**

Brian Foster, 239-1930, Air Quality Division

Amy Browning, 239-0891, Environmental Law Division

Commissioners

Page 5

July 20, 2012

Re: Docket No. 2011-0521-MIS

cc: Chief Clerk, 2 copies  
Executive Director's Office  
Susana M. Hildebrand, P.E.  
Anne Idsal  
Curtis Seaton  
Tucker Royall  
Office of General Counsel  
Amy Browning

# TEXAS COMMISSION ON ENVIRONMENTAL QUALITY



<b>IN THE MATTER OF AN</b>	<b>§</b>	<b>BEFORE THE TEXAS</b>
<b>AGREED ORDER CONCERNING</b>	<b>§</b>	<b>COMMISSION ON</b>
<b>EXIDE TECHNOLOGIES</b>	<b>§</b>	<b>ENVIRONMENTAL</b>
<b>ACCOUNT NO. CP-0029-G</b>	<b>§</b>	<b>QUALITY</b>

## **AGREED ORDER DOCKET NO. 2011-0521-MIS**

The Texas Commission on Environmental Quality (the Commission or TCEQ), hereby orders Exide Technologies (Exide), formerly known as Exide Corporation, which in 2000 acquired GNB Technologies Inc. (GNB), which was formerly known as Gould National Battery, Incorporated, to comply with the requirements herein regarding control of emissions of lead from the facilities referenced below, pursuant to §382.023 of the Texas Clean Air Act (the Act), Texas Health and Safety Code, Chapter 382, and §110 of the Federal Clean Air Act, 42 U.S.C. §7401 *et seq.*, for the purpose of revising the Texas State Implementation Plan (SIP) for control of lead. The Executive Director of the Commission (the Executive Director) and Exide have agreed on these control requirements, subject to the approval of the Commission. The Executive Director and Exide enter into this Agreed Order for the purpose of implementing the SIP measures in the Collin County Attainment Demonstration SIP for the 2008 Lead National Ambient Air Quality Standard (NAAQS).

### **I. STIPULATIONS**

For the purpose of this Agreed Order, the parties have agreed and stipulated as follows:

1. Section 110 of the Federal Clean Air Act, 42 U.S.C. §§7401 *et seq.*, requires Texas to submit SIP revisions to the United States Environmental Protection Agency (EPA) for approval and to demonstrate that such SIP revisions provide protection of the National Ambient Air Quality Standard (NAAQS) and the Prevention of Significant Deterioration increments for lead.
2. Exide owns and operates a secondary lead smelter/lead oxide manufacturing plant (the Plant) located at 7471 South Fifth Street, Frisco, Collin County, Texas on the following described property:

BEING a tract of land situated in the LH. McNeil Survey, Abstract No. 618, the William McNeil Survey, Abstract No. 591, and the W.B. Watkins Survey, Abstract No. 1004, entirely in the City of Frisco, Collin County, Texas, being part of Tract 1 of a 88.44 acre remainder tract of land according to Collin County Deed Record Document Volume 1769, Page

299, dated 1/26/83, Collin County, Texas, and also part of a 29.7 acre tract of land according to Collin County Deed Record Document Volume 3154, Page 520, dated 10/25/89, Collin County, Texas, and also part of a 55.48 acre tract of land according to Collin County Deed Record Document Volume 2034, Page 751, dated 11/8/84, Collin County, Texas, and being more particularly described as follows: BEGINNING at a 1/2" iron rod found for the southeast corner of a parcel of land described in a Deed according to Collin County Public Record Document No. 93-0017953, dated 3/1/93, Collin County, Texas; THENCE North 11°09'48" East along the west line of a parcel of land described in a Deed according to Collin County Public Record Document No. 93-0017953, dated 3/1/93, Collin County, Texas, a distance of 577.100 feet to a point; THENCE South 78°48'23" East along the southern prescriptive Right of Way of Eubanks Street, a distance of 704.94 feet to a point; THENCE South 82°07'06" East, along said Right of Way, a distance of 230.06 feet to a point; THENCE South 10°05'41" West along the westerly Right of Way of Parkwood Blvd. as described in Exhibit 4-D of a Right of Way agreement described in Document No. 94-0099426 of the Deed Records of Collin County Texas, a distance of 480.04 feet to a point; THENCE, along said westerly Right of Way, a tangent curve to the left with a radius of 900.00 feet, a tangent length of 246.41 feet, a central angle of 30°37'23", the radius of which bears South 79°54'19" East, the chord of which bears South 05°13'00" East for a distance of 475.32 feet; Thence along the arc of said curve for a distance of 481.03 feet to a point; THENCE South 25°16'49" East, a distance of 149.13 feet to a set 1/2" iron rod for a point; THENCE South 02°36'34" East, a distance of 1567.69 feet to a point; THENCE South 89°57'58" West, a distance of 1137.80 feet to a set 1/2" iron rod for a point; THENCE North 14°05'21" West, a distance of 371.75 feet to a point; THENCE South 87°57'33" West, a distance of 618.92 feet to a point; THENCE North 03°33'22" East, a distance of 393.55 feet to a point; THENCE North 86°26'28" West, a distance of 300.81 feet to a point; THENCE North 05°11'33" East, a distance of 452.43 feet to a point; THENCE North 46°28'37" West, a distance of 473.74 feet to a point, said point being in the easterly 100' Right of Way of the Burlington Northern Rail Road, as conveyed in Volume 121, Page 20, of the Deed Records of Collin County, Texas; THENCE North 24°02'29" East along said Easterly Rail Road Right of Way, a distance of 226.63 feet to a point; THENCE South 47°36'15" East, a distance of 260.96 feet to a point; THENCE South 55°12'30" East, a distance of 380.86 feet to a point; THENCE North 73°41'48" East, a distance of 214.20 feet to a point; THENCE North 77°50'18" East, a distance of 550.63 feet to a point; THENCE North 05°02'58" East, a distance of 272.29 feet to a point; THENCE North 04°48'06" East, a distance of 443.41 feet to a point; THENCE North 78°52'38" West, a distance of 105.04 feet to the PLACE OF BEGINNING

and containing 87.73 acres of land, more or less. SAVE AND EXCEPT THE FOLLOWING 7.43 ACRE TRACT: BEING part a 55.48 acre tract of land situated in the L.H. McNeil SURVEY, Abstract No. 618, City of Frisco, Collin County, Texas, said tract described in Collin County Deed Record Volume 2034, Page 751, dated 11/8/84, Collin County, Texas, and being more particularly described as follows: BEGINNING at a 3/4 pipe found for the southwest corner of the tract of land described above, said pipe also being in the eastern one hundred foot (100') Right of Way of Burlington Northern Rail Road according to Collin County Deed Record Volume 121, page 20, Collin County, Texas, said pipe also being in the northwest corner of a tract of land described in Collin County Deed Record Volume 3154, page 520, Collin County, dated 10/25/89, Collin County, Texas; THENCE North 24° 02' 29" East, 807.590 feet along the eastern Right of Way of Burlington Northern Rail Road according to Collin County Deed Record Volume 121, Page 20, Collin County, Texas to a point for corner; THENCE South 46° 28' 37" East, 473.738 feet; THENCE South 05° 11' 33" West, 452.431 feet; THENCE North 86° 26' 28" West, 632.788 feet to a 3/4 pipe found for the PLACE OF BEGINNING and containing 7.43 acres of land, more or less.

3. The Plant consists of one or more sources as defined in §382.003(12) of the Act.
4. In 1992, GNB entered into Agreed Board Order 92-09(k) (Order 92-09(k)) with a predecessor agency of the TCEQ, the Texas Air Control Board (TACB). Special provisions were included in amendments to Air Quality Permit Numbers R-1147A and R-5466D resolving notices of violations regarding exceedances of the 1978 NAAQS for lead. The purpose of Order 92-09(k) was to assure maintenance of the 1978 NAAQS for lead, and required GNB to continue implementation of or to implement certain measures to prevent recurrence of the violations alleged in Order 92-09(k).
5. GNB amended Texas Natural Resources Conservation Commission (TNRCC) predecessor agency of the TCEQ, Air Quality Permit Numbers 1147A and 3048A to incorporate the provisions of Order 92-09(k) as permanent and enforceable reductions. These permits were renewed in 2006 by Exide. The maximum allowable emission rate of lead in these permits ensured that lead emissions would not exceed 4.27 tons per year, unless otherwise authorized by a subsequent amendment or new permit that demonstrated through air dispersion modeling that the increase would not cause or contribute to a violation of the 1978 lead NAAQS. GNB and the TNRCC agreed to terminate Order 92-09(k). However, GNB agreed to continue implementation of the requirements of Paragraph 8 in Order 92-09(k) as incorporated into Air Quality Permit Numbers 1147A

and 3048A, or to implement additional measures or control technologies proposed by GNB that were judged by the Executive Director to be similarly effective in controlling lead emissions from the plant. Exide agrees to continue to abide by these representations agreed to by GNB.

6. In 1993, GNB entered into Agreed Board Order 93-12 (Order 93-12) with the TACB to establish contingency measures related to the 1993 Lead SIP revisions for Collin County, Texas. GNB implemented the measures in Order 93-12 by adding a supplemental ventilation baghouse to its metallurgical furnace operation (the reverberatory and blast furnaces), covering its blast furnace bins and installing a water spray system over the bin area, installing a baghouse at the raw materials storage building; installing a feed dryer and baghouse to reduce the possibility of reverberatory furnace explosions due to wet feed, writing and implementing detailed site operation and maintenance plans for its baghouse operations, and installing a Tri-bo Flow® System in all baghouse ducts to detect upset emissions.
7. In 1999, TCEQ and GNB entered into Agreed Order 99-0351-SIP for the 1999 Collin County Redesignation and Maintenance Plan for Lead. The parties to Order 99-0351-SIP agreed to terminate Order 93-12; however, Exide agreed to continue implementation of these measures, or to implement additional measures or control technologies proposed by Exide that were judged by the Executive Director to be similarly effective in controlling lead emissions from the plant.
8. In 2009, Exide entered into Agreed Order 2009-0071-MIS with the Executive Director as part of the second (2009) ten-year Maintenance Plan for the 1978 lead NAAQS. As part of that Agreed Order, Exide agreed to continue implementation of the measures previously implemented as detailed in Paragraphs 4 - 7 of this Agreed Order. Exide also agreed to maintain records for the period of the second (2009) Maintenance Plan and make those records available upon request by the TCEQ or any other air pollution control agency with jurisdiction.
9. This Agreed Order does not authorize or prohibit any modification of the plant listed above, nor does it authorize or prohibit the construction of any abatement equipment that may be necessary to achieve the emission limits set forth in this Agreed Order, other than that which is specifically authorized in this Agreed Order.
10. Emissions Point Numbers (EPNs) and Facility Identification Numbers (FINs), as used in this Agreed Order, are as specified in TCEQ Air Quality Permit Numbers 1147A and 3048A as of April 25, 2012. In addition, definitions for purposes of this Agreed Order are as follows:

- a. The term "condition" is defined as the existence of data showing an exceedance of the 0.15 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ) lead NAAQS measured as a rolling three-month average at any TCEQ ambient air quality lead monitoring site in Collin County after quality assurance to validate the data.
- b. The term "contingency measures" is defined to include the following:
  - i. Full enclosure of the lead oxide operational area and installation of negative pressure ventilation, a new point source, and filtration media (either a baghouse or cartridge filter) (Facility Identification Number (FIN) 46). This will include the full enclosure of the lead oxide operational area, the installation of negative pressure ventilation sufficient to ensure that lead oxide operational area fugitives are routed to the new baghouse, the installation of a new point source, the installation of a new baghouse with polytetrafluoroethylene (PTFE) filter media and improved seating design bags (see Attachment A), or equivalent or superior design if approved by the TCEQ, and secondary high efficiency particulate air (HEPA) filtration. All HEPA filters shall be rated by the manufacturer to achieve a minimum of 99.97% capture efficiency for particles 0.3 micrometre or larger. The enclosure performance shall be consistent with the requirements of 40 Code of Federal Regulations (CFR) §63.544(c) and §63.548(k), as promulgated on January 5, 2012;
  - ii. Install and operate according to good engineering practices vacuum hooding over lead oxide loading operations (currently EPNs 27 and 28). The exhaust air from the vacuum hooding must be routed to an existing or new baghouse that meets the requirements of Paragraph 10(b)(i) of this Agreed Order; and
  - iii. Designate that wheeled and powered plant equipment, such as forklifts, used inside a fully enclosed area will not be used outside of such an area without cleaning inside a permanent total enclosure. Cleaning must include washing of tires, undercarriage, and exterior surface of the vehicle, followed by vehicle inspection.
  - iv. Conduct remediation activities associated with Plant closure in accordance with a TCEQ-approved dust suppression plan.

11. Recognizing the importance of access to data for purposes of decisionmaking and implementation of this Agreed Order, the Executive Director shall provide Exide with all quality-assured air monitoring data within thirty (30) days after the sample is collected. The TCEQ agrees that it will install sample-saver devices on all TCEQ ambient air quality lead monitors in Collin County that do not have such devices as expeditiously as practicable, but not later than November 1, 2012.
12. The Commission and Exide agree that the Commission has jurisdiction to enter into this Agreed Order, and Exide is subject to the Commission's jurisdiction.
13. To better safeguard the air resources of this state, Exide agrees to comply with the terms of this Agreed Order. This Agreed Order includes emission control measures, specifically the measures in Paragraphs 15, 26, and 40 of this Agreed Order, which are in addition to those measures considered to be necessary, based on TCEQ attainment demonstration modeling, for attainment of the 2008 Lead NAAQS in Collin County.
14. This Agreed Order continues in effect until the TCEQ submits a redesignation request and maintenance plan for the Collin County lead nonattainment area to the EPA, at which time this Agreed Order shall be deemed revoked by the TCEQ.

## **II. ORDER**

Exide has completed, and it is therefore ordered by the TCEQ that Exide will continue to maintain the following so long as the Plant continues manufacturing operations:

15. Retrofitted baghouses (TCEQ Air Permit Number 1147A EPNs 18, 21, 22, 23, 37, and 38). Exide has replaced all bags in the identified baghouses with PTFE membrane media and replaced all of the baghouse tube sheets with improved seating design (see Attachment A). All baghouses must continue to be maintained in good working order at all times.
16. Replaced the existing seals on the blast furnace "doghouse" emissions capture and ventilation hooding system (FIN 10).
17. Replaced the reverberatory furnace (FIN 35) hydraulic ram feeder with a screw conveyor.
18. Installed a non-fouling area misting system in the blast and reverberatory furnace areas (FINs 10 and 35), and will continue operation until the blast and reverberatory furnace area, including the refining/casting/charging

area, is fully enclosed and placed under negative pressure, and secondary HEPA filtration is installed, as described in Paragraphs 21 and 26 of this Agreed Order.

It is therefore ordered by the TCEQ that Exide shall, from and after the date of this Agreed Order, complete the following so long as the Plant continues manufacturing operations:

19. By July 31, 2012, to the extent that no building permits are needed to conduct needed repairs, the raw material storage building must be free of significant cracks, gaps, corrosion, or other deterioration that could cause lead bearing material to be released from the building. After July 31, 2012, the raw material storage building will follow the inspection requirements of 40 CFR §63.544(d), as promulgated on January 5, 2012.
20. Construct a new slag treatment building that will be adjacent to the furnace and refining operations to reduce fugitive emissions associated with truck traffic. Construction of a new slag treatment building that will be fully enclosed and placed under negative pressure ventilation will be completed as expeditiously as practicable, but not later than January 6, 2014. Once the new slag treatment building is constructed and operational, the old slag treatment building (FIN 39) will no longer be used for activities involving processing or handling lead bearing materials as defined in 40 CFR §63.542, as promulgated on January 5, 2012, unless the building is fully enclosed and placed under negative pressure ventilation sufficient to ensure that fugitive emissions are routed to a baghouse as described in Paragraph 21 of this Agreed Order.
21. Fully enclose and place under negative pressure ventilation the following buildings/areas as expeditiously as practicable, but not later than January 6, 2014: the blast and reverberatory furnace area, including the refining/casting/charging area (FINs 10, 35, 36, and 37); the new slag treatment building (FIN 39A); the battery breaker area (FIN 48A); and the raw material storage area (FIN 45). This will include the full enclosure of the above listed buildings/areas, the installation of negative pressure ventilation sufficient to ensure that the above listed buildings/areas fugitives are routed to new baghouses or existing baghouses, the installation of new point sources, and the installation of new baghouses with PTFE filter media and improved seating design bags (see Attachment A), or equivalent or superior design if approved by the TCEQ. Total enclosures must be ventilated continuously whenever, as addressed in the standard operating procedures manual described in Paragraph 30 of this Agreed Order, operation of equipment and processes with the potential to generate fugitive lead emissions are occurring within the enclosure. The ventilation must ensure negative pressure values of at

least 0.013 millimeter of mercury (0.007 inches of water) consistent with the requirements of 40 CFR §63.544(c)(1), as promulgated on January 5, 2012.

22. Operate under a traffic plan for trucks unloading batteries at the plant and for traffic to, from, and across the on-site landfill (see Attachments B and C). Exide will relocate the spent battery loading docks to the north side of the battery breaker operation and reconfigure the traffic route such that the spent battery delivery trucks enter and leave along the north route and never enter the center of the plant. Traffic excluded from this plan includes chemical delivery trucks, plant service vehicles, and other scrap delivery vehicles. These measures are to be completed and operational as expeditiously as practicable, but not later than January 6, 2014.
23. Fence the property boundaries of the plant property to deter trespassers as shown on Attachment D. On the south and west property boundaries, Exide shall install a wire fence at least 48 inches high with mesh spacing approximately 2 inches by 4 inches topped by a strand of barbed wire for a total fence height of approximately 54 inches. The railroad tracks on the west side shall be gated at the fence boundary. On the east boundary, Exide shall install monitors to detect unlawful ingress onto Exide's property across the existing board fence. Exide shall also install a camera to monitor the plant entrance for trespassers. These measures are to be completed and operational as expeditiously as practicable, but not later than January 6, 2014.
24. Inspect any batteries that are not stored in a total enclosure once each week, and move any broken batteries to the battery breaking area for processing or move them to a total enclosure within 72 hours of identification. Exide must clean residue from broken batteries within 72 hours of identification.
25. Replace existing roll-up doors with fabric roll-up doors in the raw material storage building as expeditiously as practicable, but not later than March 31, 2013. Existing roll-up doors at openings without truck docks in the raw material storage building must be replaced with high-speed fabric roll-up doors.
26. Install secondary HEPA filtration on all baghouses that receive lead emissions (EPNs OCS, 10A, 18, 21, 22, 23, 35A, 37, 39A, 45, and 48A), except for the reverberatory furnace baghouse and the blast furnace baghouse (EPN 38). All HEPA filters shall be rated by the manufacturer to achieve a minimum of 99.97% capture efficiency for particles 0.3 micrometre or larger. Exide will evaluate the technical feasibility of installing secondary HEPA filtration on the reverberatory furnace

baghouse and the blast furnace baghouse, and, if technically feasible, will also install secondary HEPA filtration on these two baghouses. If HEPA filtration is not technically feasible for these two baghouses, Exide will install high efficiency PTFE secondary filtration devices. These measures shall be completed and operational as expeditiously as practicable, but not later than January 6, 2014.

27. Process or mobile equipment that is contaminated with lead shall be initially cleaned inside of a permanent total enclosure prior to being moved to the maintenance building. This measure shall be implemented as expeditiously as practicable, but not later than January 6, 2014.
28. For the secondary filtration added to the baghouses, pressure drop monitoring must be conducted at least daily, with the reading taken at least at a minimum of 10 hours apart. If the pressure drop is outside the limit(s) specified by the filter manufacturer and the processes associated with the baghouse at which the pressure drop occurred continue to operate, Exide shall initiate appropriate corrective measures as expeditiously as practicable, but not later than eight hours after discovery of the reading, and complete those measures as expeditiously as practicable. Appropriate corrective measures, which may include but are not limited to those given in 40 CFR §63.548(g)(1) - (4), as promulgated on January 5, 2012, must be identified in the standard operating procedures manual required in Paragraph 30 of this Agreed Order.
29. For the buildings listed in Paragraph 21 of this Agreed Order that are maintained under negative pressure, negative pressure monitoring must be conducted by use of a digital differential pressure monitoring system operated continuously in accordance with the General Provisions of 40 CFR Part 63, Subpart A. The monitoring system shall meet the requirements described in 40 CFR Part 63, Subpart X, as promulgated on January 5, 2012, as expeditiously as practicable, but not later than January 6, 2014.
30. The fugitive dust control standard operating procedures manual and the standard operating procedures manual for baghouses required by 40 CFR Part 63 Subpart X, as promulgated on January 5, 2012, shall be updated to address the installation of new equipment and changes required by this Agreed Order as such equipment and changes become operational, but not later than January 6, 2014. Power outages and plant idlings shall be addressed in the fugitive dust control and baghouse standard operating procedures manuals. All baghouses must be addressed in the standard operating procedures manual, even if those baghouses are not required to be installed under 40 CFR Part 63, Subpart X, as promulgated on

January 5, 2012. Exide shall operate in accordance with these standard operating procedures manuals.

31. The following lead point sources will be stack tested annually to establish the actual quantities of air contaminants from each source: EPNs OCS, 10A, 18, 21, 22, 23, 35A, 37, 38, 39A, 45, 48, and 48A. Sampling must be conducted in accordance with the TCEQ Sampling Procedures Manual or in accordance with applicable 40 CFR procedures or EPA guidance. Any deviations from those procedures or guidance must be approved by the Executive Director or by the appropriate TCEQ Regional Director prior to conducting sampling.
32. In addition to other required record-keeping, Exide shall keep records of the following:
  - a. Results of all stack tests conducted in accordance with Paragraph 31 of this Agreed Order that are not already required to be maintained by 40 CFR Part 63, Subpart X, as promulgated on January 5, 2012;
  - b. Fugitive control activities required under this Agreed Order and lead control device inspection and maintenance requirements not otherwise required by permit or 40 CFR Part 63, Subpart X, as promulgated on January 5, 2012, including the name of the person performing the activity, and the dates and times on which specific activities were completed;
  - c. Negative pressure monitoring in accordance with Paragraph 29 of this Agreed Order;
  - d. After January 6, 2014, quarterly inspections of the buildings under negative pressure to ensure that they are maintained at least to the standard described in 40 CFR §63.544(c), as promulgated on January 5, 2012; and
  - e. Results of the daily pressure drop monitoring required in Paragraph 28 of this Agreed Order, along with records of inspections and maintenance activities.
33. Maintain records until this Agreed Order is revoked, but not longer than eight (8) years from the creation of any such records, sufficient to demonstrate compliance with the requirements in Paragraphs 15 to 31 of this Agreed Order, and make those records available upon request by the TCEQ or any other air pollution control agency with jurisdiction. Retention of these records does not affect in any way any other terms of this Agreed Order.

34. After implementation of the controls required by Paragraphs 15 to 27 of this Agreed Order, emit no more than a maximum of 0.4517 pound per hour (lb/hr) of lead from stack sources, the amount of emissions demonstrated by the air dispersion modeling completed for the Collin County Attainment Demonstration SIP for the 2008 Lead NAAQS as the maximum that Exide can emit without causing or contributing to an exceedance of the 2008 lead NAAQS. As long as Exide qualifies for such a permit, Exide may use permits by rule or standard permits at the plant to make changes at the plant, including the addition of new equipment, but only if use of such authorizations will not increase actual emissions of lead above 0.4517 lb/hr from stack sources and submission to the TCEQ of modeling shows that any such change will not cause or contribute to an exceedance of the 0.15  $\mu\text{g}/\text{m}^3$  2008 lead NAAQS.
35. Apply for and obtain necessary authorizations to implement the control strategies listed in Paragraphs 15 to 27 of this Agreed Order, and to ensure that any changes at the facilities will be incorporated into TCEQ Air Quality Permit Numbers 1147A and 3048A. Any necessary new source review applications for these permit changes will be submitted by Exide to the Executive Director within ninety (90) days upon signature of this Agreed Order by both parties, and the applications will be administratively complete within 120 days of signature of this Agreed Order by both parties, unless a later deadline is approved by the Executive Director.
36. Notify the TCEQ prior to submitting an application for a permit amendment that would allow Exide to increase site-wide actual lead emissions above permitted levels of 0.4517 lb/hr from stack sources as identified in Paragraph 34 of this Agreed Order, in order to determine whether an amendment to this Agreed Order or issuance of a new agreed order with corresponding revisions to the SIP are needed.
37. Continue to maintain all air pollution abatement equipment in good working order and operate it properly during normal operations.
38. Beginning ninety (90) days after installation of the control measures under this Agreed Order, if the TCEQ provides notice of a condition, within thirty (30) days of TCEQ notification, Exide shall have the opportunity to submit to the TCEQ for review and approval or disapproval within forty-five (45) days thereafter an affirmative demonstration that an identifiable problem involving existing operations is the root cause of the condition and a proposal for remedy and prevention of recurrence of the problem (a demonstration and proposal for correction). If Exide does not submit a demonstration and proposal for correction within the allotted thirty (30) days, or the TCEQ disapproves of such submission within the allotted forty-five (45) days, Exide shall implement the contingency

measures listed in Paragraph 10(b)(i)-(iii) of this Agreed Order as expeditiously as practicable, but not later than twelve (12) months after TCEQ's notification to Exide of the condition.

39. The Executive Director may grant an extension of any deadline in this Agreed Order upon a written and substantiated showing of good cause, except that no deadline shall be extended beyond January 6, 2014. All requests for extensions by Exide shall be made in writing to the Executive Director. Extensions are not effective until Exide receives approval from the Executive Director. Any extension request must be received by the Executive Director at least thirty (30) days before the applicable deadline. While the determination of what constitutes good cause rests solely with the Executive Director, approval of an extension shall not unreasonably be withheld.
40. To the extent that Exide does not complete any of the measures specified in Paragraphs 20 (slag treatment building), 21 (blast and reverberatory furnace enclosure), 22 (traffic plan), 26 (HEPA), or 27 (cleaning) of this Agreed Order before December 31, 2012, Exide shall undertake and complete the following interim measures by March 31, 2013:
  - a. Install dock seals at existing truck docks to help minimize fugitive emissions; and
  - b. Change existing baghouse cleaning cycle controls from time-based to pressure drop demand-based cycles to allow for increased filter cake on bags.

As an alternative to completing the measures listed in Paragraphs 19 - 38, Exide may shut down Plant operations.

41. If Exide chooses this alternative, Exide shall notify the Executive Director of its election of this alternative by November 1, 2012 and shall identify a date for the permanent cessation of manufacturing operations. Unless extended pursuant to Paragraph 39, Exide's authorization to conduct manufacturing operations at the Plant shall terminate as of the date provided by Exide in its notice of shutdown. In no event shall the shutdown occur later than January 6, 2014.
  - a. Removal of equipment and demolition of buildings shall be completed no later than one year after the date the permanent cessation of manufacturing operations occurs.
  - b. During removal or demolition of equipment, Exide shall continue to operate relevant baghouses and any other relevant control

equipment and implement good housekeeping practices to control lead emissions as long as practicable.

- c. Exide shall void each air quality permit within 60 days of completion of removal or demolition of all facilities (as designated by Emission Point Number) authorized by the permit. All air quality authorizations associated with the plant shall be voided no later than December 31, 2015, other than any authorizations required for operation of the wastewater treatment plant.
42. After December 31, 2015, if Exide has elected to shut down the Plant pursuant to Paragraph 41 and TCEQ notifies Exide of a condition that relates to emissions of lead that originated from the Plant, Exide shall implement the contingency measure listed in Paragraph 10(b)(iv) of this Agreed Order as expeditiously as practicable but not later than 10 days after TCEQ's notification to Exide of the condition.

The provisions of this Agreed Order shall apply to and be binding upon Exide, its successors, assigns, and upon those persons in active concert or participation with them who receive actual notice of this Agreed Order by personal service or otherwise. Exide is hereby ordered to give notice of this Agreed Order to any successor in interest prior to transfer of ownership of all or any part of its plant, located at 7471 South Fifth Street, Frisco, Collin County, Texas, and, within ten (10) days of any such transfer, provide the TCEQ with written certification of such transfer, and that such notice has been given.

If any portion of this Agreed Order is for any reason held to be invalid by a court of competent jurisdiction, the invalidity of any portion shall not affect the validity of the remaining portions.

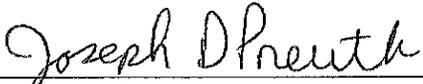
**SIGNATURE PAGE**

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

\_\_\_\_\_  
For the Commission  
Bryan W. Shaw, Ph.D.  
Chairman  
Texas Commission on Environmental Quality

\_\_\_\_\_  
Date

I, the undersigned, have read and understand the attached Agreed Order. I am authorized to agree to the attached Agreed Order on behalf of the entity, if any, indicated below my signature, and I do agree to the terms and conditions specified therein.

  
\_\_\_\_\_  
Joe Preuth  
Vice President of Recycling and Operational Excellence  
Exide Technologies

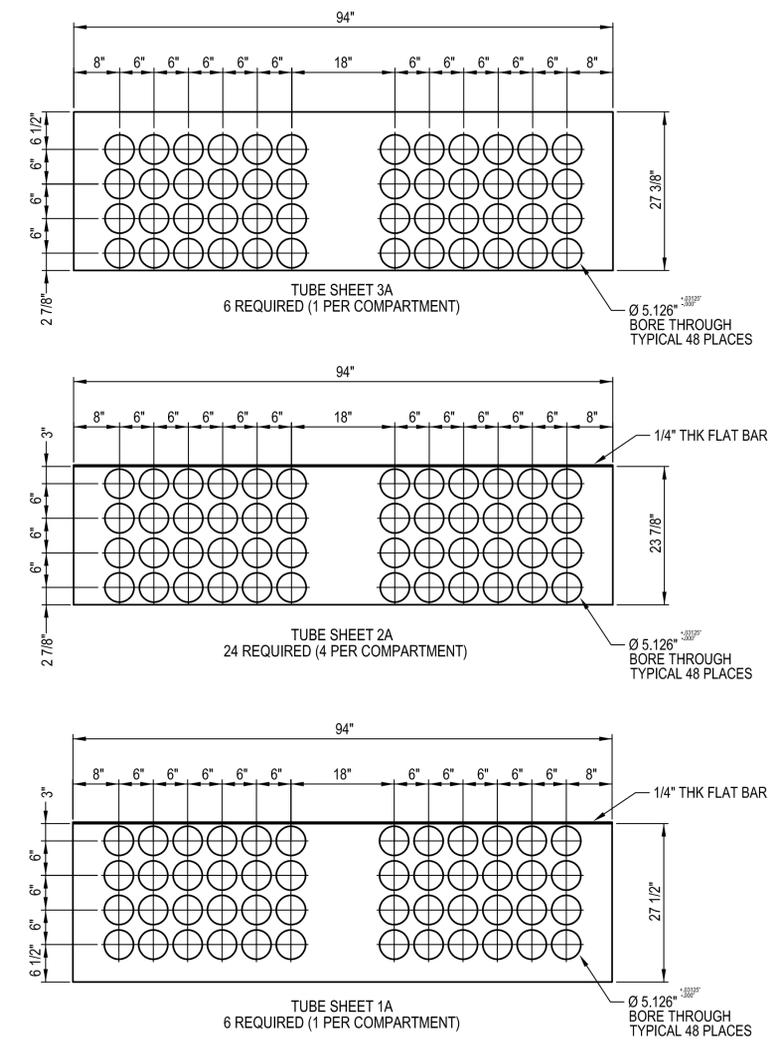
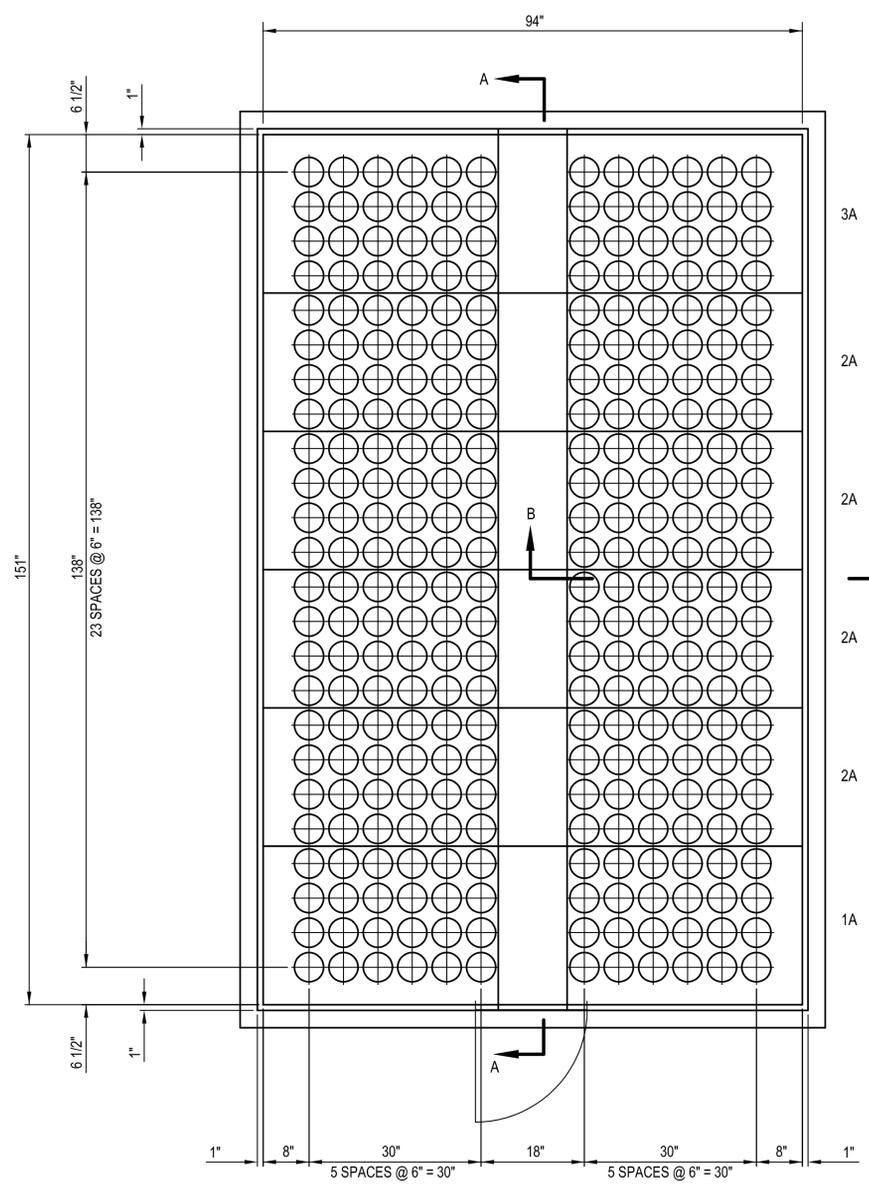
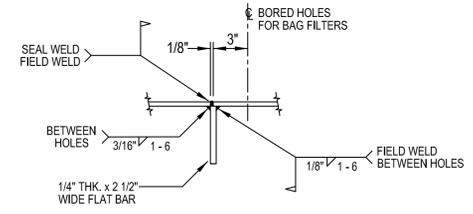
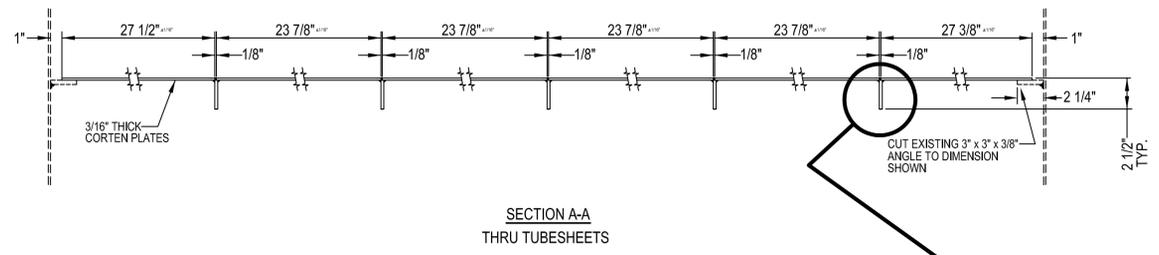
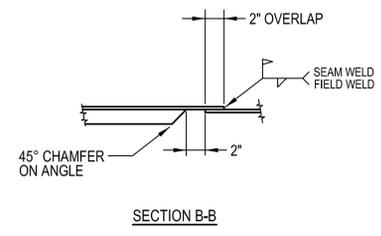
7/13/12  
Date

  
\_\_\_\_\_  
Caroline M. Sweeney  
Deputy Director  
Office of Legal Services  
Texas Commission on Environmental Quality

July 16, 2012  
Date

**Attachment A**  
**Seating Design Diagram for**  
**Baghouses**

GENERAL NOTES	
1	ALL HOLES TO BE LASER CUT TO INSURE HOLE TOLERANCE AND SURFACE FINISH
2	ALL TUBESHEET MATERIAL TO BE 3/16" THICK CORTEN
3	ALL FLAT BAR JOINING PIECES TO BE 1/4" THK. x 2 1/2" CORTEN
4	ALL STEEL IS UN-PAINTED



SUPPLEMENTAL BAGHOUSE TUBE SHEET ASSEMBLY PLAN VIEW TYPICAL (6) COMPARTMENTS

SUPPLEMENTAL BAGHOUSE INSTALLATION INSPECTION REPORT				
CELL	ALIGNMENT OF TUBE SHEET		WELDING	
	DATE	BY	DATE	BY
1				
2				
3				
4				
5				
6				

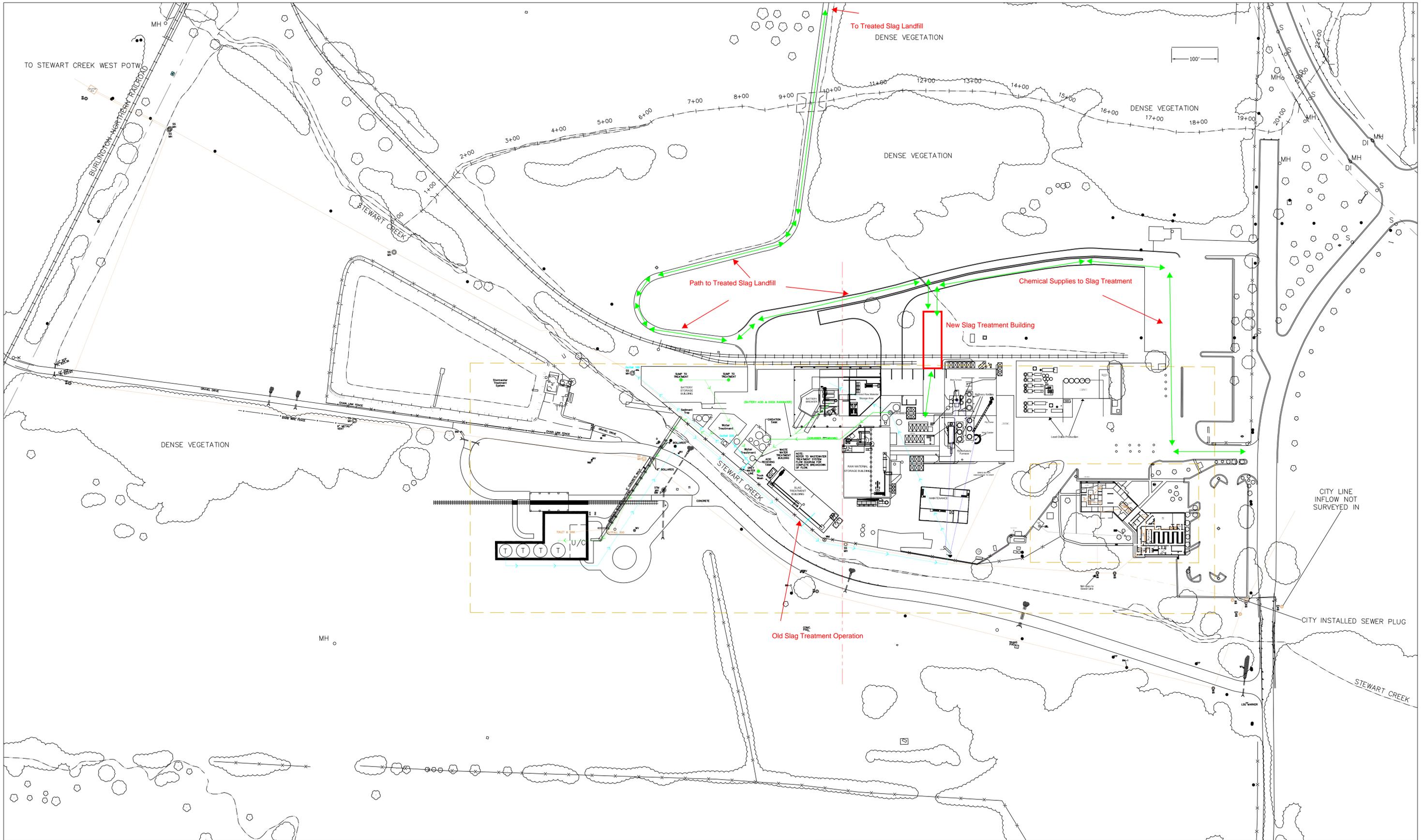
NOTES

- WELD INSPECTION IS TO BE PERFORMED BY A CWI (CERTIFIED WELDING INSPECTOR).
- ALIGNMENT OF TUBESHEET IS DEFINED AS THE FOUR OUTER HOLES BEING WITHIN VERTICAL TOLERANCE TO UPPER BAG MOUNTING LOCATION.

REV	BY	DATE	DESCRIPTION	APPV	DATE
APPROVALS					
CODE:	EXIDE Frisco, Texas Tube Sheet Assemblies For Supplemental Baghouse Tubesheet Replacement				
QC:					
TOLERANCES UNLESS NOTED					
ANGULAR:	± 1°				
FRACTIONAL:	± 1/8"				
LINEAR DECIMALS					
0.X					
0.XX					
0.XXX					
0.XXXX					
<small>THIS DOCUMENT DISCLOSES PROPRIETARY INFORMATION OF APEX PIPING SYSTEMS. THE INFORMATION AND KNOW HOW THEREIN MAY NOT BE USED FOR THE DESIGNING, REPRODUCING OR OTHERWISE REPRODUCED WITHOUT THE WRITTEN PERMISSION OF APEX PIPING SYSTEMS. ALL REPRODUCTIONS IN WHOLE OR IN PART, SHALL BEAR OR REFERENCE THIS STAMP.</small>					
DWG BY:	RTS	DATE:	1/24/2011	CHK BY:	JLJ
FILE NAME:	9890-1 Supplemental.dwg				
SCALE:	None	SEE:	DWG.#	SHEET:	1 OF 1
				REV:	0

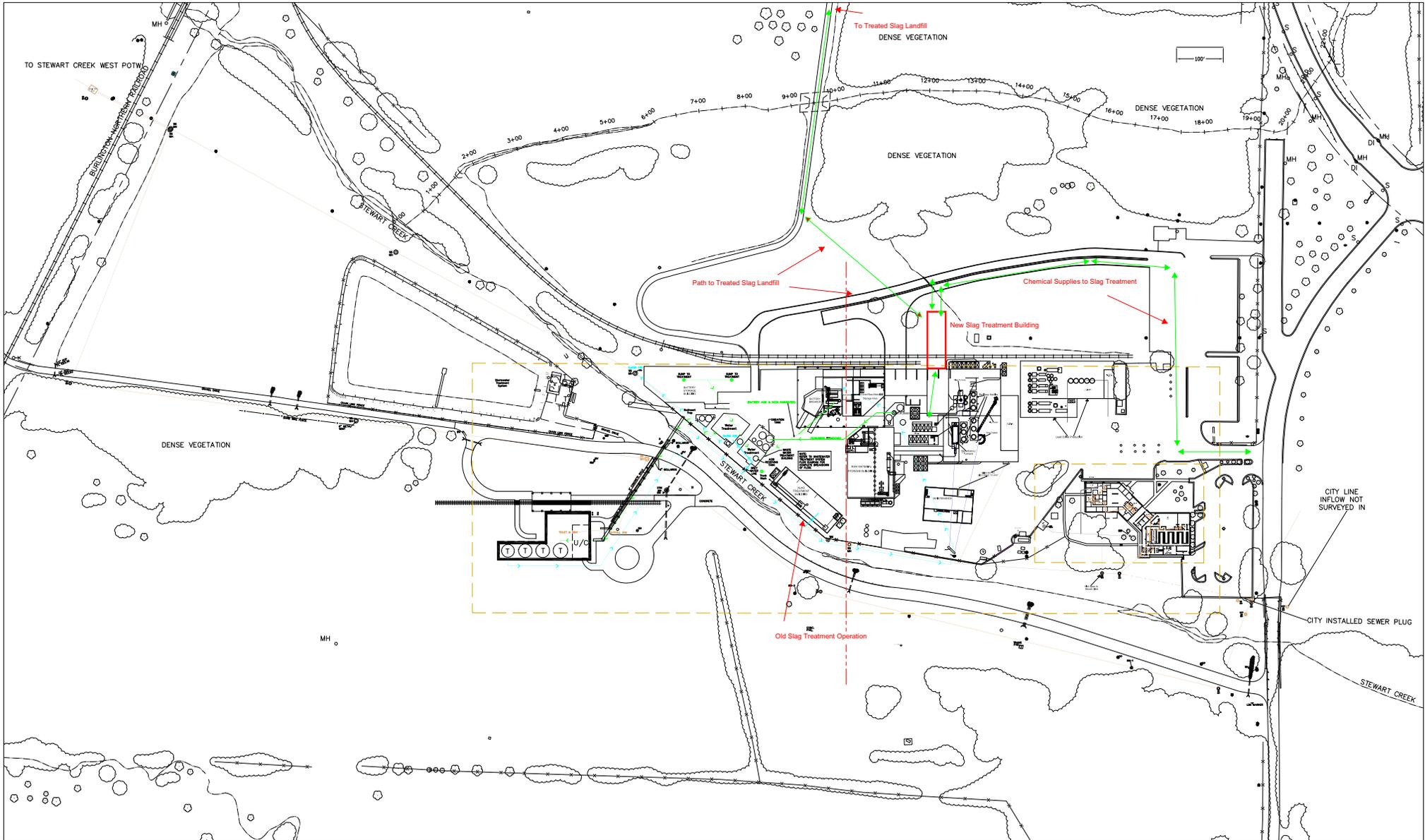
**Attachment B**  
**Traffic Plan for Trucks Delivering**  
**and Unloading Batteries**

Proposed Path of Treated Slag as a Result of Relocation of Slag Treat Operation



**Attachment C**  
**Traffic Plan for Landfill**

Proposed Path of Treated Slag as a Result of Relocation of Slag Treat Operation

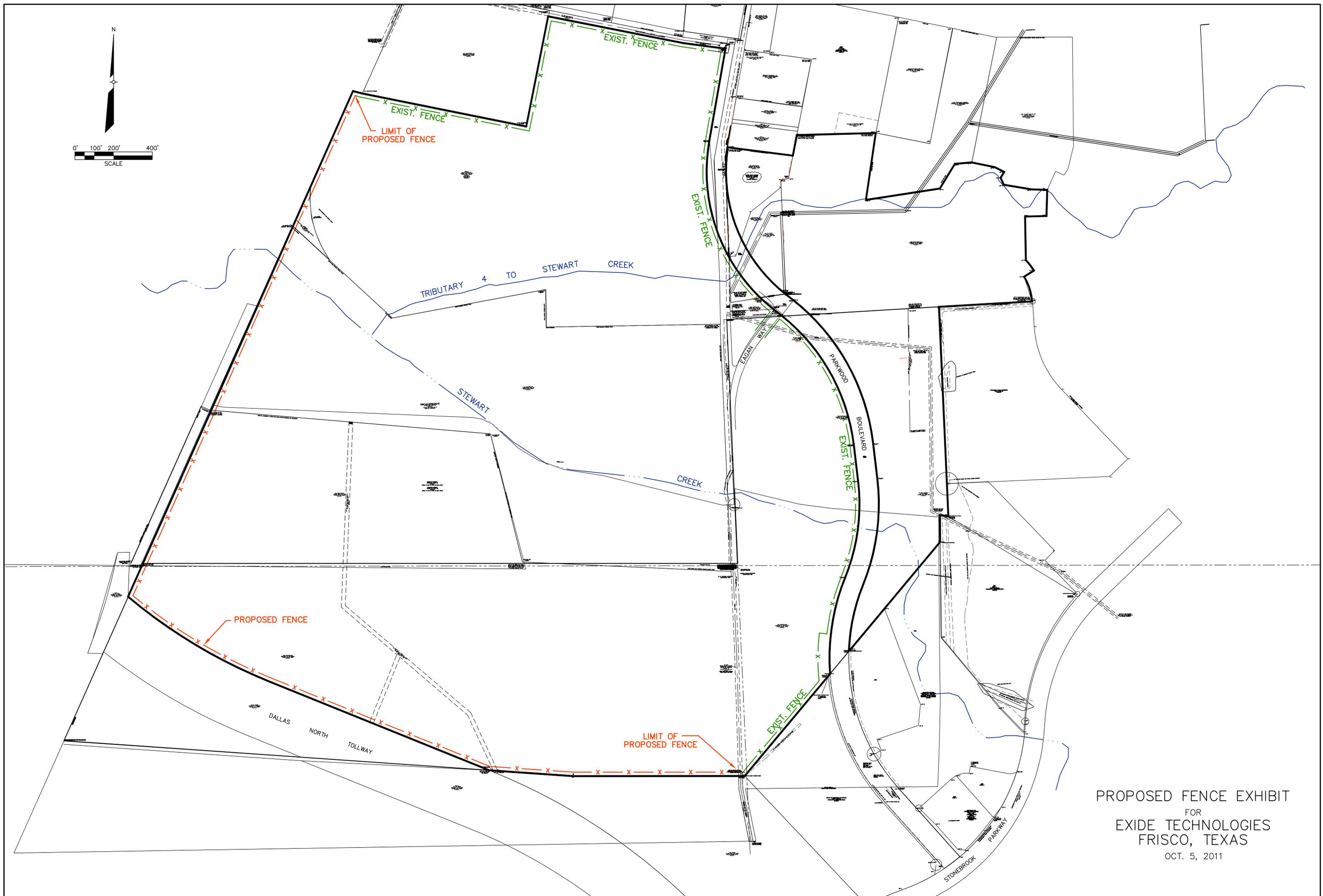


EXIDE TECHNOLOGIES  
 7437 Shaw-Forte Street  
 P.O. Box 250  
 Pflugerville, Texas 78656

Legend  
 Proposed Approximate Traffic Pattern

NOTES:  
 THE LOCATION OF LATERAL LINES  
 ARE APPROXIMATE BASED ON  
 SURFACE OBSERVATIONS AND  
 INTERVIEWS WITH EXIDE EMPLOYEES.

**Attachment D**  
**Property Fence Exhibit**



PROPOSED FENCE EXHIBIT  
FOR  
EXIDE TECHNOLOGIES  
FRISCO, TEXAS  
OCT. 5, 2011

**RESPONSE TO COMMENTS RECEIVED CONCERNING  
THE COLLIN COUNTY ATTAINMENT DEMONSTRATION  
STATE IMPLEMENTATION PLAN (SIP) FOR THE 2008  
LEAD NATIONAL AMBIENT AIR QUALITY STANDARD  
(NAAQS) AND AGREED ORDER BETWEEN THE TEXAS  
COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ)  
AND EXIDE TECHNOLOGIES (EXIDE)**

**PROPOSED JUNE 22, 2011  
ADOPTED AUGUST 8, 2012**

The TCEQ conducted a public hearing for the proposed Collin County Lead Attainment Demonstration SIP revision and the Agreed Order between the TCEQ and Exide in Frisco, Texas, on July 28, 2011, at 6:00 p.m. During the comment period, which closed on August 8, 2011, the commission received comments from Downwinders at Risk, the United States Environmental Protection Agency (EPA), Exide, Texas Campaign for the Environment, and 23 individuals.

Comments related to the proposed Collin County Lead Attainment Demonstration SIP revision (Project No. 2011-001-SIP-NR) and the Agreed Order between the TCEQ and Exide (Project No. 2011-0240-MIS-NR) are incorporated in the following Response to Comments.

**TABLE OF CONTENTS**

Table of Contents .....	1
General Comments.....	1
Air Quality Concerns .....	3
Health Effects.....	6
Impacts on Water and Soil.....	9
Evaluation of the SIP Revision and Agreed Order .....	10
Public Participation in SIP Development .....	11
Emissions Inventory .....	11
Monitoring .....	12
Control Strategies .....	13
Reasonably Available Control Technology (RACT), Reasonably Available Control Measures (RACM) .....	14
Wet Electrostatic Precipitator (WESP).....	16
Air Dispersion Modeling .....	18

**GENERAL COMMENTS**

An individual commented that the proposal submitted by Get the Lead Out be considered and that the TCEQ should follow its own standard practices and procedures in designing a solution to this serious public health problem.

**The commission did not receive comments on the proposed SIP and Agreed Order from Get the Lead Out. The commission follows practices and procedures in**

**accordance with the EPA's guidance and Federal Clean Air Act (FCAA) requirements to develop plans to demonstrate attainment of the NAAQS. The FCAA requires the EPA to set NAAQS for pollutants from sources considered harmful to public health and the environment. The FCAA establishes the primary NAAQS to set limits to protect public health with an adequate margin of safety including the most sensitive part of the population. The purpose of this SIP revision and Agreed Order is to attain the 2008 lead NAAQS as expeditiously as possible.**

An individual pointed out the protections that were lost when Senator Shapiro decided to vacate her bill during the legislative session.

**This comment is outside the scope of this analysis. The commission points out that while there were some requirements in Senator Shapiro's bill (Senate Bill 1475, 82nd Texas Legislature) that were more stringent than the proposed Agreed Order, modeling of the controls in the SIP and Agreed Order demonstrates compliance and attainment of the 2008 lead NAAQS.**

An individual questioned what has already been done and what actions are being taken by the TCEQ, Exide, and the government. The individual questioned what precautions regarding the transporting of chemicals are being taken to avoid a chemical spill.

**The FCAA requires states to develop a targeted plan to reduce air pollution in order to meet the health-based lead standard. When the EPA reduced the lead standard or NAAQS in 2008 to 0.15 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ) and a portion of Collin County was designated as nonattainment for the new 2008 standard, the TCEQ began the process of developing the state's plan. During this process, the TCEQ and Exide developed control strategies to reduce lead emissions. The development of the SIP is described in the SIP "narrative," which elaborates on how this plan meets the FCAA requirements. Throughout this process, the TCEQ has been involved in monitoring air quality and SIP compliance in Collin County.**

**The new control measures needed to demonstrate attainment for the 2008 lead NAAQS in the Collin County nonattainment area are made enforceable by Agreed Order 2011-0521-MIS. For a complete list of control strategies already implemented by Exide as well as those measures that will be implemented by January 2014, please see Section 4.4: *New Control Measures* of the SIP revision.**

**Precautions involving chemical spills during transport beyond the plant boundaries fall outside the scope of this SIP revision and Agreed Order. The TCEQ's Office of Compliance and Enforcement is involved with coordinating responses to reported chemical spills.**

Downwinders at Risk commented that the cement kilns in Midlothian still don't have state-of-the-art controls that are being used in Europe even though its organization has been pushing for these types of controls for years.

**Comments regarding controls for cement kilns are beyond the scope of this SIP revision and Agreed Order.**

Downwinders at Risk commented that the TCEQ has never written a successful SIP with regard to air quality.

**The commission does not agree with this comment. With regard to lead, the EPA designated a portion of Collin County as a lead nonattainment area for the 1978 Lead NAAQS on November 6, 1991. The EPA approved the commission's Collin County lead attainment demonstration SIP revision for the 1978 NAAQS on November 29, 1994. Because of the successful control strategies implemented through the attainment demonstration SIP, the area attained the 1978 lead NAAQS and was redesignated by the EPA to attainment on October 15, 1999. The area remained in attainment of the lead NAAQS until the EPA lowered the standard in 2008. Many other SIPs have also resulted in the lowering of air pollutants and thus improved air quality in Texas.**

Downwinders at Risk suggested that individuals who lived in Frisco should become involved with an environmental organization in order to help do more for the community.

**The commission encourages public participation and is committed to working with local entities and all interested parties regarding each aspect of the SIP revision process.**

An individual commented that the lead NAAQS was up for periodic review and that the EPA would probably lower the standard in the next three years.

**The commission is committed to attaining the 2008 lead NAAQS as expeditiously as possible in accordance with the EPA's guidance and FCAA requirements. The commission is not in a position to comment on potential future EPA actions.**

The EPA commented that access to Exide's property was not properly secured such that public exposure was limited, so that all of Exide's property can be treated as non-ambient air.

**Exide has agreed to additional fencing and surveillance monitoring to limit public access to its property if the plant continues manufacturing operations. This commitment is included in Exide's Agreed Order with the commission.**

### **AIR QUALITY CONCERNS**

Five individuals commented that they are in favor of Exide's relocation. One noted that their quality of life had diminished tremendously since Exide has been in the news and that no amount of mediation would lay their concerns to rest except for the relocation of the plant. One commented that Exide should be shut down until the company has agreed to install pollution controls comparable to those of its facility in California. Another commented that if people and houses could be moved to build a new football stadium, then it was time to move the Exide plant away from Frisco.

An individual commented that they are not happy that the plant has been allowed to operate while its emissions are over the standard and that it has taken too long to comply. An individual

commented that Exide has polluted their air, soil, and water with some of the highest lead emissions in the country, and they are distressed that the proposed plan allows Exide to continue to operate. An individual questioned why Exide was given until November 2012 to bring these things under control. An individual commented that allowing Exide to operate as usual until November 2012 is not acceptable.

**The commission follows procedures in accordance with FCAA requirements for areas that do not meet the NAAQS. The EPA has determined that areas not meeting the 2008 lead NAAQS should attain the NAAQS as expeditiously as possible but no later than December 31, 2015. This SIP revision and Agreed Order require the implementation of controls to ensure that the appropriate reductions are made so that the area attains the NAAQS as expeditiously as possible. As discussed in Chapter 4: *Control Strategy and Required Elements* of the SIP, some of these controls are already installed and operating. During the RACT and RACM analysis, the TCEQ evaluated the control measures implemented at Exide's California site. As part of Agreed Order 2011-0521-MIS, PTFE membrane filter media has already been installed on the baghouses at the Exide site in Frisco. The Agreed Order also requires the installation of HEPA filters as secondary control devices for all process emission sources, which will make the process emission control configuration identical to that used at Exide's California facility. Additional controls, including WESP, are not necessary at the Frisco plant because the area is expected to reach attainment of the NAAQS with controls that will be installed because of the Agreed Order. The commission does not have the authority to require any facility to shut down without due process, which would include a demonstration that the facility posed an imminent threat to human health. Exide has agreed to install controls that will enable the area to reach attainment of the 2008 lead NAAQS as expeditiously as possible. As discussed elsewhere, the NAAQS are health-based standards designed to protect public health including sensitive populations.**

**As part of the agreement between the City of Frisco and Exide, Exide has agreed to close the plant, cease all manufacturing operations, and remediate the property. The TCEQ is not a part of the agreement between the City of Frisco and Exide. However, as part of its Agreed Order with the TCEQ, Exide has agreed to notify the TCEQ by November 1, 2012, if it plans to close the plant. Should Exide choose this alternative, Exide will close the plant no later than January 6, 2014, and void its air quality permits for the plant no later than December 31, 2015, other than any authorizations required for operation of the wastewater treatment plant, instead of installing and operating the other control measures identified in the Agreed Order and the SIP.**

An individual stated that the proposal deviated from TCEQ standard practices and that business has been favored at the cost of the health of local citizens. An individual commented that the proposal will not provide safety for the citizens and that regulators have chosen to place business interests above the environment.

**The commission disagrees with these comments. The lead emissions from Exide have not increased. In 2008, the EPA lowered the NAAQS for lead from 1.5 µg/m<sup>3</sup> to 0.15 µg/m<sup>3</sup>. Because of this ten-fold reduction in the standard, the then-current**

**lead emissions from Exide, the primary lead source in the area, resulted in an area of Collin County in Frisco being designated as nonattainment for the 2008 lead NAAQS. The commission then began the process of developing a SIP revision to ensure that the area would attain the 2008 lead NAAQS as expeditiously as possible. As part of this process, the commission has worked with Exide to develop control strategies to reduce Exide's lead emissions to a level that will allow the area to reach attainment of the 2008 lead NAAQS. In 2010, the commission proposed a SIP revision and an Agreed Order containing the proposed control measures to lower Exide's lead emissions. The proposed SIP and Agreed Order were based on the best data that the commission possessed at the time and included proposed measures that would require Exide to reduce lead emissions to levels that would allow the area to reach attainment of the 2008 lead NAAQS. The commission has re-examined the available information and considered all the comments that were submitted on the proposed SIP revision and Agreed Order. Necessary changes have been made to ensure that Collin County will attain the 2008 lead NAAQS as expeditiously as possible. The NAAQS are health-based standards that are designed to protect sensitive populations including children and elderly. The modeling conducted for this SIP revision demonstrates that with the controls that are required by the Agreed Order the lead emissions from Exide will be low enough to allow the area to demonstrate attainment of the NAAQS.**

Two individuals commented that they analyzed the impact of particulate matter and Sulfur Dioxide (SO<sub>2</sub>) currently authorized in Exide's permits by modeling the permit allowable emission rates and concluded that the area around the Exide facility was nonattainment for particles with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers (PM<sub>2.5</sub>) and SO<sub>2</sub>. Downwinders at Risk commented that according to these individuals' comments, Exide's emissions are causing violations of the FCAA for PM<sub>2.5</sub> and SO<sub>2</sub> and that the TCEQ should thoroughly investigate.

**The purpose of this SIP is to address attainment of the 2008 lead NAAQS, and therefore, comments regarding other pollutants are beyond the scope of this analysis. However, the types of controls that will be implemented as a result of the SIP revision and Agreed Order will reduce particulate emissions as a means to reduce lead emissions.**

An individual commented that the preliminary lead nonattainment boundary was later revised and was reduced in size and that lead was a problem no matter what the size of the boundary area. Downwinders at Risk commented that the current boundary of the Frisco nonattainment area has not been proven to be protective of public health.

**The initial boundary recommendation, based on existing monitoring and dispersion modeling information, was submitted to the EPA on October 14, 2009. Exide submitted new information to the TCEQ on October 5, 2010, documenting a reduction in permitted allowable emission rates through a permit alteration. The revised recommendation used the same methodology as the original recommendation but incorporated reduced permit limits in the dispersion modeling thereby reducing the size of the nonattainment area. The boundary of the nonattainment area was determined in accordance with EPA guidance, and the**

**EPA officially approved this recommendation in the Air Quality Designations for the 2008 lead NAAQS final rule (EPA-HQ-2009-0443) on November 22, 2010.**

#### **HEALTH EFFECTS**

Three individuals that have young children commented that they were concerned about the health effects of lead exposure especially the health effects to their young children.

**The commission appreciates the individuals' concerns about health effects from lead exposure. The FCAA requires the EPA to set NAAQS to protect public health with an adequate margin of safety including the most sensitive part of the population, and the modeling demonstration that this SIP revision is based on will result in the area coming into attainment of the NAAQS. Therefore, implementation of this SIP revision is expected to result in no adverse health effects. In addition, the slight exceedance of the lead NAAQS observed in Frisco does not necessarily mean that adverse health effects will occur. In fact, a blood lead exposure investigation conducted in Frisco during March 2011 by the Texas Department of State Health Services (TDSHS) did not indicate blood lead levels of concern. A person's blood lead level is the best indicator of lead exposure from all sources (e.g., soil, food, toys, lead-based paint, drinking water, and ambient air).**

**The TCEQ's health effects evaluation of airborne lead exposure around Exide is available at**

**[http://www.tceq.texas.gov/assets/public/implementation/tox/monitoring/evaluation/2010/reg\\_4\\_dallas.pdf](http://www.tceq.texas.gov/assets/public/implementation/tox/monitoring/evaluation/2010/reg_4_dallas.pdf). Using an EPA-approved model and concentrations of lead at a Frisco monitor that are representative of community exposure, predicted results do not indicate blood lead levels of concern. In fact, the predicted blood lead levels due to lead in the air are below the analytical detection limit of blood lead levels.**

**With lead emission reductions required by the SIP and Agreed Order, the ambient air lead concentrations around Exide are expected to be lower than the levels used in this health effects evaluation. In addition, air monitor locations are carefully selected to represent the highest potential ambient lead concentrations as logistically feasible. Thus, the concentration a person is exposed to would likely be much lower than those concentrations reported from monitors. It is not expected that the amount of lead emissions specified by the SIP revision or the currently monitored lead level will produce adverse health effects to the residents of Frisco including children, which is the most sensitive portion of the general population.**

Downwinders at Risk and two individuals commented that there was no safe level of lead, so the amount of lead emissions specified in the SIP revision was capable of doing harm to the residents of Frisco, especially children.

**The FCAA requires the EPA to set NAAQS for pollutants from sources considered harmful to public health and the environment. The FCAA established primary standards to set limits to protect public health including the health of "sensitive" populations such as asthmatics, children, and the elderly. Secondary standards are set to protect public welfare. The FCAA requires periodic review of the science upon which the standards are based and the standards themselves.**

**In 2008, the levels of the primary and secondary NAAQS for lead were lowered ten-fold from the 1978 level of 1.5 µg/m<sup>3</sup> to a level of 0.15 µg/m<sup>3</sup>. The EPA's decision on the level for the primary standard was based on the expanded health effects evidence on neurocognitive effects of lead in children.**

**According to the literature, the increase of lead levels in the blood of children and adults is less likely to occur from breathing low concentrations of lead in the air compared to the contact with lead from other sources such as ingestion of lead-based paint chips, soil contaminated with lead-based paint chips, food, drinking water, and even toys painted with lead-based paint. Although lead is a toxic metal, it occurs naturally in the environment and can be found at low concentrations in the soil, water, food, air, etc. Lead exposure from lead-based paint and soil contaminated with lead-based paint are the major contributors to elevated blood lead levels in children.**

**The TCEQ investigated the impact of lead in the air on blood lead levels in children using an EPA-approved model. The EPA developed the Integrated Exposure Uptake Biokinetic (IEUBK) model to estimate the blood lead concentrations of children less than seven years old being exposed to lead from multiple sources and through various pathways. Using the average Frisco soil lead concentration of 38.31 milligrams per kilogram determined from EPA soil sampling around Exide in March 2010, the estimated geometric mean blood lead levels for children are similar (between 1.22 and 1.30 micrograms of lead per deciliter of blood (µg/dL)) regardless of whether the NAAQS (0.15 µg/m<sup>3</sup>), the reported annual average (0.11 µg/m<sup>3</sup>), or the highest rolling three-month average (0.21 µg/m<sup>3</sup>) lead concentration from the Frisco 7 community monitor (Ash Street AQS Code#480850007) is used as an input to the IEUBK model. These calculated blood lead levels are less than the detection limit of lead in blood of 2 µg/dL. A detailed discussion of the TCEQ analyses can be found in a memorandum dated August 29, 2011. Pages 9 through 14 of the memorandum include information specific to lead exposure around Exide. The memorandum may be accessed at the following link:  
[http://www.tceq.texas.gov/assets/public/implementation/tox/monitoring/evaluation/2010/reg\\_4\\_dallas.pdf](http://www.tceq.texas.gov/assets/public/implementation/tox/monitoring/evaluation/2010/reg_4_dallas.pdf).**

**Although reported ambient air lead concentrations from monitors around Exide have exceeded the 2008 NAAQS for lead, blood lead levels of Frisco residents do not indicate levels of health concern (i.e., the United States Centers for Disease Control and Prevention (CDC) guideline level of 10 µg/dL).**

**The TDSHS conducted a blood lead exposure investigation in Frisco during March 2011. Of the 608 blood samples tested by the TDSHS laboratory, 575 (95%) did not contain detectable levels of lead (detection limit of 2 µg/dL). Only two samples, both from adults who were potentially exposed to lead at work, were found to have blood lead levels above 10 µg/dL. Although above the threshold set for children, these two adult blood samples were below the 25 µg/dL level of concern for adults set by the CDC. Detailed information is available in the fact sheet or the final report for the investigation. The fact sheet is available at:  
<http://www.dshs.state.tx.us/epitox/education.shtm>, and the final report is available at: <http://www.dshs.state.tx.us/epitox/assess.shtm>. The results of the**

**blood-lead study of citizens in Frisco and the modeled results from the EPA's IEUBK model corroborate the Toxicology Division's understanding that ambient air lead concentrations are not causing an unsafe exposure to lead from lead air emissions.**

An individual commented that the 10 µg/dL guideline for blood lead level of concern from the CDC was outdated. The individual also commented that studies indicated learning and intelligence quotient (IQ) deficits occurred at blood lead levels of 2 µg/dL.

**The purpose of the SIP and Agreed Order is to lower lead concentrations in air around Exide so that the area comes into compliance with the 2008 lead NAAQS as expeditiously as possible. While the TCEQ is familiar with the latest scientific information on blood lead levels, the obligation to reduce ambient lead concentrations is unaffected by the CDC's guideline level, since the EPA has established the air quality standard that is protective of public health.**

The commission is aware of research indicating that subtle health effects may occur below the CDC guideline level of 10 µg/dL. However, there are uncertainties about these studies (see discussion below). According to the literature and the TCEQ's analysis using an EPA-approved model, breathing low concentrations of lead in the air, such as those measured in Frisco, is a minor pathway to the general public and results in children's blood lead levels below 2 µg/dL.

It is known that exposure to high levels of lead can cause a variety of health effects including effects on the central nervous system, cardiovascular system, kidney function, red blood cell formation, and reproductive and developmental effects. However, at low levels of environmental lead exposure, health effects are subtle. Specifically, the effects of low exposures (low blood lead concentrations) are estimated and not observed and are, therefore, inconclusive. Recent reports indicate that subtle health effects may occur at very low blood lead levels (ranging from 2 to 7 µg/dL). However, many of the reported health outcomes (e.g., IQ or academic performance) have complex etiologies, are difficult to accurately assess, and are based on observational epidemiology studies. If important confounders in epidemiology studies were not considered in the study design or could not be adjusted for, the reported subtle health effects of exposure to low levels of lead are unlikely to be accurate.

A specific example regarding an inconclusive association between blood lead at 2 µg/dL and attention deficit hyperactivity disorder (ADHD) using the National Health and Nutrition Examination Survey (NHANES) data is presented. NHANES is a program of studies designed to assess the health and nutritional status of adults and children in the United States. Braun et al. (2006) found a positive relationship between blood lead level and ADHD (parent-report of a diagnosis of ADHD or use of stimulant medication) in a recent analysis of NHANES 1999 through 2002 data.<sup>1</sup> However, the associations were not statistically significant, meaning the relationship was likely due to chance and is therefore not

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<sup>1</sup> Braun, J. M., R. S. Kahn, T. Froehlich, P. Auinger, and B. P. Lanphear. 2006. Exposures to environmental toxicants and attention deficit hyperactivity disorder in U.S. children. *Environ Health Perspect* 114 (12):1904-9.

**scientifically established. Using the same NHANES dataset, restricting children ages to 8-15 years, Froehlich et al. (2009) found that prenatal tobacco smoke (maternal report) exposure and blood lead levels are associated with ADHD, although prenatal tobacco smoke exposure was the greater risk factor.<sup>2</sup> However, both studies have important limitations because of their inability to adjust for parental psychopathology - one of the most important confounders when studying the associations of ADHD and environmental risk factors since ADHD heritability has been estimated to be about 75% (Biederman and Faraone 2005).<sup>3</sup> Therefore, for diseases or health effects with a complex etiology such as ADHD or learning and IQ deficits, many confounders (currently both known and unknown) have to be considered and carefully adjusted for when attempting to elucidate any association, statistical or causal, between blood lead level and diseases or health effects.**

An individual commented that lead exposure was from contaminated soil and soil lead standard of 400 parts per million (ppm) was too high and recommended a soil mapping study around Frisco.

**While the commission appreciates the individual's concern about soil lead contamination and the soil standard, it is beyond the scope of this SIP revision to conduct comprehensive analysis of soil near Exide. Furthermore, the EPA conducted a Neighborhood Soil Survey around Exide in March 2010 and concluded that concentrations are below regulatory levels of concern, and no further testing or remedial action is needed for those areas that were sampled. Detailed information regarding the EPA Neighborhood Soil Survey around Exide is available at:  
[http://www.tceq.texas.gov/airquality/sip/stakeholders/pb\\_stakeholder](http://www.tceq.texas.gov/airquality/sip/stakeholders/pb_stakeholder).**

An individual commented that diseases such as Asperger's, autism, and Down Syndrome were occurring disproportionately around Frisco.

**The commission appreciates the individual's concern about the health effects from lead exposure. There are no conclusive associations between lead exposure and diseases such as Asperger's or autism in the scientific literature. Down syndrome is a genetic disease and has not been clearly linked with lead exposure.**

#### **IMPACTS ON WATER AND SOIL**

An individual cited an inspection of the Exide facility by the EPA in 2009 and stated that they were deeply troubled by potential contamination from lead via groundwater, soil, and stormwater run-off. The individual urged the TCEQ to form a multi-discipline team to address all lead air, soil, and water contamination issues associated with the Exide facility. An individual referred to findings from an EPA Region 6 Multimedia Inspection Report dated September 13, 2010, that revealed soil and water contamination problems on the Exide property and

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<sup>2</sup> Froehlich, T. E., B. P. Lanphear, P. Auinger, R. Hornung, J. N. Epstein, J. Braun, and R. S. Kahn. 2009. Association of tobacco and lead exposures with attention-deficit/hyperactivity disorder. *Pediatrics* 124 (6):e1054-63.

<sup>3</sup> Biederman, J., and S. V. Faraone. 2005. Attention-deficit hyperactivity disorder. *Lancet* 366 (9481):237-48.

questioned how these problems identified in the EPA's report were missed or ignored by the TCEQ. The individual strongly urged the TCEQ to take immediate enforcement action against the known soil, surface water, and groundwater contamination on the Exide property and commented that it would be unconscionable for the TCEQ to only address the air noncompliance and stop there. An individual voiced concern over potential water contamination.

**While issues involving soil and water quality are beyond the scope of this SIP revision and Agreed Order, the commission reviews the impact to soil and water quality through other programs. On September 12, 2011, the TCEQ initiated formal enforcement action against Exide for alleged violations of industrial and hazardous waste requirements. Exide is being required through the enforcement process to evaluate the impact to soil and water and to remediate any identified contamination pursuant to the Texas Risk Reduction Program.**

#### **EVALUATION OF THE SIP REVISION AND AGREED ORDER**

Exide commented that it has developed improvements to the traffic plan for truck traffic within the facility. Exide has provided a new traffic flow diagram to reflect those improvements and recommended that the new diagram replace the existing traffic flow diagram in Attachment C of the proposed Agreed Order.

**The new traffic flow diagram has been replaced in Appendix C of the Agreed Order.**

Exide commented that it supports the proposed SIP revision and Agreed Order and believes that the control measures go beyond what is needed to meet the 2008 lead NAAQS.

An individual commented that the SIP revision and Agreed Order anticipated that the area will attain the 2008 lead NAAQS by a small number – just below the standard, but that this number is not realistic. Texas Campaign for the Environment commented that the proposal was a good first start but it didn't go far enough to address the health issues and concerns of the people who live there. An individual commented that the plan will not improve the lead toxicity problem in Frisco. An individual commented that data in the SIP proposal did not add up. An individual commented that the proposal was flawed.

An individual commented that the proposed SIP revision should be withdrawn, corrected, and re-proposed. An individual commented that the proposed SIP revision and Agreed Order will fall short of actual compliance and requested that the proposal be amended to take into account the calculations and factors addressed in the report submitted by Spirit Environmental in order to ensure compliance with the lead NAAQS.

Downwinders at Risk commented that even though the TCEQ is holding a public hearing and is taking comments on the proposed SIP revision, the TCEQ is not going to accept any comments and will not change the SIP document.

**Due to substantial comment from the public and the EPA, the SIP revision and Agreed Order have been revised. Based on the specific comments received, the TCEQ requested and received detailed information from Exide, which resulted in a more robust demonstration of attainment. Specific details regarding the improvements can be found in the Air Dispersion Modeling section of this Response to Comments document.**

## **PUBLIC PARTICIPATION IN SIP DEVELOPMENT**

An individual commented that they appreciated the TCEQ's outreach to the public including access to documents through the Web site and the two public meetings held in Frisco.

**The commission appreciates the support and will continue to encourage public participation in the SIP development process.**

An individual commented that the numbers in some of the backup documents for a study didn't add up, that the numbers were not based on the permitted emissions, and that the TCEQ put false information on its Web site. The individual commented that people were getting mixed up because they didn't understand the technical details of the proposal and that the TCEQ needed to do a better job of communicating to the public.

**The commission did not knowingly put false information on the Web site. The commission contracted with Eastern Research Group Inc. (ERG) to conduct a comprehensive evaluation of air quality control techniques used for lead-acid battery recycling that could potentially be used to reduce lead emissions from the Exide facility. The objective of the study was to produce a menu of potential control technologies and industry best management practices available to reduce lead emissions and estimate associated costs, time to implement, and expected reductions in lead emissions. After the report was finalized, it was pointed out that the total potential reduction of fugitive emissions from Exide as stated in the report were higher than the actual stated fugitive emissions. The contractor was alerted to this, and an error was discovered in the calculation process. ERG revised the report and apologized for the error. Two numbers in Table 1 of the report were changed, but the overall conclusions of the report were not affected by the revision. The revised report was immediately posted to the State Implementation Plan for Lead Stakeholder Group Web page.**

**The TCEQ established a lead stakeholder group and a dedicated Web page as an effort to provide a mechanism for communicating with the public regarding the technical information associated with implementation of the lead SIP. The TCEQ held a public meeting in Frisco on January 19, 2011, to get input from local stakeholders. A public hearing regarding the proposed lead SIP and Agreed Order was held in Frisco on July 28, 2011. The TCEQ has also participated in numerous meetings and has answered many questions from stakeholders since the revision of the lead NAAQS. The TCEQ welcomes any specific suggestions on techniques for improving communications with the public on this matter.**

## **EMISSIONS INVENTORY**

An individual commented that Exide's reported 2010 emissions inventory lead emissions total of 1.09 tons per year (tpy) from Chapter 2.2: *Point Sources* of the SIP narrative was inaccurate because it did not include emissions from other sources at Exide. An individual commented that all sources of lead emissions may not be reported in the annual point source emissions inventory.

**Exide is a major stationary source of air pollution per 30 Texas Administrative Code (TAC) §116.12 and is required to submit an annual emissions inventory update per 30 TAC §101.10(a)(1). Per the §101.10 reporting requirements, Exide is**

required to report actual emissions of all criteria pollutants, including lead, in its annual emissions inventory. On March 23, 2011, the TCEQ requested that Exide update its 2010 emissions inventory to provide emissions from all sources that emit more than two pounds of lead per year including those not currently represented in the 2010 emissions inventory. On February 24, 2011, Exide responded that all lead emissions sources that could be quantified are represented in the 2010 emissions inventory. On April 1, 2011, Exide acknowledged that representative test data and/or emissions factors are not available to quantify battery breaker emissions. However, this source was evaluated and emission estimates were included in the TCEQ modeling conducted for this SIP revision. Emissions from the battery breaker will be controlled with an enclosure and negative pressure ventilation sufficient to ensure that fugitive emissions are routed to a new baghouse per the Agreed Order with the TCEQ.

An individual commented that historic emissions inventory data did not appear to trend consistently with ambient air lead concentrations. The individual commented that there was not good correlation between the reported lead emissions in the Toxics Release Inventory (TRI) and monitored concentrations.

**It is not unusual to have a poor correlation between reported annual emissions and ambient air monitoring samples taken on a non-continuous basis. For an emission source to affect a monitor, winds have to blow from the source towards the monitor, which is not always the case. An emissions inventory (EI) will include estimates of emissions from all known stack and fugitive sources for operation throughout the entire year. The TRI is a self-reporting inventory administered by the EPA. The EPA issues TRI reporting guidance regarding air emissions reporting and is responsible for the quality assurance of the reported data. While these EI and TRI data do provide a measure of the level of activity at the Exide facility, SIP designation and attainment decisions are not based on EI or TRI data. The FCAA and EPA rules require that SIP designations and attainment decisions for lead be based on monitoring results.**

## **MONITORING**

Exide commented that, in general, it agreed with the description in Section 4.5.1: *Lead Monitoring Sites in Frisco* of past and current monitoring sites, although it suggested that discussion of current monitoring requirements and sites be more clearly separated in Section 4.5.1 from discussion of the past history of monitoring sites in the area. Exide offered a correction to the description of the area's current monitoring for site 480850003.

**In order to provide a distinction between historical and current monitors, the proposed SIP revision has been modified by adding Section 4.5.2: *Current Ambient Monitoring*, to discuss current monitoring sites. The revision also corrects the description of monitoring site 480850003.**

An individual commented that some of the lead monitors should be relocated and set to an off-day cycle to better capture the true picture of lead exposure to the area and prevent gaming the testing system. The individual also commented that the lead NAAQS did not factor the impact to the general population surrounding the plant and that monitoring and enforcement needed to be elevated.

**The comment regarding changing the monitoring schedule is beyond the TCEQ's jurisdiction. The EPA requires states to sample on a prescribed sampling schedule, and the data collected according to this schedule is the factor used to determine whether air quality meets the lead NAAQS. As discussed elsewhere in this Response to Comments document, the FCAA requires the EPA to set NAAQS for pollutants from sources considered harmful to public health and the environment. The FCAA establishes primary standards to set limits to protect public health with an adequate margin of safety including the most sensitive part of the population.**

**The EPA lead monitoring regulation (Docket No. EPA-HQ-OAR-2006-0735) published on December 27, 2010, requires one monitor to be located near lead sources that emit 0.5 tpy or more. The TCEQ goes beyond what is federally required and operates four primary and two co-located monitors located east, north, north-northwest, and south of the Exide facility. The monitor north-northwest of the facility is located in the area that was determined to have the highest concentration of lead in ambient air in Collin County. This monitor is located to provide information on the highest ambient air impact of the Exide facility based on modeling and historical monitoring. The other three primary monitors provide additional data reflecting non-dominant wind patterns.**

#### **CONTROL STRATEGIES**

**Eight individuals commented that Exide's lead emissions should be reduced to the maximum level achievable. An individual requested the TCEQ require Exide to use the best available technology and cut emissions to less than 20 pounds of lead per year.**

**The TCEQ's jurisdiction is established by the Texas Legislature and is limited to the issues set forth in statute. The purpose of this SIP revision and Agreed Order is to require controls that allow Collin County to come into attainment with the 2008 lead NAAQS as expeditiously as possible. Accordingly, the TCEQ does not have jurisdiction to consider control measures that go beyond what is necessary to meet FCAA requirements. FCAA, §172(c)(1) requires that the SIP incorporate all RACM, including RACT, for sources of relevant pollutants. States containing areas designated as nonattainment are required to submit a SIP revision demonstrating that the associated enforceable control measures fulfill the RACT and RACM requirements for sources of ambient lead concentrations (73 FR 67035, November 12, 2008). The EPA defines RACT as the lowest emission limitation that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility (44 FR 53761, September 17, 1979). RACT requirements are included in the FCAA to assure that major sources of emissions are controlled to a reasonable extent, but not necessarily to best available control technology levels expected of new sources or to maximum achievable control technology (MACT) levels required for major sources of hazardous air pollutants. Agreed Order 2011-0521-MIS includes the control measures that the TCEQ determined to meet RACT and RACM criteria. Air dispersion modeling conducted for this SIP revision demonstrates that with the controls in Agreed Order 2011-0521-MIS, the ambient lead concentration in the Collin County lead nonattainment area will be below the 2008 lead NAAQS by the December 31, 2015, attainment date. Because the lead emissions that will remain after Exide has installed and is operating all the required controls included in the**

**Agreed Order are sufficient for Collin County to demonstrate attainment of the 2008 lead NAAQS, it is unnecessary to impose an emission limit of less than 20 pounds of lead on Exide.**

**In addition to complying with the control requirements in Agreed Order 2011-0521-MIS, Exide must comply with the EPA's NESHAP for secondary lead smelters in 40 Code of Federal Regulations (CFR) Part 63, Subpart X. For major sources, these technology-based standards must reflect the maximum degree of emission reductions of hazardous air pollutant achievable after considering cost, energy requirements, and non-air quality health and environmental impacts and are commonly referred to MACT standards. According to FCAA, §112(d)(2)(A) - (E), MACT standards must require the maximum degree of emissions reduction through the application of measures, processes, methods, systems, or techniques including, but not limited to, measures that: reduce the volume of or eliminate pollutants through process changes, substitution of materials or other modifications; enclose systems or processes to eliminate emissions; capture or treat pollutants when released from a process, stack, storage, or fugitive emissions point; are design, equipment, work practice, or operational standards (including requirements for operator training or certification); or are a combination of the above.**

**Furthermore, Exide operates under New Source Review (NSR) permits as required by both state and federal law. Exide must revise its permits before installing the control equipment required by the Agreed Order. If any change proposed by Exide would make an increase in a pollutant or change the character of emissions, the permit will also require an evaluation of control technology.**

**As part of the agreement between the City of Frisco and Exide, Exide has agreed to close the plant, cease all manufacturing operations, and remediate the property. The TCEQ is not a part of the agreement between the City of Frisco and Exide. However, as part of its Agreed Order with the TCEQ, Exide has agreed to notify the TCEQ by November 1, 2012, if it plans to close the plant. Should Exide choose this alternative, Exide will close the plant no later than January 6, 2014, and void its air quality permits for the plant no later than December 31, 2015, other than any authorizations required for operation of the wastewater treatment plant, instead of installing and operating the other control measures identified in the Agreed Order and the SIP.**

**Reasonably Available Control Technology (RACT), Reasonably Available Control Measures (RACM)**

**An individual commented that the proposed SIP revision and Agreed Order highlighted the impact of fugitive emissions from Exide and indicated that the origin and amount of these fugitive emissions were not well understood. The individual commented that both the ERG report entitled *Comprehensive Evaluation of Air Quality Control Technologies Used for Lead-Acid Battery Recycling* and the EPA's multimedia inspections of the Exide facility in Frisco have documented Exide's inability to control fugitive emissions. The individual commented that a more effective approach for controlling fugitive emissions is required to assure compliance with the NAAQS and meet FCAA RACT and RACM requirements. The individual recommended the commission adopt as RACT and RACM all requirements in California's South Coast Air Quality**

Management District (SCAQMD) November 2010 final Rule 1420.1 entitled *Emissions Standard for Large Lead-Acid Battery Recycling Facilities*.

**Agreed Order 2011-0521-MIS includes the fugitive emission control measures that the commission determined to meet RACT and RACM criteria. As part of the RACM and RACT analysis, the TCEQ evaluated the control measures contained in SCAQMD Rule 1420.1. Control measures in SCAQMD Rule 1402.1 that were determined to meet RACM and RACT criteria are included in Agreed Order 2011-0521-MIS, and control measures similar to those in SCAQMD Rule 1420.1 are also included in the newly promulgated NESHAP requirements in 40 CFR Part 63, Subpart X. Air dispersion modeling conducted for this SIP revision demonstrates that with the controls in Agreed Order 2011-0521-MIS the ambient lead concentration in the Collin County lead nonattainment area will be below the 2008 lead NAAQS by the December 31, 2015, attainment date. After Exide has installed and is operating all the required controls included in the Agreed Order, lead emissions are sufficiently reduced for Collin County to demonstrate attainment of the 2008 lead NAAQS. It is unnecessary for a lower lead emission limit beyond that required in this plan to be imposed on Exide.**

**To ensure that area fugitive emissions are routed to a high efficiency control device, Exide will fully enclose and place the secondary lead smelting operations, including battery breaking operations, blast and reverberatory furnaces, refining and casting operations, slag treatment and fixation, and raw materials storage and handling areas under negative pressure ventilation. Pick-up hoods are employed to capture process fugitives from the blast and reverberatory furnaces. These process fugitives are exhausted through control devices. Exide will install high speed roll-up doors, unless there is a truck dock system installed, on the total enclosures to help maintain negative pressure and reduce fugitive emissions. Exide will also install dock seal at each dock to eliminate the release of fugitive dust during loading and unloading.**

**Exide will also implement the following operational work practices and housekeeping requirements that minimize fugitive lead-dust emissions to the ambient air: traffic plans for materials loading and unloading, traffic plans that avoid areas with the potential to create fugitive lead-dust, inspection and immediate removal of leaking lead-acid batteries upon delivery, and the cleaning of equipment that is contaminated with lead inside of a permanent total enclosure prior to moving such equipment to a maintenance building.**

An individual commented that the TCEQ relied significantly on the ERG report entitled *Comprehensive Evaluation of Air Quality Control Technologies Used for Lead-Acid Battery Recycling* to develop the Agreed Order and the RACT and RACM analysis. The commenter also expressed concern that the ERG report did not fulfill its contract scope of work and contained technical deficiencies and noted several shortcomings within the ERG report. The individual commented that the combination of the ERG report understating the fugitive emissions and overstating the ability to control these fugitives provides an inaccurate base for the TCEQ to reach an accurate control technology or control measure strategy. The individual commented that the ERG report also understated the opportunity for stack emission reductions.

The commission disagrees that the information in the ERG report hindered the development of an accurate control strategy. As discussed in Chapter 4: Control Strategy and Required Elements of this SIP revision, the TCEQ used multiple resources to develop the RACM and RACT analysis. The final list of potential control strategy concepts for the RACM and RACT analysis includes the strategies presented to stakeholders and the strategies suggested by stakeholders during the informal stakeholder comment process; control measures proposed or implemented at similar secondary lead smelting facilities in other states; and control technologies and measures recommended in the ERG report entitled *Comprehensive Evaluation of Air Quality Control Technologies used for Lead-Acid Battery Recycling*. The TCEQ also conducted independent research on the control technologies for secondary lead smelting operations including contacting South Coast Air Quality Management District staff to discuss the requirements in Rule 1420.1, Emissions Standard for Lead from Large Lead-Acid Battery Recycling Facilities. Staff also contacted control device manufactures to discuss baghouses and WESP technologies and the estimated time to install these technologies. See Appendix F: *Reasonably Available Control Measure (RACM) and Reasonably Available Control Technology (RACT) Analysis* of this SIP revision for a complete list of control measures and determinations. Agreed Order 2011-0521-MIS includes the control measures that the commission determined to meet RACT and RACM criteria. Air dispersion modeling conducted for this SIP revision demonstrates that with the controls in Agreed Order 2011-0521-MIS the ambient lead concentration in the Collin County lead nonattainment area will be below the 2008 lead NAAQS by the December 31, 2015, attainment date.

One individual commented that the value of 2,786 homes within 3,000 feet from the Exide facility was reduced by an estimated \$51 million due to environmental hazards and commented that the home values would be restored if lead emissions were mitigated and prior impacts remediated. The individual requested the TCEQ include the impact of local housing value in the RACT analysis.

In the September 17, 1979, issue of the *Federal Register* (44 FR 53762), RACT is defined as the lowest emissions limitation that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility. Economic feasibility considers the cost of reducing emissions and the difference between the cost of the emissions reduction approach at the particular source in question and the costs of emissions reduction approaches that have been implemented at other similar sources. The capital costs, annualized costs, and cost-effectiveness of an emissions reduction technology are considered in determining whether a potential control measure is reasonable for an area or state. Local housing value is not part of the RACT analysis criteria.

#### **Wet Electrostatic Precipitator (WESP)**

Exide supported the conclusion that the installation of WESP control technology is not RACM or RACT for lead-acid battery operation with secondary lead smelting and lead oxide operations.

The commission appreciates the support. As discussed in Chapter 4: *Control Strategy and Required Elements* of this SIP revision, the TCEQ determined that

**the installation of WESP is not RACT or RACM for the Exide facility in Collin County because it is not economically feasible given the estimated emission reductions.**

One individual supported the Agreed Order with Exide but requested that WESP technology be included as RACT. One individual requested the WESP and Regenerative Thermal Oxidizer technology be considered RACT especially given the population in the immediate area and the density of children.

Downwinders at Risk and two individuals disagreed with the TCEQ's determination that WESP is not RACT or RACM because of its high cost and requested the TCEQ reconsider that determination. The commenters noted that in the final rule for the 2008 lead NAAQS, the EPA stated that "it is reasonable for similar sources to bear similar costs of emissions reduction. Economic feasibility for RACT purposes is largely determined by evidence that other sources in a particular source category have in fact applied the control technology or process change in question." The commenters added that of the 14 secondary lead smelters in the United States in 2011, one site in California is currently operating a WESP, and two additional sites in Indiana and New York are anticipated to install WESP before 2013.

Two individuals also disagreed with the TCEQ's determination that WESP is not RACT or RACM because of its unproven performance. The commenters also indicated that Envirotech, the manufacturer of the WESP installed at the Quemetco facility in California, stated that WESP technology could be used to control waste gas from blast and reverberatory furnaces. The commenter added that Envirotech stated the waste gas would need to be properly conditioned so that the temperature is less than 200 degrees Fahrenheit and estimated that a gas conditioning system at Exide would be no more than \$100,000 in additional capital cost. The commenters requested the TCEQ require Exide to install a WESP and lower total lead emissions to less than 11.21 pounds per year. The commenters stated that the Quemetco facility with a WESP in City of Industry, California, reported total lead emissions of 11.21 pounds of lead in 2010, which is 97.7% lower than what Exide claims its emissions would be after November 2012. Downwinders at Risk commented that there are no technical feasibility issues associated with the application of WESP.

**The TCEQ determined that the installation of WESP control technology is not RACT or RACM for the Exide facility in Collin County because it is not economically feasible given the estimated emission reductions. In the recently promulgated revisions to the NESHAP for Secondary Lead Smelting in 40 CFR Part 63, Subpart X, the EPA stated that adding WESP technology as supplementary control for hazardous air pollutant (HAP) metal is excessively costly and not cost-effective (76 FR 29058). According to the supporting documentation, the cost-effectiveness of installing WESP technology at all secondary lead smelting facilities is an estimated \$2.37 million per ton of HAP (Docket No. EPA-HQ-OAR-2011-0344-0155). In comparison, the cost-effectiveness of complying with all of the newly promulgated NESHAP requirements is an estimated \$0.33 million per ton of HAP (Docket No. EPA-HQ-OAR-2011-0344-0155). Agreed Order 2011-0521-MIS requires Exide to install HEPA filters as secondary lead control devices. HEPA filters have a minimum 99.97% control efficiency for the removal of particles with a diameter of at least 0.3 micrometre. According to EPA's Air Pollution Control Technology Fact Sheet (EPA-452/F-03-023), the capital cost for a HEPA filter is \$6,400 to \$8,500**

per standard cubic meter per second (scm/sec) or \$3.00 to \$4.00 per standard cubic feet per minute (scfm). According to EPA's Air Pollution Control Technology Fact Sheets (EPA-452/F-03-030 and EPA-452/F-03-023), the control efficiency of a typical new WESP design is between 99% and 99.9%, and the capital cost is \$42,000 to \$85,000 per scm/sec or \$20 to \$40 per scfm, which is roughly 10 times the capital cost of a HEPA filter. The HEPA filter provides equivalent control efficiency at a much lower cost than a WESP.

WESP has been installed at one secondary lead smelting operation in California to comply with the AB2588 Toxics Hot Spots program, a unique regulatory requirement that specifically addresses cancer risk from arsenic and other heavy metal emissions. The facility in California selected WESP technology as a secondary pollution control device installed after the baghouse to further reduce arsenic emissions from the secondary lead smelting operation. In this case, WESP technology may be reasonable for facilities that operate electric arc furnaces (EAF) as part of the secondary lead smelting process. EAFs operate at much higher temperatures (2500 - 3000 degrees Fahrenheit) than the blast furnaces used at the Exide facility in Frisco. This higher heat volatilizes compounds such as arsenic and other heavy metals, which makes the particles more difficult to remove using a dry filtration device, such as a baghouse or secondary HEPA filter. Arsenic and other heavy metals such as lead are not volatilized in secondary lead smelting operations using blast and reverberatory furnaces, such as those used at the Exide facility in Frisco. There is not sufficient information to substantiate that WESP is reasonable for secondary lead smelting facilities using blast and reverberatory furnaces at the additional cost of \$16 to \$40 million at each secondary lead smelter when the HEPA filter provides equivalent control efficiency at a much lower cost.

In addition, installing a WESP on the Exide facility for process emission control will have limited benefit because the vast majority of Exide's lead emissions are from fugitive sources. Air dispersion modeling conducted for this SIP revision demonstrates that with the controls in Agreed Order 2011-0521-MIS the ambient lead concentration in the Collin County lead nonattainment area will be below the 2008 lead NAAQS by the December 31, 2015, attainment date. The lead emissions that will remain after Exide has installed and is operating all the required controls included in the Agreed Order are sufficiently reduced for Collin County to demonstrate attainment of the 2008 lead NAAQS. It is unnecessary for a lower lead emission limit to be imposed on Exide.

A regenerative thermal oxidizer is typically used to control hydrocarbon emissions and would not provide any additional reductions in lead emissions. This SIP revision and the associated Agreed Order address the 2008 lead NAAQS. Including any additional control measures to reduce pollutants other than lead is beyond the scope of this SIP revision.

#### **AIR DISPERSION MODELING**

The EPA requested more information regarding 1) calculation of surface characteristics using an equivalent method to the AERSURFACE program; 2) raw meteorological data processed with AERMET; and 3) a description of fugitive emission sources.

**This SIP revision contains detailed calculations of surface characteristics equivalent to the method in the AERSURFACE program. A description of fugitive emission sources is also contained in the SIP revision. The raw meteorological data processed with AERMET used in the SIP revision were sent to EPA Region 6 staff.**

The EPA commented that there were differences in source representation between the modeling performed for the proposed SIP revision and modeling performed in 2009 and 2010 in support of the lead monitoring requirement.

**On November 12, 2008, the EPA finalized the new 0.15 µg/m<sup>3</sup> lead NAAQS based on a rolling three-month average (73 FR 66964). In general, the rule requires source-oriented ambient air lead monitoring by January 1, 2010, at sites with actual annual lead emissions of one or more tpy. Exide was identified as having emissions at or above this level based on the reported 2007 TCEQ Emissions Inventory and/or 2006 TRI. The rule further requires that this monitoring be conducted at or near the maximum off-site ambient air lead concentration as predicted by modeling. To meet the rule requirement, modeling was performed by TCEQ staff in 2009 and again in 2010 based on permit representations and modeling programs that were available at the time. Exide provided updated values on source coordinates and parameters. Some of these values may have differed slightly from previous representations. Regardless of the slight differences, the modeling in support of the SIP revision uses the data available based on Exide's current authorizations.**

The EPA, Downwinders at Risk, and two individuals commented that the TCEQ had not addressed the contribution of background lead concentrations in the modeling analysis.

**In response to these comments, the TCEQ has addressed the contribution of background lead concentrations in the revised modeling analysis included with this SIP revision.**

**Using the procedure described in 40 CFR §51 Appendix W 8.2.2(b), a mean background concentration was determined at each monitor near the Exide site. Using data from 2006-2011, a background concentration of 0.028 µg/m<sup>3</sup> was calculated. This calculated background concentration was added to the maximum predicted concentration to evaluate compliance with the lead NAAQS.**

**The modeling in the June 3, 2011, SIP proposal included an evaluation of the potential impact of known mobile and stationary sources of lead emissions in the area near the Exide site, but the emissions were not quantified in the model. In addition, the TCEQ considered unknown sources but did not add a background concentration to represent these emissions. These decisions were made because the base-case analysis clearly demonstrated that Exide facilities and associated activities caused exceedances of the lead standard.**

**In addition, at the time of the June 3, 2011, SIP proposal, the reduction in emissions due to the tube sheeting and new baghouse media had not been quantified due to engineering design specifications not being available. No**

**reduction in emissions was attributed to these emission control measures in the modeling. By not accounting for proposed emissions control measures, the predicted impact is greater than the impact of background sources of lead. The TCEQ believes the modeling approach was reasonable.**

**However, since the SIP revision was proposed on June 3, 2011, Exide has had time to more completely develop the engineering design specifications at the Frisco site. As a result, Exide has provided updated emission limits taking into account the new tube sheeting and baghouse media. The modeling analysis in support of this SIP revision thus has more specific inputs related to emission controls and includes a background lead concentration based on monitoring to the maximum predicted concentration from modeling.**

The EPA commented that the TCEQ did not use adequate receptor grid resolution in the modeling for demonstrating compliance with the lead NAAQS.

**In the TCEQ's technical judgment, the receptor grid resolution was sufficient to determine the location and magnitude of the maximum predicted concentration based on emission characteristics and distance to receptors. The Exide site has been modeled with refined dispersion models many times over the past 20 years. The source locations, building locations, and stack parameters have been approximately the same between the different analyses. Using at least three different five-year meteorological data sets, three different dispersion models, and three different receptor resolutions (25, 50, and 100 meter), the location of the maximum predicted concentration has consistently been the location of the Eubanks monitor. To ensure that the maximum predicted concentration is captured for the demonstration of compliance with the lead NAAQS, additional receptors spaced 25 meters apart were placed in the vicinity of the location representing the Eubanks monitor.**

The EPA and two individuals questioned whether all emission sources of lead were included in the Base Case modeling scenario. Exide commented that the fugitive emissions included in the Base Case modeling were over-estimated based on comparing Base Case modeling results (1.44  $\mu\text{g}/\text{m}^3$  maximum for rolling three-month average) to monitoring values since January 2009 (0.71  $\mu\text{g}/\text{m}^3$ ).

**In order to determine if all sources of lead at the Exide site were accounted for, the TCEQ reviewed and analyzed monitoring data from the Eubanks, Ash Street, and Parkwood Street monitors for the 2006 through 2010 period. During that time, the highest rolling three-month average concentration (May through July 2008) was 1.26  $\mu\text{g}/\text{m}^3$ . The highest monthly average concentration (May 2008) was 1.56  $\mu\text{g}/\text{m}^3$ , and the highest 24-hour average concentration (June 5, 2008) was 3.42  $\mu\text{g}/\text{m}^3$ . Modeling the maximum hourly allowable emission rates represented in the October 2010 permit alteration occurring every hour, which is conservative due to the high variability of emissions from the site, predicted a maximum rolling three-month average concentration of 0.84  $\mu\text{g}/\text{m}^3$ , well below (50% less than) the monitored values. In addition, regular stack tests of the secondary smelter baghouse stacks demonstrated that the stack emissions were below their associated maximum hourly allowable emission rates. Given that modeling**

**predictions should always be higher than monitored concentrations due to the conservative treatment of source emissions, TCEQ staff concluded that a substantial emissions source or sources had not been accounted for in the modeling.**

**From review of the monitoring data, the TCEQ inferred that more emissions were occurring from the Exide site process area than were modeled. Initial modeling of the October 2010 permit alteration represented emissions showed that stack emissions contributed only a small portion to the maximum predicted concentrations. From analysis of the monitoring data and initial modeling, the TCEQ concluded that the most likely cause of the discrepancy between monitored concentrations and predicted modeled concentrations was the presence of a fugitive source of emissions located in the Exide site process area. Since the monitor captures 24-hour samples, it was difficult to pinpoint the possible location with hourly meteorology. However, the data suggest that the emissions originated from the western portion of the process area.**

**In conducting a model performance evaluation, the TCEQ relied upon monitoring data, source representations in the permit files, stack test data, and site production data to construct a modeled emissions scenario that would reasonably replicate actual monitored conditions. In constructing this emissions scenario, TCEQ staff included an additional fugitive emissions source. The modeling results with the additional fugitive source substantially agree with the monitoring data.**

**The purpose of the emissions scenario in the model performance evaluation (base case) was to propose just one explanation of the disparity of the initial modeling analysis and the monitoring data.**

Exide commented that emission estimates for the demonstration of compliance with the lead NAAQS (future case) should be refined.

**The demonstration of compliance with the lead NAAQS in the proposed June 3, 2011, SIP revision contained emission rate estimates based on the best information that was available at the time. Exide has provided more detailed information regarding construction design and emissions estimates. The TCEQ has reviewed this information and is using it in the demonstration of compliance with the lead NAAQS for the final SIP revision.**

The EPA commented that the point source emission rates modeled, based on emission rates from stack testing, were not backed up with enforceable limits.

**The commission disagrees that the point source emission rates modeled in the proposed and final SIP revision are not enforceable limits. Though the value of the emission rates are based on stack testing, and the value of the emission rates are limits and listed as such in the effective permits, the rates alone do not constitute continuously enforceable limits that can be simply enforced. Exide's permits (permits 1147A and 3048A) contain special conditions limiting production levels, process rates, operating temperature ranges, and fuel specifications. In cases where there is no direct calculation method to estimate emissions, such as in the**

case of Exide's baghouses, the limits contained in the permit special conditions are the enforceable limits.

In *United States v. Louisiana-Pacific Corporation*, 682 F.Supp. 1122 (D. Colo. Oct. 30, 1987) and 682 F.Supp. 1141 (D. Colo. March 22, 1988), the Court discussed the type of permit restrictions that can be used to limit a source's potential to emit. The Court concluded that "not all federally enforceable restrictions are properly considered in the calculation of a source's potential to emit. While restrictions on hours of operation and on the amount of materials combusted or produced are properly included, blanket restrictions on actual emissions are not." *Louisiana-Pacific*, 682 F. Supp. at 1133. The Court held that Louisiana-Pacific's permit conditions, which limited carbon monoxide emissions to 78 tpy and volatile organic compounds to 101.5 tpy, should not be considered in determining "potential to emit," because these blanket emission limits did not reflect the type of permit conditions that restricted operations or production such as limits on hours of operation, fuel consumption, or final product. Furthermore, the second Louisiana-Pacific decision makes clear that the Court considered operational limitations to be valid permit limitations to rely on when calculating a source's potential to emit when such limits are federally enforceable. *Louisiana-Pacific*, 682 F. Supp. at 1159.

The *Louisiana-Pacific* court was guided in its reasoning by the D.C. Circuit's holding in *Alabama Power v. Costle*, 636 F. 2d 323 (D.C. Circuit 1979). Before *Alabama Power*, EPA regulations required potential to emit to be calculated according to a source's maximum uncontrolled emissions. In *Alabama Power*, the D.C. Circuit remanded those regulations to the EPA with instructions that the agency include the effect of in-place control equipment in defining potential to emit. The EPA went beyond the minimum dictates of the D.C. Circuit in promulgating revised regulations in 1980 to include, in addition to control equipment, any federally enforceable physical or operational limitation. The *Louisiana-Pacific* court found that blanket limits on emissions did not fit within the concept of proper restrictions on potential to emit as set forth by *Alabama Power*.

Moreover, the Court found that "a fundamental distinction can be drawn between the federally enforceable limitations which are expressly included in the definition of potential to emit and the [emission] limitations.... Restrictions on hours of operation or on the amount of material which may be combusted or produced ... are, relatively speaking, much easier to 'federally enforce.' Compliance with such conditions could be easily verified through the testimony of officers, all manner of internal correspondence and accounting, purchasing and production records. In contrast, compliance with blanket restrictions on actual emissions would be virtually impossible to verify or enforce." *Louisiana-Pacific*, 682 F. Supp. at 1133. Thus, the Court found that blanket emission limits were not enforceable as a practical matter. *Id.* Finally, the Court reasoned that allowing blanket emission limitations to restrict potential to emit would deprive EPA "of the benefit of the remedies Congress created for a violation of PSD." *Id.*

**Since the demonstration of compliance with the lead NAAQS can only be performed through dispersion modeling and the model input requires an emission rate value, reasonable values for the emission rates must be developed. Using stack testing data to develop these rates is a common practice that the EPA has approved of in the past. The values developed from stack testing are typically validated through compliance testing. The EPA's comment that stack testing is the only means to make emission limits enforceable is in conflict with EPA rules and the findings of the *Louisiana-Pacific* decisions.**

The EPA commented that the TCEQ did not follow provisions in 40 CFR §51.112.

**The commission disagrees that it did not follow the provisions in 40 CFR §51.112. The control strategy and demonstration of compliance with the lead NAAQS contained in the proposed and final SIP revision contain all the elements specified in 40 CFR §51.112(a) and (b).**

The EPA commented that the TCEQ did not follow provisions in 40 CFR §51 Appendix W, Guideline on Air Quality Models.

**The TCEQ disagrees that it did not follow the provisions in 40 CFR §51 Appendix W, Guideline on Air Quality Models (GAQM) or deviate from EPA guidance when conducting the demonstration of compliance with the lead NAAQS. The TCEQ coordinated with EPA Region 6 through many verbal communications over several months. From these discussions of modeling-related issues, the TCEQ and EPA Region 6 verbally agreed on all issues except one - the averaging time of the emissions to be modeled. The TCEQ informally submitted to EPA Region 6 a modeling protocol on May 16, 2011, and an updated protocol February 2, 2012.**

**Though maximum hourly emission rates were modeled in this final SIP revision, the TCEQ contends that modeling 24-hour emission rates, as in the June 3, 2011, proposal, is equally valid.**

**In its comments, the EPA describes three elements in Table 8-1: *Model Emission Input Data for Point Sources* of the GAQM; however, there are four elements to the table. The element not contained in the EPA's comments is the first element of the table, "Averaging Time." The EPA has a long-standing and consistently applied policy to link enforceable limits demonstrating compliance of a NAAQS to a specific averaging time at least as long as the averaging time of the applicable NAAQS.**

**The EPA considered the averaging time of an emission limit as a vital element in guidance given to EPA regions and included averaging time of the NAAQS on the SIP approvability checklist. The EPA dispersion modeling guidance for NSR permits states that modeled emissions rates "must reflect the maximum allowable operating conditions as expressed by the federally enforceable emissions limit, operating level, and operating factor." The guidance gives special emphasis to the applicable averaging time of the emission rates. The EPA guidance on limiting a source's emissions states "the averaging time for all limits must be practicably enforceable. In other words, the averaging time period must readily allow for**

**determination of compliance. EPA policy expresses a preference toward short-term limits, generally daily but not to exceed one month.” In regard to 24-hour NAAQS demonstrations, the EPA’s policy for short-term emission limit was stated as “the only approach that seems to be protective is to model the target source, and nearby background sources, at their maximum potential to emit over 24 hours. We believe this is necessary for both permit and SIP modeling.” Specific guidance from the EPA regarding modeling for the lead NAAQS was to model maximum rolling three-month emission rates because the NAAQS is based on a rolling three-month period. In each of the cases, where the issue is a demonstration of compliance with a NAAQS, EPA guidance has directly linked enforceable limits to the appropriate averaging time of the NAAQS in question.**

**Though some of the emission rates modeled for the June 3, 2011, SIP proposal were maximum 24-hour emission rates, the permit authorizing the emissions contains special conditions on daily finished lead production, hourly feed rates, emission control equipment specifications and maintenance practices, and recordkeeping of relevant operating parameters to ensure the emission limits are enforceable. By modeling emission rates with a shorter averaging time than the NAAQS (rolling three-month period), rates that are federally enforceable, and rates assumed continuous over all hours, the emission rates modeled complied with the requirements of Table 8-1 of the GAQM.**

The EPA and three individuals commented on the 100% capture efficiency used for the Future Case modeling analysis.

The EPA commented that the Future Case modeling analysis did not include any modeled fugitive emissions from these sources since the installation of the full enclosure with negative pressure were assumed to result in 100% capture of fugitive emissions. The EPA stated it has accepted 100% capture of fugitive VOC emissions in other situations only with stringent requirements including a 15-square centimeter maximum leak area, minimum entrance and exit velocities, and limits on the size of egress points. The EPA stated that the TCEQ’s modeling analysis showed that even very small uncontrolled fugitive lead emissions could prevent the area from reaching attainment. The EPA requested that the final SIP include a detailed plan demonstrating how the source would be able to achieve 100% capture efficiency.

One individual commented that 100% capture and control of fugitive emissions was unrealistic and noted that site visits by the EPA and the TCEQ’s contractor, ERG, documented that 100% fugitive emission capture was not a plant priority.

Two individuals commented that 100% capture and control of fugitive lead emissions was overly optimistic because the work practices for areas that could generate fugitive emissions could allow lead dust to be tracked outside the building and, therefore, could not be controlled by the permanent total enclosure. The commenters also stated that the past and current operating practices at the Exide facility demonstrated improper control of fugitive emissions. The commenter noted that pictures taken during EPA inspections in 2009 and 2010 documented holes in roofs and walls of fugitive emissions enclosures, waste materials lying outside of controlled areas, doors either missing or left open, and material leaks. The commenters suggested that using the 90% capture and control efficiency recommended in the ERG report was more realistic.

**In response to these comments, the TCEQ revised the Future Case modeling analysis used to demonstrate compliance with the 2008 lead NAAQS to account for potential fugitive emissions from buildings. The revised Future Case modeling analysis includes the fugitive emissions from roads and fugitive emissions from the buildings including un-captured process emissions and fugitive emissions from other sources within the buildings.**

**During the development of the newly promulgated revisions to the NESHAP for secondary lead smelters in 40 CFR Part 63, Subpart X, the EPA documented that compliance with these control requirements and work practices will result in 95% capture and control of building fugitive emissions (Docket no. EPA-HGQ-OAR-2011-0344-0163). In a letter dated February 16, 2012, EPA Region 6 confirmed that compliance with the requirements in 40 CFR Part 63, Subpart X would result in 95% capture of fugitive emissions and stated that the TCEQ would need to provide reasoned justification for the use of capture efficiency greater than 95%.**

**The TCEQ estimates that at most only 1% of the fugitive emissions from the buildings would escape to the atmosphere from the total enclosure and, therefore, the Future Case modeling analysis assumes 99% capture efficiency. The supporting documents for the newly promulgated revisions to 40 CFR Part 63, Subpart X indicate that total enclosures can provide up to 99% control of fugitive emissions from sources inside a building if the site adds supplementary controls and work practices beyond the NESHAP Subpart X requirements (Docket no. EPA-HQ-OAR-2011-0344-0163). In addition to operating required sources in a total enclosure as required in 40 CFR Part 63, Subpart X, Exide will also operate supplementary controls to address uncaptured process emissions and fugitive emissions from other sources within the buildings. Four supplementary controls and work practices will be implemented at the Exide facility. First, Exide will install high-speed roll-up doors and interlock systems to minimize the duration and extent of pressure variation due to open doors. Second, Exide will install a dock seal at each dock to eliminate the release of fugitive dust during loading and unloading. Third, Exide will designate lead-bearing material-handling equipment inside the building and reroute traffic within the plant to minimize material transfer, outdoor traffic, and the generation of fugitive emissions. Fourth, pick-up hoods are employed to capture process fugitives from the blast and reverberatory furnaces (i.e., charging, tapping, etc.), and these process fugitives are exhausted through control devices. These capture hoods are required under the 1997 NESHAP in 40 CFR Part 63, Subpart X (62 FR 32218) but are not required under the 2012 revisions. However, Exide's permit (1147A) requires the continued operation of these capture hoods. The combination of capture hoods, total enclosure, high-speed roll-up doors, dock seals, and work practices inside the building will ensure that the control efficiency of building fugitive emissions should maximize the overall efficiency. Given the supplementary controls required to address uncaptured process emissions and fugitive emissions from other sources within the buildings, the use of 99% control efficiency is reasonable and consistent with EPA guidelines.**

**ORDER ADOPTING AGREED ORDER AND  
REVISION TO THE STATE IMPLEMENTATION PLAN**

Docket No. 2011-0521-MIS  
Project No. 2011-001-SIP-NR

On August 8, 2012, the Texas Commission on Environmental Quality (Commission), during a public meeting, considered adoption an Agreed Order concerning Exide Technologies, and the Collin County Attainment Demonstration SIP Revision for the 2008 Lead National Ambient Air Quality Standard (NAAQS). The Commission adopts this Agreed Order; and the Collin County Lead Attainment Demonstration SIP revision. The Agreed Order provides that enforceable measures be implemented to reduce lead emissions in the Collin County lead nonattainment area as soon as possible but no later than January 6, 2014, for the Collin County Lead Attainment Demonstration SIP revision, as well as contingency measures. The SIP revision contains a reasonably available control measure (RACM) and a reasonably available control technology (RACT) analysis, demonstration of attainment of the 2008 lead NAAQS through air dispersion modeling, a control strategy demonstration, an emissions inventory, a demonstration of reasonable further progress (RFP), and contingency measures. Under Tex. Health & Safety Code Ann. §§ 382.011, 382.012, and 382.023 (Vernon 2011), the Commission has the authority to control the quality of the state's air and to issue orders consistent with the policies and purposes of the Texas Clean Air Act, Chapter 382 of the Tex. Health & Safety Code. Notice of the proposed Agreed Order was published for comment in the July 8, 2011 issue of the *Texas Register* (36 TexReg 4449).

Pursuant to 40 Code of Federal Regulations § 51.102 and after proper notice, the Commission conducted a public hearing to consider the Agreed Order and revision to the SIP. Proper notice included prominent advertisement in the areas affected at least 30 days prior to the date of the hearing. A public hearing was held in Frisco, Texas on July 28, 2011.

The Commission circulated hearing notices of its intended action to the public, including interested persons, the Regional Administrator of the EPA, and all applicable local air pollution control agencies. The public was invited to submit data, views, and recommendations on the proposed Agreed Order and SIP revision, either orally or in writing, at the hearing or during the comment period. Prior to the scheduled hearing, copies of the proposed Agreed Order and SIP revision were available for public inspection at the Commission's central office and on the Commission's Web site.

Data, views, and recommendations of interested persons regarding the proposed Agreed Order and SIP revision were submitted to the Commission during the comment period, and were considered by the Commission as reflected in the analysis of testimony incorporated by reference to this Order. The Commission finds that the analysis of testimony includes the names of all interested groups or associations offering comment on the proposed Agreed Order and the SIP revision and their position concerning the same.

IT IS THEREFORE ORDERED BY THE COMMISSION that the Agreed Order and revision to the SIP incorporated by reference to this Order are hereby adopted. The adopted Agreed Order and the revision to the SIP are incorporated by reference in this Order as if set forth at length verbatim in this Order.

IT IS FURTHER ORDERED BY THE COMMISSION that on behalf of the Commission, the Chairman should transmit a copy of this Order, together with the adopted Agreed Order and Collin County Lead Attainment Demonstration SIP revision, to the Regional Administrator of EPA as a proposed revision to the Texas SIP pursuant to the Federal Clean Air Act, codified at 42 U.S. Code Ann. §§ 7401 - 7671q, as amended.

If any portion of this Order is for any reason held to be invalid by a court of competent jurisdiction, the invalidity of any portion shall not affect the validity of the remaining portions.

Date issued:

TEXAS COMMISSION ON  
ENVIRONMENTAL QUALITY

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Bryan W. Shaw, Ph.D., Chairman