OFFICE OF THE GOVERNOR

RICK PERRY
GOVERNOR

October 13, 2010

Alfredo Armendariz, Ph.D.
Regional Administrator
U.S. Environmental Protection Agency, Region 6
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

RE: Revised Boundary Recommendation for the 2008 National Ambient Air Quality Standard (NAAQS) for Lead

Dear Dr. Armendariz:

Please find enclosed a revised recommendation for designation of an area in Collin County, Texas, as nonattainment with regard to the 2008 NAAQS for lead of 0.15 micrograms per cubic meter.

Based on new evidence brought to my attention regarding a permit alteration submitted to the Texas Commission on Environmental Quality (TCEQ) by Exide Technologies, I believe it is appropriate to submit a revised lead nonattainment area boundary recommendation. The revised recommendation included in this package reflects the reduced permitted allowable emission rates contained in Exide Technologies' air quality permit No. 1147A. I submitted my original designation recommendation for the 2008 lead standard on October 14, 2009, based on existing monitoring and dispersion modeling that used existing permitted emission rates. The revised recommendation used the same methodology as the original recommendation, but incorporates reduced permit limits in the dispersion modeling, thereby reducing the size of the nonattainment area.

Based on updated dispersion modeling and analysis performed by TCEQ, Texas recommends that the portion of Collin County located in the City of Frisco that is bounded to the north by latitude 33.153, to the east by longitude -96.822, to the south by latitude 33.131, and to the west by longitude –96.837, be designated nonattainment for the 2008 lead standard. The

recommended nonattainment boundary is also depicted on the enclosed maps, "Proposed Texas Nonattainment Area for the 2008 Lead Standard Exhibit 1" and "Proposed Texas Nonattainment Area for the 2008 Lead Standard Exhibit 2." I have included a copy of the revised permit and modeling analysis for your convenience.

If you have any questions, please feel free to contact TCEQ Executive Director Mark Vickery at (512) 239-3900.

Sincerely,

Rick Perry

Rick Perry
Governor

RP:tbp

Enclosures

cc: Mark R. Vickery, P.G

Bryan W. Shaw, Ph.D., *Chairman*
Buddy Garcia, *Commissioner*
Carlos Rubinstein, *Commissioner*
Mark R. Vickery, P.G., *Executive Director*

Texas Commission on Environmental Quality

Protecting Texas by Reducing and Preventing Pollution

October 12, 2010

The Honorable Rick Perry
Governor of Texas
State Capitol
P.O. Box 12428
Austin, TX 78711-2428

Re: Revised Boundary Recommendation for the 2008 National Ambient Air Quality Standard (NAAQS) for Lead

Dear Governor Perry:

The United States Environmental Protection Agency (EPA) revised the NAAQS for lead on October 15, 2008. The standard was revised from 1.5 micrograms per cubic meter to 0.15 micrograms per cubic meter. Texas submitted a boundary recommendation to the Environmental Protection Agency (EPA) on October 14, 2009.

The Texas Commission on Environmental Quality (TCEQ) has since analyzed updated dispersion modeling based on a permit alteration submitted by Exide Technologies on October 5, 2010, which reduces maximum allowable emission rates by more than one ton per year inside of the proposed lead nonattainment area.

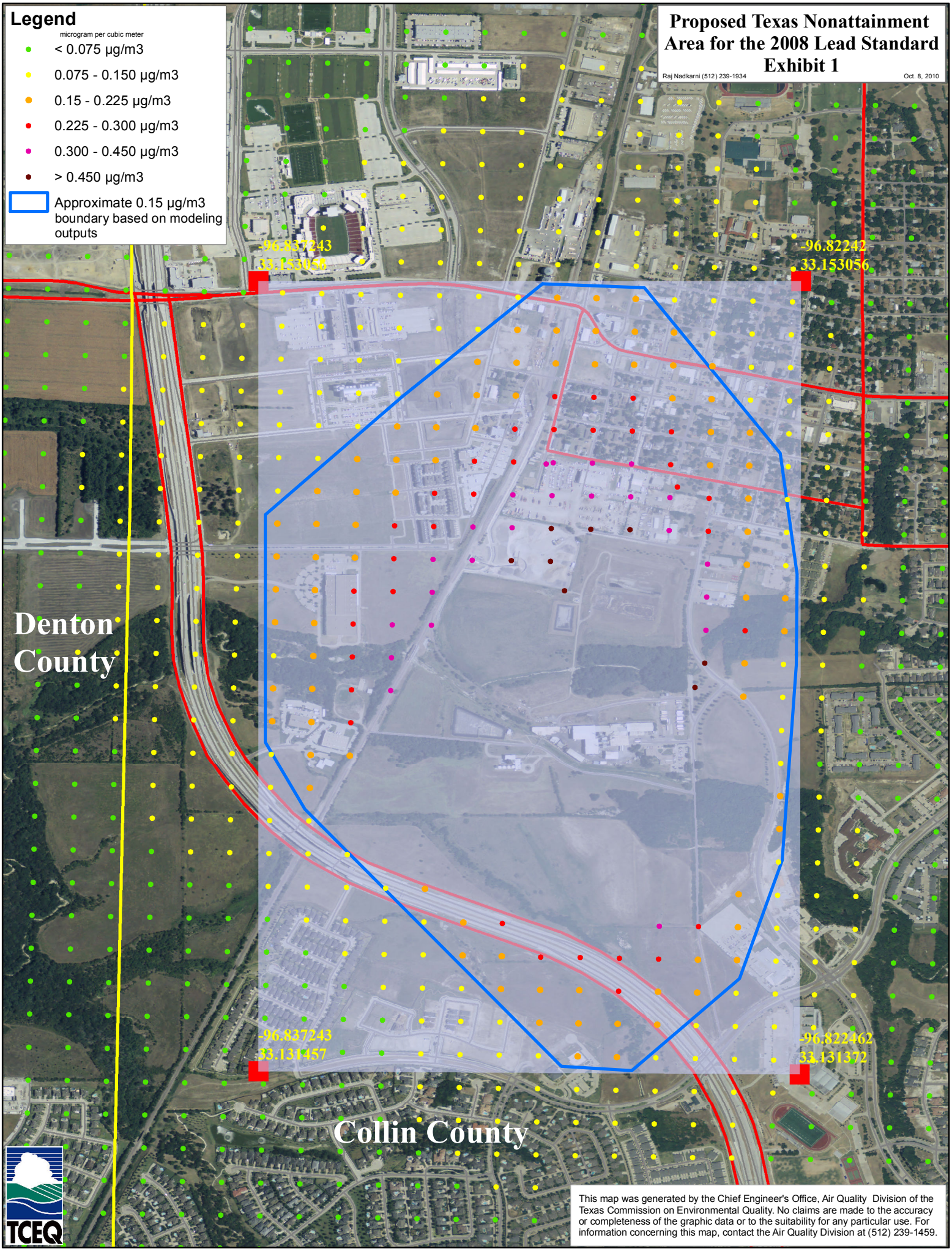
Please find enclosed the modeling analysis based on the lowered permitted emission rates, a cover letter containing a revised designation recommendation for your signature, as well as maps identifying the nonattainment area boundary, to be submitted to the EPA by the October 13, 2010 deadline.

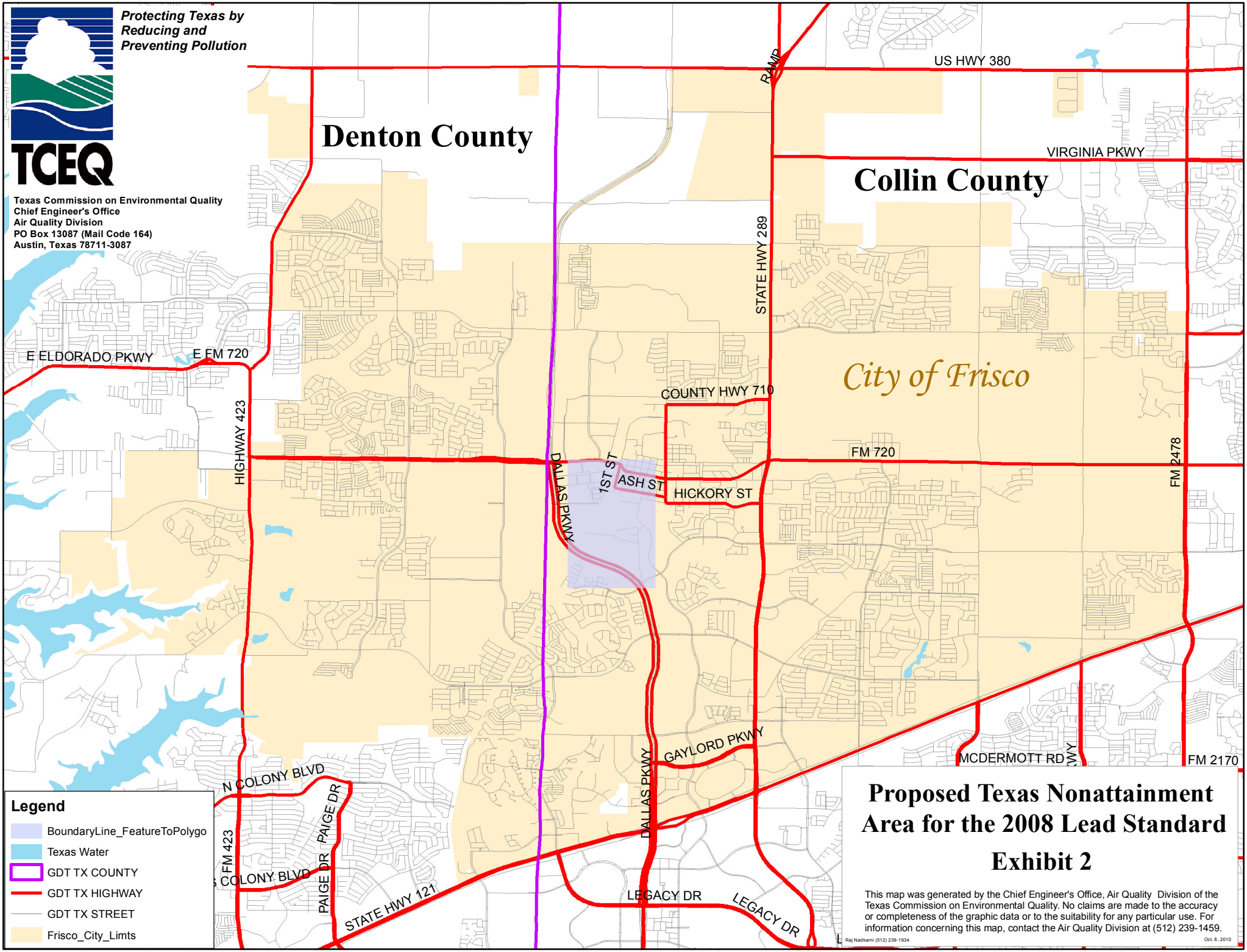
If I can be of any assistance, please contact me at (512) 239-5105.

Sincerely,

Mark R. Vickery, P.G.
Executive Director

Enclosures


Legend
microgram per cubic meter
< 0.075 µg/m3
0.075 - 0.150 µg/m3
0.15 - 0.225 µg/m3
0.225 - 0.300 µg/m3
0.300 - 0.450 µg/m3
> 0.450 µg/m3
Approximate 0.15 µg/m3 boundary based on modeling outputs
Proposed Texas Nonattainment Area for the 2008 Lead Standard
Exhibit 1
Raj Nadkarni (512) 239-1934
Oct. 8, 2010
-96.837243
33.153058
-96.82242
33.153056
Denton County
-96.837243
33.131457
-96.822462
33.131372
Collin County
TCEQ
This map was generated by the Chief Engineer's Office, Air Quality Division of the Texas Commission on Environmental Quality. No claims are made to the accuracy or completeness of the graphic data or to the suitability for any particular use. For information concerning this map, contact the Air Quality Division at (512) 239-1459.


Protecting Texas by Reducing and Preventing Pollution
TCEQ
Texas Commission on Environmental Quality
Chief Engineer's Office
Air Quality Division
PO Box 13087 (Mail Code 164)
Austin, Texas 78711-3087
Denton County
Collin County
City of Frisco
US HWY 380
RAMP
VIRGINIA PKWY
STATE HWY 289
E ELDORADO PKWY
E FM 720
HIGHWAY 423
COUNTY HWY 710
FM 720
FM 2478
DALLAS PKWY
1ST ST
ASH ST
HICKORY ST
GAYLORD PKWY
MCDERMOTT RD
FM 2170
N COLONY BLVD
PAIGE DR
FM 423
COLONY BLVD
STATE HWY 121
LEGACY DR
Legend
BoundaryLine_FeatureToPolygo
Texas Water
GDT TX COUNTY
GDT TX HIGHWAY
GDT TX STREET
Frisco_City_Limts
Proposed Texas Nonattainment Area for the 2008 Lead Standard
Exhibit 2
This map was generated by the Chief Engineer's Office, Air Quality Division of the Texas Commission on Environmental Quality. No claims are made to the accuracy or completeness of the graphic data or to the suitability for any particular use. For information concerning this map, contact the Air Quality Division at (512) 239-1459.
Raj Nadkarni (512) 239-1934
Oct. 8, 2010

Texas Commission on Environmental Quality

INTEROFFICE MEMORANDUM

To: David Brymer
Air Quality Planning Division

Date: October 8, 2010

Thru: Robert Opiela, P.E., Technical Specialist
Technical Program Support Section
Air Permits Division

From: Matthew Kovar, Megan Cox
Air Dispersion Modeling Team
Air Permits Division

Subject: Modeling Analysis of Lead for Exide Technologies, Frisco Battery Recycling Plant (RN100218643)

1.0 Project Identification Information.

On November 12, 2008, the U.S. Environmental Protection Agency (EPA) finalized the new 0.15 microgram per cubic meter ($\mu g/m^3$) NAAQS for lead based on a rolling three-month average (73 *Federal Register* 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 tons per year. Exide Technologies, Frisco Battery Recycling Plant was identified as having emissions at or above this level based on the reported 2007 TCEQ Emissions Inventory and/or 2006 Toxics Release Inventory. The rule further requires that this monitoring be conducted at or near the maximum off-site ambient air lead concentration, as predicted by modeling, that results from sources with annual lead emissions of one or more tons.

In 2009, the TCEQ conducted air dispersion modeling of all the lead emission sources at the site using the most current modeling parameters and associated permitted allowable emissions rates. In October 2010, Exide Technologies submitted information to the TCEQ documenting a reduction in permitted allowable emission rates for some sources. Some of these reductions will be validated through stack testing at a future date. This modeling analysis addresses those emission reductions and supersedes the previous modeling analysis report (NSRG document #9136). The TCEQ will use the dispersion modeling results to determine the optimal location of any required source-oriented monitors.

Since monitoring already exists at and near the Exide Technologies site, and monitored values exceeding the new lead standard have been recorded, the dispersion modeling results will also be used to determine the proposed boundaries of a lead non-attainment area.

ArcReader Published Map:
\\Msgiswrk\apd\MODEL PROJECTS\Lead NAAQS Analysis_2010_revised\Lead_NAAQS_Analysis_Results_2010_revised.pmf

2.0 Report Summary. The predicted maximum ground level concentration (GLCmax) is 0.837 $\mu g/m^3$ for a rolling three-month average. The location of the GLCmax is the same as the location of monitor 480850009 on the north property line of the Exide Technologies site.

Predicted concentrations exceeding the NAAQS extended approximately 0.8 kilometers (km) to the north, 0.5 km to the south, 0.5 km to the west, and 0.2 km to the east of the site property line. All predicted concentrations greater than the NAAQS are located within Collin County. Table 1 lists the predicted concentrations at the current monitor locations and proposed monitor location near the intersection of 1st Street and Ash Street.

Table 1. Modeling Results for Lead

Monitor ID	Averaging Time	GLC ($\mu g/m^3$)	Standard ($\mu g/m^3$)
480850009	rolling three-month	0.837	0.15
480850003	rolling three-month	0.477	0.15
480850007	rolling three-month	0.292	0.15
Proposed	rolling three-month	0.311	0.15

3.0 Land Use and Terrain. A land use/land cover analysis was performed using AERSURFACE consistent with guidance given in the AERMOD Implementation Guide (March 19, 2009). The recommended input data, the National Land Cover Data 1992 archives (NLCD92), were used for this analysis.

Terrain elevations within the modeling domain were determined using AERMAP (Version 09040). The input data used for this analysis were United States Geological Survey (USGS) digital elevation models (DEMs) for Little Elm, Frisco, Lewisville East, and Hebron data sets.

4.0 Modeling Emissions Inventory. The modeled emission source parameters and emission rates were provided by Exide Technologies. The source locations were validated by ADMT using aerial photography. The source emission rates modeled were consistent with the maximum allowable emission rates authorized through permits 3048A and 1147A. Several source emissions rates were revised through a permit alteration submitted October 2010. The revised emission rates are highlighted in Table 4. The emission source coordinates are in the UTM Zone 14 North, North American Datum of 1927 (NAD27) coordinate system.

Table 2. On-Property Point Source Parameter Information

ID	Easting (meters)	Northing (meters)	Stack Height (meters)	Stack Temp. (K)	Stack Exit Velocity (meters/sec)	Stack I.D. Diameter (meters)
11	702713.06	3668796.5	16.764	369.26	12.0396	0.3048
12	702713.25	3668793.75	16.764	369.26	8.5039	0.3048
13	702713.25	3668791.5	15.8496	391.48	13.1674	0.3048
14	702721	3668792.75	16.764	327.59	27.9624	0.5334

Table 2. On-Property Point Source Parameter Information

ID	Easting (meters)	Northing (meters)	Stack Height (meters)	Stack Temp (K)	Stack Exit Velocity (meters/sec)	Stack Diameter (meters)
15	702725.31	3668807.5	16.764	349.82	14.1732	0.381
16	702717.88	3668803	17.3736	369.26	13.4722	0.253
17	702728.88	3668779.5	16.764	355.37	14.0208	0.381
18	702628.13	3668767.75	30.6324	303.71	5.1206	1.6154
21	702626.88	3668739.25	31.242	304.82	16.5811	1.521
22	702685.69	3668804.25	22.86	0	15.1486	0.8108
23	702637.38	3668764.5	6.096	0	1.8288	0.3048
24	702721.88	3668782.5	16.4592	369.26	11.491	0.381
25	702721.75	3668777.75	16.4592	358.15	9.4488	0.381
26	702736.31	3668782.75	9.144	355.37	11.5824	0.1524
37	702682.56	3668810	22.86	298.15	19.6901	1.6764
38	702620.19	3668771.75	33.8328	315.37	16.7945	1.3716
39	702544.5	3668727.75	10.668	0	0.0009	1.524
45	702623.06	3668713.75	32.1564	0	14.0238	1.8044
48	702585	3668771	11.2776	0	1.6764	0.1707

Table 3. Area Source Parameter Information

ID	Easting (meters)	Northing (meters)	Release Height (meters)	Easterly Length (meters)	Northerly Length (meters)	Degrees from north (°)
10	702642.65	3668770.8	4.572	28.956	24.384	-2
27	702733.81	3668767.5	4.572	0.9144	0.9144	0
28	702756.31	3668782	4.572	0.9144	0.9144	0
35	702654.26	3668740.35	4.572	22.86	30.48	-2
36	702645.75	3668754.8	4.572	32.004	15.24	-2
41	702518.28	3668768.73	0.3048	94.488	21.336	40
42	702625.1	3668693.38	0.3048	80.772	44.196	-2

Table 3 Area Source Parameter Information

ID	Easting (meters)	Northing (meters)	Release Height (meters)	Easterly Length (meters)	Northerly Length (meters)	Degrees from north (°)
43	702702.77	3668745.25	0.3048	62.484	39.624	-2
44	702590.79	3668760.22	3.9929	24.384	41.148	-2
52	702631.81	3668765.63	4.572	21.336	16.764	-2
53	702615.56	3668762.28	1.8288	16.764	19.812	-2

Table 4 On-Property Source Allowable Emission Rates

Scenario ID	Pollutant	Averaging Time	Emission Rates (lb/hr)
10	Lead	1-hr	0.08
11	Lead	1-hr	0.05
12	Lead	1-hr	0.03
13	Lead	1-hr	0.05
14	Lead	1-hr	0.03
15	Lead	1-hr	0.05
16	Lead	1-hr	0.02
17	Lead	1-hr	0.05
18	Lead	1-hr	0.07
21	Lead	1-hr	0.25
22	Lead	1-hr	0.02
23	Lead	1-hr	0.03
24	Lead	1-hr	0.006
25	Lead	1-hr	0.004
26	Lead	1-hr	0.001
27	Lead	1-hr	0.001
28	Lead	1-hr	0.001
35	Lead	1-hr	0.08

Table 4. On-Property Source Allowable Emission Rates

Scenario ID	Pollutant	Averaging Time	Emission Rates (lb/hr)
36	Lead	1-hr	0.01
37	Lead	1-hr	0.09
38	Lead	1-hr	0.2
39	Lead	1-hr	0.12
41	Lead	1-hr	0.0388
42	Lead	1-hr	0.0388
43	Lead	1-hr	0.0388
44	Lead	1-hr	0.03
45	Lead	1-hr	0.25
48	Lead	1-hr	0.06
52	Lead	1-hr	0.01
53	Lead	1-hr	0.13

5.0 Building Wake Effects (Downwash). Input data to Building Profile Input Program Prime (BPIP-PRM Version 04274) were provided by Exide Technologies. The building locations were validated by ADMT using aerial photography.

6.0 Meteorological Data.
Surface Station and ID: Dallas/Fort Worth, TX (Station #: 03927)
Upper Air Station and ID: Stephenville, TX (Station #: 13091)
Meteorological Dataset: 1985, 1987, 1988, 1989, 1990
Profile Base Elevation: 551 feet

The AERSURFACE analysis conducted of the area surrounding the Exide Technologies site resulted in a calculated roughness length of 0.129 meters. Since the AERSURFACE analysis used land cover data from 1992 and since the area near the site has become more developed and urbanized since 1992 based on comparing the land cover data to 2008 aerial photography, a representative roughness length for the area would be approximately 0.5 meters. For this reason, the meteorological data set used for this analysis was developed using a roughness length of 0.5 meters.

7.0 Receptor Grid. The receptor grid used in the modeling analysis consisted of receptors with 50 meter spacing and extended approximately 1.5 kilometers (km) from the Exide Technologies site property line in all directions. An additional grid consisted of receptors with 100 m spacing

and extended 3.5 km beyond the first receptor grid in all directions. Discrete receptors were used for the locations of the three existing monitoring stations and the location of a proposed monitoring station near the intersection of 1st Street and Ash Street. The purpose of the receptor grid was to determine a representative maximum ground-level concentration and the extent of ground-level concentrations at or above half of the lead NAAQS standard.

8.0 Model Used and Modeling Techniques. AERMOD (Version 09292) was used in a refined screening mode. A new version of AERMOD was released on October 23, 2009. This version was used in the modeling analysis because it is the latest approved EPA model version. For refined screening, National Weather Service (NWS) meteorological raw input data are used with generalized surface characteristics of the application site. Since the current version of AERMOD is not capable of calculating rolling three-month average concentrations, the EPA post processor LeadPost was used. The input values to LeadPost are monthly average values at each receptor in the POSTFILE output format from AERMOD.

For this analysis, only emission sources at the Exide Technologies site were considered. The nearest source of lead emissions outside the modeling domain is approximately 20 km from the Exide Technologies site with reported 2007 lead annual emissions approximately one percent of the annual lead emissions reported by Exide Technologies. The largest nearby source of lead emissions is approximately 50 km from the Exide Technologies site with annual reported emissions approximately ten percent of the annual emissions reported by Exide Technologies. Due to the great distance to the Exide Technologies site and the small reported emission, no other sources of lead emissions would have a significant contribution near the Exide Technologies site or the modeling domain used for this analysis.

D. Webb

Bryan W. Shaw, Ph.D., *Chairman*
Buddy Garcia, *Commissioner*
Carlos Rubinstein, *Commissioner*
Mark R. Vickery, P.G., *Executive Director*

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

October 6, 2010

MR JAMES A MESSER
MANAGER ENVIRONMENTAL AND QUALITY CONTROL
EXIDE TECHNOLOGIES
PO BOX 250
FRISCO TX 75034-0005

Re: Permit Alteration
Permit Number: 1147A
Exide Frisco Battery Recycling Plant
Frisco, Collin County
Regulated Entity Number: RN100218643
Customer Reference Number: CN600129787
Account Number: CP-0029-G

Dear Mr. Messer:

This is in response to your letter received October 5, 2010, requesting alteration of the maximum allowable emission rates table (MAERT) of the above-referenced permit. We understand the allowable lead emission rates for Emission Point Nos. (EPNs) 18, 22, 37, 38, 45, 10. 35, 41, 42, 43, and 53 have been reduced.

As indicated in Title 30 Texas Administrative Code § 116.116(c) [30 TAC § 116.116(c)], and based on our review, Permit Number 1147A is altered. Enclosed is the altered MAERT to replace the one currently attached to your permit. Please attach it to your permit.

No planned maintenance, startup, and shutdown emissions have been reviewed or represented in this application and none are authorized by this permit.

As of July 1, 2008, all analytical data generated by a mobile or stationary laboratory in support of compliance with air permits must be obtained from a NELAC (National Environmental Laboratory Accreditation Conference) accredited laboratory under the Texas Laboratory Accreditation Program or meet one of several exemptions. Specific information concerning which laboratories must be accredited and which are exempt may be found in 30 TAC § 25.4 and § 25.6.

Re: Permit Number 1147A

For additional information regarding the laboratory accreditation program and a list of accredited laboratories and their fields of accreditation, please see the following Web site:

http://www.tceq.state.tx.us/compliance/compliance_support/qa/env_lab_accreditation.html

For questions regarding the accreditation program, you may contact the Texas Laboratory Accreditation Program at (512) 239-3754 or by e-mail at labprgms@tceq.state.tx.us.

Your cooperation in this matter is appreciated. If you need further information or have any questions, please contact Mr. Dois Webb, P.E., at (512) 239-1575 or write to the Texas Commission on Environmental Quality, Office of Permitting and Registration, Air Permits Division, MC-163, P.O. Box 13087, Austin, Texas 78711-3087.

This action is taken under authority delegated by the Executive Director of the Texas Commission on Environmental Quality.

Sincerely,

Stephanie L. Howell

for Steve Hagle, P.E., Director
Air Permits Division
Office of Permitting and Registration
Texas Commission on Environmental Quality

SH/DW/aw

Enclosure

cc: Air Section Manager, Region 4 - Fort Worth

Project Number: 160560

SPECIAL CONDITIONS

Permit Number 1147A

EMISSION STANDARDS

1. This permit covers only those sources of emissions listed in the attached table entitled "Emission Sources - Maximum Allowable Emission Rates," and these sources are restricted to the emission limits and other conditions specified in that attached table.

FEDERAL APPLICABILITY

2. This facility shall comply with all requirements of Environmental Protection Agency Regulations on Standards of Performance for New Stationary Sources promulgated for Secondary Lead Smelters in 40 CFR 60, Subpart L and National Emission Standards for Hazardous Air Pollutants for Secondary Lead Smelters in 40 CFR Part 63, Subpart X.

   Emissions from this facility shall not cause or contribute to an exceedance of the National Ambient Air Quality Standard for lead at any of the following air monitoring sites:

   Monitor Nos. 480850009, 480850003, and 480850006 operated by Texas Natural Resource Conservation Commission (TCEQ). **(6/06)**

FUEL SPECIFICATIONS

3. Natural gas used in the smelting/refining process shall be pipeline-quality, sweet natural gas which is currently defined by industry practices as containing no more than 0.25 grain of hydrogen sulfide (H_2S) and 5 grains of total sulfur per 100 dry standard cubic feet (dscf). To the extent the industry definition changes, the Texas Commission on Environmental Quality (TCEQ) Executive Director shall modify this permit to make it consistent with such definition provided, however, that in no event shall the definition ever provide limits in excess of 1.5 grains of H_2S and 30 grains of total sulphur per 100 dscf.

   Fuel used in the blast furnace processes shall be high temperature coke with a maximum (by weight) ash content of 12 percent and a maximum (by weight) sulfur content of 1.3 percent. Materials that appear in 40 CFR 266, Appendix XI, may be used in the reverberatory or blast furnace consistent with the requirements of 40 CFR 266.100(c)(3). Plastic curtains shall not be added to the reverberatory or blast furnace feed stock.

OPACITY/VISIBLE EMISSION LIMITATIONS

4. No visible emissions that result from the permitted activities shall leave the plant property boundary. If this condition is violated, further controls shall be installed and/or implemented as required to limit visible emissions.
5. Except for those periods described in 30 TAC 101.201 and 202, the stack sources listed on the table entitled "Emission Sources - Maximum Allowable Emission Rates" shall not exceed 5 percent opacity averaged over a six-minute period when adjusted for uncombined water vapor. **(6/06)**

6. Opacity of fugitive emissions from material handling activities (defined for purposes of this permit as the storage, loading and unloading, transportation, lead pouring, or conveyance of any material, fuel, intermediate product, finished product, by-product or waste product) such as moving materials (either mechanically or with a front-end loader) shall be minimized using partial covers, watering, and/or good work practice operating procedures. In addition, material handling activities shall not cause any visible emissions to leave the plant property boundary.

OPERATIONAL LIMITATIONS, WORK PRACTICES, AND PLANT DESIGN

7. Fabric filter baghouses or cartridge filter dust collectors, properly installed and in good working order, shall control particulate matter (PM) process fugitives emissions from the blast and reverberatory furnaces, and particulate matter emissions from the slag treatment building and the material storage building. The foregoing particulate emissions will be exhausted at Emission Point Nos. (EPNs) 18, 22, 37, 39, and 45. Particulate emissions from EPNs 18, 22, 39, and 45 shall not exceed 0.01 grains/dscf. Particulate emissions from EPNs 21 and 37 shall not exceed 0.015 grains/dscf.

8. The Wet Scrubbers associated with EPNs 38 and 46 shall be properly installed and maintained in good working order. The PM emissions from EPNs 38 and 46 shall not exceed 0.015 grains/dscf.

9. Reverberatory furnace and blast furnace operations shall be limited to the following:

    a. The lead scrap feed rate to the reverberatory furnace shall not exceed 20 tons per hour.

    b. The lead scrap feed rate to the blast furnace shall not exceed 12 tons per hour.

    c. The combined feed rate to the Reverberatory furnace and blast furnace shall not exceed a combined feed rate maximum total of 228,000 tons per year of feed comprised of recovered battery lead, acceptable lead bearing scrap as

defined by the Resource Conservation and Recovery Act Part B Permit No. HW-50206 and Title 40 Code of Federal Regulations Part 266 (40 CFR Part 266) including Appendix XI, limestone, iron/steel scrap, coke and coke fines, sand, small amounts of reductant material, and furnace adjustment material.

d. The combined finished lead production from both the Reverberatory furnace and blast furnace shall not exceed 400 tons per day and 72,000 tons per year. **(6/06)**

10. The supplemental baghouse shall capture and control the blast furnace's fugitive emissions (including, but not limited to, the upper charging area) during normal operations and as long as this control system's baghouse is operational during furnace upset conditions. The system shall be installed and operated such that:

    A. There shall be no visible emissions from the building that houses the blast furnace. Visible emissions shall be determined by a standard of no visible emissions exceeding 30 seconds in duration in any six-minute period as determined using EPA Test Method (TM) 22 or equivalent. **(6/06)**

    B. The hooding for each fugitive emission source shall maintain a negative airflow around the source (i.e., airflow, as indicated by anemometer or smoke indicator shall be inward toward the system's hooding such that all air around the source is pulled into the system hoods).

    C. This system shall effectively capture not less than 80 percent of the blast furnace fugitive emissions as determined by Special Condition No. 10A. The captured blast furnace emissions shall ultimately be exhausted from EPN 37. **(6/06)**

11. The blast furnace chamber shall operate at a negative pressure and the exhaust gases shall be vented to a direct-fired (natural gas) afterburner equipped with a fully modulating 10 MMBTU/hour burner to oxidize volatile organic compounds and designed for a residence time of 1.0 second. The average minimum operating temperature of the afterburner chamber shall be 1500°F averaged over a three hour period as measured near the midpoint of the afterburner chamber. The exit gases from the afterburner shall be cooled in a series of heat exchangers to a temperature consistent with the bag manufacturer's recommendations at the intake of the blast furnace baghouse. The blast furnace baghouse shall be vented to a wet spray scrubber that is common control for both the blast furnace and the reverberatory furnace with Stack EPN 38. **(6/06)**

12. A system shall be installed for the reverberatory furnace to capture and control the

furnace's fugitive emissions (including, but not limited to, the slag and metal tap areas and the charging area) during normal operations and as long as this control system's baghouse is operational during furnace upset conditions. The system shall be installed and operated such that:

A. There shall be no visible emissions from the building that houses the reverberatory furnace.

B. The hooding for each fugitive emission point shall maintain a negative airflow around the emissions point (i.e., airflow, as indicated by anemometer, smoke bomb, or smoke generator, shall be inward toward the system's hooding such that all air around the emissions point is pulled into the system hoods).

13. The reverberatory furnace shall operate with sufficient negative draft to remove smoke and fumes but still allow retention of as much heat as possible over the hearth and the smoke. The reverberatory furnace and blast furnace fumes shall be vented to their respective baghouses and through a wet scrubber that exhausts at EPN 38. Hoods that control fugitive emissions shall be not less than 80 percent effective in capturing reverberatory fugitive emissions, as determined by no visible emissions from the building that houses the Reverberatory furnace. Visible emissions shall be determined by a standard of no visible emissions exceeding 30 seconds in duration in any six-minute period as determined using EPA Test Method (TM) 22 or equivalent The hoods shall be vented to either (1) the fugitive baghouse which also controls the fugitives from the blast furnace and exhausts to Stack EPN 37 or (2) the soft lead baghouse. **(6/06)**

14. The motors of the blowers and fans used in the capture and control systems specified for the blast and reverberatory furnaces (Special Condition Nos. 10 and 12 above) shall include a control system to automatically restart the motors following power interruptions of less than five seconds.

15. The hard lead, soft lead, and specialty alloy refining kettles and portable drossing pots shall be fitted with hoods that shall maintain a negative airflow into the system hoods. There shall be no visible emissions from the building that houses the refining kettles, and these controls shall be operated at all times these units are in operation.

16. The raw material storage building shall be equipped with doors on the east and west sides of the building which will be kept normally closed except when necessary. This building shall be kept under negative pressure at all times and vented to a dust collector. During feed shredder downtime, pallets and

associated material may be broken or otherwise appropriately sized and fed to the blast furnace. **(6/06)**

17. The battery breaker concrete pad shall be sloped downward toward the bins in order to minimize material runoff onto plant roads. The battery breaker operation emissions shall be controlled by a wet scrubber.

18. All wet scrubbers listed in this permit shall be maintained and operated as recommended by the manufacturer but the maintenance and operation requirements shall not be less than as follows:

    A. The scrubbing solution for removal of sulfur dioxide (SO_2) in the metallurgical scrubber shall be maintained at or above a minimum pH set-point of 5.7 to be continuously monitored and adjusted as necessary.

    B. The spray nozzles and general condition of the scrubber shall be visually inspected a minimum of once per quarter for the metallurgical scrubber and feed drier scrubber and once per week for the battery breaker scrubber, and any malfunction shall be corrected during this maintenance check. Spray nozzles not functioning with a full spray shall be replaced and not less than 85 percent of the spray nozzles shall be functioning with a full spray at all times.

    C. There shall be a scheduled system for sludge removal consistent with the operational requirements of the scrubber.

19. Material transfer routes between battery breaking bins, raw material storage bins, reverberatory furnace charge bins, blast furnace charge bins, charge hoppers, charge bucket, and slag fixation building plus all acid sludge and slag transfer routes shall be paved with concrete smooth enough to assure effective vacuum sweeping and shall be swept a minimum of once daily. (See attached map marked Figure 1 and dated May 12, 2006) **(6/06)**

20. This condition applies to storage and transport of lead containing furnace raw material, such as battery plate and paste material, of lead powder, flue dust, lead oxide powder, collected bag filter dust, and other similar materials. This condition does not apply to storage and transport of whole, unbroken batteries or to clean lead ingots, sheets, or tubes or to other similar non-powdery materials.

    A. Outside storage of this material is limited to the following:

        (1) Damp battery breaking material in the battery breaking bins and blast furnace charge bins.

(2) Reverberatory/Blast slag in the blast furnace slag bins and/or raw material storage building, except during final cooling of reverb/blast slag pots. **(6/06)**

(3) Covered or enclosed transport containers or vehicles.

(4) Sealed barrels, sealed drums, or other sealed containers except during inspection and transport.

B. There shall be no liquid leaks or material spills from any vehicles, barrels, drums, or any container listed in 20A (3) and (4) above, outside the plant containment area. Any spills shall be cleaned up as soon as possible.

C. There shall be no emissions from any railcar loading or unloading of any materials at this facility.

D. The transport of this material into the plant in over-the-road vehicles shall be as follows:

(1) All such vehicles shall transport only sealed or covered containers; or

(2) The cargo compartments of said vehicles shall be covered or enclosed.

E. Broken battery material and scrap lead materials for the blast furnace charge shall be handled as follows:

(1) There shall be no visible outdoor fugitive emissions of this material above the roofline of the blast furnace storage bins and the refining building during storage, transport, or furnace charging.

(2) Material for the reverberatory furnace shall be stored in the raw materials storage building.

(3) Material stored in the battery breaker bins or blast furnace bins or transported to and from these bins shall be kept damp at all times. Material in the blast furnace bins shall be dampened to minimize fugitive emissions.

(4) If, due to extended non-working periods, there is insufficient material in the battery breaker bins for the blast furnace charge, then damp material may be taken from the raw material storage building. This material shall be dampened with sufficient water to prevent visible fugitive emissions

during transfer and charging.

F. Any spill of this material shall be cleaned up immediately. There shall be no visible emissions during the cleanup process.

21. The wheels of each over-the-road vehicle leaving the material storage areas shall be washed to remove residues.

22. All in-plant roads and in-plant vehicle routes (including the material transfer routes) as shown by the attached map marked Figure 1 and dated May 12, 2006 shall be swept a minimum of once a day using wet sweepers, vacuum sweepers, or by dampening the area prior to sweeping. No dry sweeping shall be allowed. Further, these roads and routes shall be scraped and washed as necessary to permit effective sweeping and prevent buildup of lead containing material. There shall be no visible emissions leaving the plant boundary from these roads or routes. Visible emissions shall be determined by a standard of no visible emissions exceeding 30 seconds in duration in any six-minute period as determined using EPA Test Method (TM) 22 or equivalent **(6/06)**

23. The floors in the areas of the blast and reverberatory furnaces shall be cleaned as necessary to prevent buildup of lead containing material. There shall be no visible emissions from the refining building during this process.

24. Collection, storage, and transport of collected material from bag filters and flues shall be accomplished using an enclosed or covered system.

25. No emission source shall be operated unless all associated emission control systems are in operation and in good working order.

26. General use roads, as described on the attached map marked Figure 1 and dated May 12, 2006, shall be paved and cleaned as necessary to control the emission of dust to the minimum level possible under existing conditions. All other roads and traffic areas, as described on the map, shall be oiled or sprinkled with water and/or chemicals, as necessary, to control the emission of dust to the minimum level possible under existing conditions. **(6/06)**

27. Any particulate and flue dust collected from baghouses or ductwork shall be collected and transferred in enclosed or covered conveyors or covered containers to the reverberatory or blast furnace. The method of disposal of material collected by air pollution abatement equipment which is not returned to the process shall be approved by the Executive Director of TCEQ, if necessary.

28. The holder of this permit shall demonstrate that all hooding, duct, and collection systems are effective in minimizing fugitive emissions to as low a level as practicable with respect to the sources which they are controlling.

CONTINUOUS DEMONSTRATION OF COMPLIANCE

29. The TCEQ Executive Director may require at a later date that additional property line monitors are required for lead and/or SO_2. The TCEQ Executive Director may also at any time require stack testing, analyses, and other testing by an independent laboratory at the company's expense. If testing is required, the TCEQ Forth Worth Regional Office shall be notified a minimum of 45 days in advance of any tests and a pre-test meeting shall be held with the TCEQ to establish test parameters and dates. All required test data, reports, etc., shall be forwarded within 45 days of stack test and/or other tests to the TCEQ Fort Worth Regional Office with copy maintained on-site which must be made available upon request to any agent or representative of the TCEQ or local air control program having jurisdiction.

RECORDKEEPING

30. The company shall maintain on-site the following records for a rolling 24-month period:
    A. The number of batteries received daily and summed monthly and annually.

    B. The type and daily quantity (tons) of scrap and/or lead contaminated material received for recycling of the lead. This daily tonnage shall be summed monthly and annually.

    C. The type and daily quantity (tons) of all raw materials feed to the feeder dryer, reverberatory furnace, and blast furnace. This daily tonnage shall be summed monthly and annually.

    D. The separate and designated daily melt lead production from each furnace. This daily tonnage shall be summed monthly and annually.

    E. The total quantity of finished soft and hard lead produced from the refining kettles shall be recorded and summed monthly and annually.

    F. The daily quantity molten lead recycled back into the reverberatory or blast furnaces for reprocessing shall be summed monthly and annually. If the recycled molten throughput exceeds 20,000 tons per year, the TCEQ Fort Worth Regional Office shall be notified.

    G. The hourly record of the blast furnace afterburner operating temperature.

H. Any scheduled or unscheduled maintenance on any abatement equipment including (but not limited to) baghouses, scrubbers, pumps, piping, duct, hoods, sweeper, and water sprinkler vehicle system.

These and other records shall be made immediately available upon request of a TCEQ representative or any local air control program having jurisdiction.

Dated June 8, 2006

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

Permit Number 1147A

This table lists the maximum allowable emission rates and all sources of air contaminants on the applicant's property covered by this permit. The emission rates shown are those derived from information submitted as part of the application for permit and are the maximum rates allowed for these facilities. Any proposed increase in emission rates may require an application for a modification of the facilities covered by this permit.

AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates * lb/hr	TPY
18	Hard Lead Ventilation (5) Baghouse Stack	PM	0.98	3.38
		PM_{10}	0.98	3.38
		Pb	0.07	0.29
		NO_x	11.28	0.60
		SO_2	0.04	0.17
		CO	8.26	4.26
		VOC	1.65	4.85
		Trace Compounds	0.01	0.01
21	Soft Lead Refining (5) and Feed Dryer Baghouse Stack	PM	1.58	5.99
		PM_{10}	1.58	5.99
		SO_2	5.33	12.49
		NO_x	11.92	9.33
		CO	26.44	64.14
		Pb	0.25	0.73
		VOC	15.39	48.23
		HCl	0.18	0.74
		H_2SO_4	0.27	1.17
		Trace Compounds	0.01	0.01
22	Specialty Alloy (5) Baghouse Stack	PM	1.28	4.51
		PM_{10}	1.28	4.51
		Pb	0.02	0.08
		NO_x	11.03	0.58
		SO_2	0.42	1.00
		CO	8.08	5.00
		VOC	1.62	4.75
		Trace Metals	0.04	0.10
23	Refining Building Vacuum Stack	PM	0.21	0.56
		PM_{10}	0.21	0.56
		Pb	0.03	0.11

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates * lb/hr	TPY
37	Reverberatory/Blast (5) Furnaces Fugitives Baghouse Stack	PM	8.21	30.49
		PM_{10}	8.21	30.49
		Pb	0.09	0.39
		NO_x	0.48	2.08
		SO_2	21.68	68.31
		CO	8.75	28.32
		VOC	15.16	45.81
		HCl	0.21	0.92
		H_2SO_4	2.82	12.34
		SiO_2	0.02	0.03
		Trace Metals	0.01	0.04
38	Reverberatory/Blast (5) Furnaces Metallurgical Scrubber Stack	PM	4.63	19.12
		PM_{10}	4.63	19.12
		Pb	0.20	0.89
		NO_x	14.60	59.53
		SO_2	445.59	1199.51
		CO	298.58	1190.35
		VOC	7.61	33.32
		Cd	0.02	0.05
		SiO_2	0.09	0.41
		HCl	0.74	3.23
		H_2SO_4	4.96	21.74
		Trace Metals	0.04	0.10
45	Raw Material Storage/Shredder Baghouse Stack	PM	2.85	10.57
		PM_{10}	2.85	10.57
		Pb	0.25	1.10
48	Battery Breaker Scrubber Stack	PM	2.45	4.68
		PM_{10}	2.45	4.68
		Pb	0.06	0.13
		H_2SO_4	0.06	0.14
48FUG	Battery Breaker Scrubber	H_2SO_4	0.05	0.22

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates * lb/hr	TPY
51	Sodium Bicarbonate Filter Vent	PM	0.17	0.75
		PM_{10}	0.17	0.75
54	Soft Lead Kettle Heating Stack	PM	0.07	0.32
		PM_{10}	0.07	0.32
		VOC	0.03	0.14
		NO_x	0.60	2.63
		CO	0.50	2.21
		SO_2	<0.01	0.02
55	Hard Lead Kettle Heating Stack	PM	0.07	0.32
		PM_{10}	0.07	0.32
		VOC	0.03	0.14
		NO_x	0.60	2.63
		CO	0.50	2.21
		SO_2	<0.01	0.02
44	Raw Material Storage (4)	PM	1.43	5.72
		PM_{10}	0.72	2.86
		Pb	0.03	0.11
10 and 35	Furnace Fugitives (4)	PM	1.83	8.00
		PM_{10}	1.83	8.00
		Pb	0.08	0.37
		Cd	0.01	0.04
		Trace Metals	<0.01	<0.04
36	Refining/Casting (4)	PM	0.03	0.10
		PM_{10}	0.03	0.10
		Pb	<0.01	<0.04
		Trace Metals	<0.01	<0.01
52	Slag Handling (4)	PM	0.07	0.31
		PM_{10}	0.07	0.31
		Pb	0.01	0.05
		Trace Metals	<0.01	<0.01

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates * lb/hr	TPY
41, 42, and 43	Vehicle Traffic (4)	PM	--	0.63
		PM_{10}	--	0.31
		Pb	--	0.17
53	Material Handling (4)	PM	4.51	1.38
		PM_{10}	0.45	0.14
		Pb	0.13	0.05
39	Slag Fixation Baghouse Stack	PM	1.71	3.12
		PM_{10}	1.71	3.12
		Pb	0.12	0.11
		Al	0.05	0.10
49	Reagent Silo No.1 Baghouse Stack	PM	0.36	0.38
		PM_{10}	0.36	0.38
50	Reagent Silo No. 2 Baghouse Stack	PM	0.36	0.38
		PM_{10}	0.36	0.38

(1) Emission point identification - either specific equipment designation or emission point number from plot plan.
(2) Specific point source name. For fugitive sources use area name or fugitive source name.
(3) PM - particulate matter, suspended in the atmosphere, including PM_{10}
PM_{10} - particulate matter equal to or less than 10 microns in diameter. Where PM is not listed, it shall be assumed that no PM greater than 10 microns is emitted.
Pb - lead and lead compounds as lead
NO_x - total oxides of nitrogen
SO_2 - sulfur dioxide
CO - carbon monoxide
VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
HCl - hydrochloric acid mist/fumes
H_2SO_4 - sulfuric acid mist/fumes
SiO_2 - silica
Cd - cadmium and cadmium compounds as cadmium
Al - aluminum

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

(4) Fugitive emissions are an estimate only.
(5) Trace compounds and metals are addressed in the permit file.

* Emission rates are based on and the facilities are limited by the following maximum operating schedule and maximum production rates:

24 Hrs/day 7 Days/week 52 Weeks/year or 8,760 Hrs/year

Dated: October 6, 2010