

TCEQ DOCKET NO. 2004-0049-AIR

APPLICATION OF ASARCO INCORPORATED TO RENEW AIR QUALITY PERMIT NO. 20345	§ § §	BEFORE THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
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**EXECUTIVE DIRECTOR'S REPORT TO THE COMMISSION ON RENEWAL
OF ASARCO INCORPORATED'S AIR QUALITY PERMIT NO. 20345**

The Executive Director (ED) submits this report to the Commission regarding renewal of Asarco Incorporated's (ASARCO) Air Quality Permit No. 20345 pursuant to the Commission's Interim Order dated March 10, 2006 (Interim Order).

Introduction

On May 11, 1992, after a contested case hearing, ASARCO received from the Texas Air Control Board Air Quality Permit No. 20345 for the construction and operation of a continuous top-feed oxygen process primary copper smelter (Copper Smelter) to be located at its existing smelter plant in El Paso, El Paso County (the El Paso Plant). In support of its application, ASARCO performed air dispersion modeling, best available control technology (BACT) review, and health effects review. The new Copper Smelter replaced a grandfathered reverberatory smelter resulting in significant reductions of emissions.¹

ASARCO ceased operations of the Copper Smelter in February 1999 and is currently in a condition of extended inoperation.²

Pursuant to state law, ASARCO applied to renew Permit No. 20345 to authorize the continued operation of its Copper Smelter. The renewal application was received by the TCEQ³ on March 28, 2002, and was declared administratively complete on April 23, 2002. The Notice of Receipt and Intent to Obtain an Air Quality Permit (NORI) was authorized for publication on the same date. ASARCO published NORI on May 15, 2002, in the *El Paso Times*. ASARCO was also required to publish the NORI in an alternative language newspaper publication. ASARCO published the alternative language NORI on May 15, 2002, in *El Diario*. The fifteen day comment period designated in the notice ended May 30, 2002. Timely contested case hearing requests were received in response to the NORI. The Commission considered the timely hearing requests on April 28, 2004.

¹ The following allowable emission reductions, in tons per year (TPY), resulted: Sulfur Dioxide (SO₂) – 43,752.60 TPY; Volatile Organic Compounds (VOC) – 1.06 TPY; Sulfuric Acid (H₂SO₄) – 26.60 TPY; Nitrogen Oxides (NO_x) – 549.00 TPY; Particulate Matter (PM) – 150.10 TPY; Particulate Matter having aerodynamic diameter of 10 microns or less (PM₁₀) – 132.80 TPY; Lead (Pb) – 6.50 TPY; Carbon Monoxide (CO) – 10.00 TPY; Fluorides – 245.40 TPY.

² During the February 8, 2006, Commission open meeting, ASARCO agreed to not restart operation before issuance by the Commission of its final report and any related schedule. Interim Order, March 10, 2006.

³ When referring to the TCEQ, the ED is referring to the TCEQ and/or its predecessor agencies.

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On May 14, 2004, the Commission issued an interim order exercising its plenary authority to hold a hearing in the public interest. The Commission referred two issues to the State Office of Administrative Hearings (SOAH):

- Whether the operation of the El Paso Primary Copper Smelter under the terms of the proposed permit will cause or contribute to a condition of air pollution, and
- Whether the Applicant's compliance history for the last five years of operation of the El Paso Primary Copper Smelter warrant the renewal of Air Quality Permit No. 20345.

SOAH conducted the hearing on the merits July 11-22, 2005. The Administrative Law Judges issued their proposal for decision (PFD) on October 27, 2005 recommending denial of the permit renewal.

On February 8, 2006, the Commission considered the PFD. The Commission determined ASARCO failed to demonstrate the effectiveness of its existing emission control equipment and practices as provided in Texas Health and Safety Code (THSC) § 382.055.⁴ The Commission explained that in order to make the required determinations under THSC §§ 382.055(d)(2) and (e), current modeling as well as an investigation was needed.⁵ Also, the Commission stated an examination of the equipment and facilities on-site was necessary to determine if a renewal application was appropriate, or if instead, a permit amendment application was required.⁶ Thus, the Commission determined a remand of ASARCO's renewal application to the ED by interim order was required under subsections (d)(2) and (e) of § 382.055 as well as subsections (f) and (g) of that section, which require issuance of a report on and schedule for additional requirements prior to a Commission decision denying a permit renewal application.⁷

Actions Taken to Comply with the Interim Order

Accordingly, both the ED and ASARCO were required to perform certain assessments to supplement the analysis of ASARCO's renewal application. The Commission directed ASARCO to submit additional information regarding all emissions from and related to its Copper Smelter and their impacts on surrounding areas, including current modeling results.⁸ The ED was directed to conduct a vigorous investigation of all air quality control equipment, including related practices, and based on this investigation and results of all information submitted by ASARCO, prepare a report and any related schedule pursuant to THSC § 382.055.⁹ Additionally, the ED was directed to assess the appropriateness of a permit amendment

⁴ Commission Interim Order, March 10, 2006, Attachment A.

⁵ Commission Interim Order, March 10, 2006.

⁶ Commission Interim Order, March 10, 2006.

⁷ Commission Interim Order, March 10, 2006.

⁸ Commission Interim Order, March 10, 2006.

⁹ Commission Interim Order, March 10, 2006.

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application rather than a renewal application for equipment that has not been previously authorized or that requires repair or replacement.¹⁰

Following the Commission's Interim Order, the ED took steps to ensure all tasks were performed in a timely manner. Certain tasks were identified as beyond the ED's staff expertise or beyond the resources of the TCEQ. For some tasks, an independent third party was deemed necessary. The ED exercised his statutory authority to require additional investigations from ASARCO to accomplish these tasks.¹¹ By letter dated May 5, 2006, the ED informed ASARCO independent third parties would be needed to complete the following tasks:

- A qualified modeler to audit all modeling performed by ASARCO in accordance with the modeling protocol prescribed by the ED staff;
- A process engineer to assess the condition and effectiveness of all air quality control equipment and related practices located at the Copper Smelter; and
- A process engineer to review all air quality control equipment and determine whether the Copper Smelter would operate in accordance with industry standards and practices.

ASARCO was given the option of either reimbursing the TCEQ for expenditures on such contracts, or directly contracting with third party contractors who would receive joint direction from the ED and ASARCO.¹² If ASARCO decided to directly procure contractor services, the ED required ASARCO to obtain ED approval of the contractor as well as the contract itself.¹³ The ED also provided ASARCO with a modeling protocol.¹⁴

ASARCO chose to directly procure these contractor services. Two contractors were retained: one to perform the third party modeling audit, and the other, a process engineer, to inspect the Copper Smelter.¹⁵ ED's staff was involved with developing the contracts, approving specific contractors, and providing contractor direction and oversight. All communications with the contractor were done jointly by ASARCO and ED's staff.

On November 10, 2006, the ED submitted an Interim Report and Request for Extension.¹⁶ The ED requested the deadline to submit his report be extended to May 1, 2007. The Commission did not rule upon the ED's request for extension.

¹⁰ Commission Interim Order, March 10, 2006.

¹¹ Letter of August 10, 2006, from Glenn Shankle to Lairy Johnson, Attachment B.

¹² Letter of May 5, 2006, from Glenn Shankle to Lairy Johnson, Attachment C.

¹³ Letter of May 5, 2006 from Glenn Shankle to Lairy Johnson.

¹⁴ The protocol was attached to the May 5, 2006, letter from Glenn Shankle to Lairy Johnson, Attachment D.

¹⁵ Professional Service Agreements – EHP Consulting, Inc. and Arnold R. Shackangast, Attachment E

¹⁶ Interim Report and Request for Extension, Attachment F.

Public Participation Requirements

The Interim Order provided for public input on the ED's Report and any related Schedule as well as ASARCO's modeling analyses and the summary of the modeling results.¹⁷ The Interim Order requires copies of these documents to be filed in the El Paso Regional Office and in the Austin Office of the Chief Clerk, as well as mailed to all parties on the mailing list for the PFD.¹⁸ The Interim Order also provided for a seven week public comment period.¹⁹ The Interim Order gives the ED six weeks to write a response to all timely received comments.²⁰ A copy of the response to comments will be filed in the Office of the Chief Clerk and mailed to all parties.²¹ Contained in the table below are the timeframes for these actions set forth in the Interim Order as interpreted by the ED. Any requests for clarification concerning these timeframes should be submitted to the Office of General Counsel.

Action	Due Date
Filing of ED's Report	May 1, 2007
End of Comment Period	June 18, 2007
ED's Response to Comments	July 27, 2007

Any party wishing to provide comments on ASARCO's modeling and related summary of results and the ED's recommended report and any related schedule must file their comments in the Austin Office of the Chief Clerk by June 18, 2007, and mail them to all other parties.²² All relevant mailing addresses can be found in the attached mailing list.

The ED's recommended report and any related schedule and the comments shall be scheduled for Commission consideration during a public meeting.²³

Applicable Law

Renewal of an air quality permit is governed by THSC § 382.055 and agency rules at Title 30, Chapter 116, Subchapter D. Pursuant to THSC § 382.055(d), the Commission shall consider, at a minimum, the applicant's compliance history, and the condition and effectiveness of existing emission control equipment and practices.

¹⁷ Commission Interim Order, March 10, 2006.

¹⁸ Commission Interim Order, March 10, 2006.

¹⁹ Commission Interim Order, March 10, 2006.

²⁰ Commission Interim Order, March 10, 2006.

²¹ Commission Interim Order, March 10, 2006.

²² Commission Interim Order, March 10, 2006.

²³ Commission Interim Order, March 10, 2006.

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If the Commission determines the facility will not meet the requirements for renewing the permit, the Commission shall: (1) set out in a report to the applicant the basis for the Commission's determination; and (2) establish a schedule, to which the applicant must adhere in meeting the Commission's requirements, that: (A) includes a final date for meeting the Commission's requirements; and (B) requires completion of that action as expeditiously as possible.²⁴ If the applicant meets the Commission's requirements in accordance with the schedule, the Commission shall renew the permit.²⁵ If the applicant does not meet those requirements in accordance with the schedule, the applicant must show in a contested case proceeding why the permit should not expire immediately.²⁶

The Commission shall impose as a condition for renewal only those additional requirements it determines to be economically reasonable and technically practicable considering the age of the facility and the effect of its emissions on the surrounding area.²⁷ The Commission may not impose requirements more stringent than those of the existing permit unless the Commission determines that the requirements are necessary to avoid a condition of air pollution or to ensure compliance with otherwise applicable federal or state air quality control requirements.²⁸

The ED's Review – Phase I

In preparation of this report, ED staff reviewed information submitted by ASARCO, and assessed the appropriateness of a permit amendment rather than a renewal permit. The ED conducted a site investigation, an analysis of past permitting actions, an audit of current modeling submitted by ASARCO, and a toxicological health-effects review based on the submitted modeling. The result of these activities is discussed below.

Site Investigation

ED staff completed investigation-related items under the Interim Order for which they had resources and expertise. A special investigative team composed of El Paso Regional Staff, an Air Permits Division (APD) permit engineer, and a TCEQ modeler conducted a thorough plant site investigation on April 11, 2006. ASARCO personnel were present during the investigation for the purpose of responding to questions and providing specific information regarding plant operation and equipment. This investigation allowed the ED to make a general assessment of control equipment and related practices.

²⁴ THSC § 382.055(f); See 30 TAC § 116.314(b).

²⁵ THSC § 382.055(g); 30 TAC 116.314(b)(1)(B).

²⁶ THSC § 382.055(g), 30 TAC 116.314(c). This type of hearing is generally referred to as a show cause hearing.

²⁷ THSC § 382.055(e), 30 TAC § 116.311(b)(2).

²⁸ THSC § 382.055(e).

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The investigation team surveyed the raw material receiving area of the plant and proceeded through the entire plant, observing the equipment and its general condition. During the investigation, equipment was compared with the permit as a means to determine if equipment had been removed or added, as well as whether equipment had been repaired or replaced in order to assess whether an amendment application was appropriate.

General maintenance and basic housekeeping throughout the plant appears to have been adequate to prevent significant soiling and/or deterioration of equipment; however, there are areas of the plant where cleaning, repair, and/or replacement of parts (electrical, electronic, switches, meters, hoses, air lines, etc.) will be needed to operate. In addition, there are some areas of dust accumulation, missing or frayed wiring, minor corrosion and/or oxidation of metal panels, and missing or dislodged covers on duct insulation.

Based upon observations from the conducted investigation, all major process and abatement equipment and components, including associated operational controls and infrastructure required by the air quality permit, were present, intact, and in generally satisfactory condition. These observations are based on an external review of process equipment and pollution control equipment. The report of this investigation, referred to as the Phase I Regional Investigation Report, can be found at Attachment G.

Analysis of Past Permitting Actions

Past permitting actions were reviewed and an analysis of those actions is provided below. Since initial issuance of Permit No. 20345, there have been 15 permitting actions, which include alterations, amendments, and Notification of Changes to a Qualified Facility per the criteria of Senate Bill 1126 (SB 1126).²⁹

The following is the criteria for each type of permit change:

A. Permit Alteration: A change in a permit that results in a decrease in allowable emissions or a change in representations in an application's general condition or special condition that does not cause a change in the method of control of emissions, a change in the character of emissions, or an increase in the emission rate of any air contaminant.³⁰

Permit alteration requests are often received in the form of a letter from an applicant. Given the alteration results in a decrease in allowable emissions, or a change in representations in the general conditions or special conditions that does not cause a change in the method of control of emissions, a change in the character of emissions, or an increase in the emission rate of any air contaminant, there are no requirements for public participation.

²⁹ 74th Regular Session, 1995, codified at THSC § 382.003(9)(E).

³⁰ 30 TAC § 116.116(c).

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B. Permit Amendment: A change in permit representations that will result in a change in the method of control of emissions, a change in the character of emissions, or an increase in the emission rate of any air contaminant.³¹

Air quality permit amendment applications are reviewed in the same manner as applications for a new air quality permit. Therefore, an amendment application is subject to public participation requirements that may result in a public meeting, a response to comments, and a contested hearing. However, if an applicant does not request new emissions or an increase of emissions above significance values, then public participation may not be required.

C. Change to a Qualified Facility:³²

TCEQ rules define "qualified facility" as an existing facility that meets the following criteria: a physical change in, or change in the method of operation of, a facility that does not result in a net increase in allowable emissions of any air contaminant and that does not result in the emission of any air contaminant not previously emitted, provided that the facility:

- (i) has received a preconstruction permit or permit amendment or has been exempted under the TCAA, §382.057³³, from preconstruction permit requirements no earlier than 120 months before the change will occur; or
- (ii) uses, regardless of whether the facility has received a preconstruction permit or permit amendment or has been exempted under the TCAA, §382.057, an air pollution control method that is at least as effective as the BACT that the Commission required or would have required for a facility of the same class or type as a condition of issuing a permit or permit amendment 120 months before the change will occur.³⁴

³¹ 30 TAC § 116.116(b).

³² 30 TAC § 116.116(e).

³³ THSC § 382.057 provides, "(a) Consistent with Section 382.0511, the commission by rule may exempt from the requirements of Section 382.0518 changes within any facility if it is found on investigation that such changes will not make a significant contribution of air contaminants to the atmosphere. The commission by rule shall exempt from the requirements of Section 382.0518 or issue a standard permit for the installation of emission control equipment that constitutes a modification or a new facility, subject to such conditions restricting the applicability of such exemption or standard permit that the commission deems necessary to accomplish the intent of this chapter. The commission may not exempt any modification of an existing facility defined as "major" under any applicable preconstruction permitting requirements of the federal Clean Air Act or regulations adopted under that Act. Nothing in this subsection shall be construed to limit the commission's general power to control the state's air quality under Section 382.011(a).

(b) The commission shall adopt rules specifically defining the terms and conditions for an exemption under this section in a nonattainment area as defined by Title I of the federal Clean Air Act (42 U.S.C. Section 7401 et seq.)."

³⁴ 30 TAC § 116.10(11)(E).

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This definition tracks the language added to the Texas Clean Air Act by SB 1126. SB 1126 exempted from the definition of "modification of existing facility" an action that meets the same criteria.³⁵ "Modification of existing facility" is defined as "any physical change in, or change in the method of operation of, a facility in a manner that increases the amount of any air contaminant emitted by the facility into the atmosphere or that results in the emission of any air contaminant not previously emitted."³⁶ Therefore, Changes to a Qualified Facility are exempt from the public participation requirements associated with a modification. When enacting SB 1126, the legislature did not intend for these facility changes to be a modification and are not subject to permitting requirements, including public participation.³⁷

ASARCO meets the definition of a "qualified facility" because it uses BACT the Commission required or would have required for a facility of the same class or type as a condition of issuing a permit or permit amendment 120 months before the change will occur.

The following is an analysis of permit actions regarding Permit No. 20345 following its issuance on May 11, 1992 pursuant to agency procedures and applicable statutory and regulatory requirements at the time of the action.

1. Following construction of the project authorized by the issuance of Permit No. 20345, ASARCO submitted a permit alteration request on April 7, 1994. The primary purpose of the alteration was to update permit application representations to reflect "as built" criteria. Specifically, the alteration identified that 1) two additional baghouses were added to the dry concentrate storage bins; 2) an additional hot gas fan was added; and 3) the wastewater treatment plant spray dryer baghouse and boiler locations were changed. Additionally, ASARCO advised that the cadmium plant would be retired and shutdown.

Since the changes would not result in an increase in emissions, the emission of any new pollutant, or any change in the method of control of pollutants, the change in representation met the criteria of an alteration. By letter dated September 23, 1994, ASARCO's alteration was accepted.

2. By letter dated May 27, 1994, ASARCO submitted a permit alteration request. This alteration proposed use of a baghouse to control delumper emissions rather than enclosure, hence permit conditions regarding the delumper were modified. Specifically, permit special condition 2F was added, and the words "the delumper baghouse" were added to special condition No. 6.

The addition of the delumper baghouse did not result in any change in the character of emissions, any increase in emissions, or a change in method of control. Rather, the addition of the baghouse would result in reduced emissions, therefore the alteration was accepted on November 11, 1994.

³⁵ See THSC § 382.003(9)(E).

³⁶ THSC § 382.003(9)(E).

³⁷ 21 TexReg 1579.

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3. Permit amendment applications were received from ASARCO on September 13, 1994, and June 30, 1995.

The September 1994 request concerned increasing the allowable emissions for sulfur dioxide (SO₂). SO₂ emission rates in the original permit were based on the best information available at the time; however after construction of the ConTop facility, required stack testing reflected SO₂ emissions to be greater than expected.

The amendment application received on June 30, 1995, requested the annual hours of operation for the fluid bed concentrate dryer, the two sulfuric plants, and the wastewater treatment plant be increased.

The changes requested in the two amendments resulted in an increase in sulfur dioxide allowable emissions of approximately 3,600 tons per year; however given the much larger decrease in sulfur dioxide emissions resulting from the 1992 permit, Prevention of Significant Deterioration (PSD) review was not triggered. Additionally, air dispersion modeling was conducted to show the increase in sulfur dioxide emissions would not cause or contribute to a condition of air pollution and would comply with both state standards and the National Ambient Air Quality Standards (NAAQS) for SO₂.

The increase in hours of operation for the fluid bed concentrate dryer, the two sulfuric plants, and the wastewater treatment plant resulted in small increases in annual emissions from emission point numbers (EPNs) C5³⁸ and AP/S,³⁹ but hourly emission rates did not change.

In conjunction with this permit amendment, appropriate changes were made to permit special conditions, including deletion of conditions that were no longer valid.

Although amendments may require public notice, the applicant requested in writing public notice be waived. Based on a review of file documents related to the request, the basis for the request was that the increased SO₂ emission rate would have been authorized when the permit was originally issued had the increased values been known at that time, a hearing had been conducted in conjunction with the original permit issuance and no new issues had been raised, and approval of the increase would not result in non-compliance of the SO₂ NAAQS. The original 1992 permit resulted in a reduction of approximately 43,600 TPY of SO₂. The requested 3,600 TPY increase in SO₂ would result in a net decrease approximately of 40,000 TPY of SO₂ emissions associated with the ConTop Permit approval. Given the foregoing, public notice was waived by the Executive Director. Both of the foregoing amendments were approved by agency letter dated December 12, 1995, in accordance with agency procedure at the time.

³⁸ The direct-fired boiler at the water treatment plant.

³⁹ The Acid Plant Stack.

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4. A permit amendment application received on April 7, 1994, requested permit representations for a number of heavy metal emission rates be revised. Stack sampling for PM and its heavy metal composition required by the 1992 permit reflected the PM EPNs CU/STK/AN⁴⁰ and S-1⁴¹ were approximately one-half of the allowable rate and the composition of the particulate matter was different than the original representation. Since the increases in emissions of each of the heavy metals (i.e. arsenic, chromium, copper, lead, nickel, and zinc) were less than 0.01 pounds per hour, previous air dispersion modeling predictions were still valid. Also, there was no change in the character of the emissions and the emission increases were not significant, thus public notice was not required. Additionally, the change in representation of the heavy metal composition and emission rates did not require an update of either the permit special conditions or the Maximum Allowable Emission Rates Table (MAERT). The amendment was approved by agency letter dated November 4, 1994, in accordance with agency procedure at the time.

5. A permit amendment application requesting replacement of the No. 2 Acid Plant preheater was received on May 3, 1995. The previous preheater was authorized to use fuel oil for up to 504 hours per year; however the new preheater was limited to the use of natural gas. This amendment authorized the following emission changes:

PM/PM ₁₀	+1.35 TPY	CO	+9.26 TPY	NO _x	+21.42 TPY
SO ₂	- 0.64 TPY	VOC	+0.68 TPY		

In conjunction with the replacement of the preheater, permit special conditions as appropriate were changed and/or deleted (i.e. reference to the cadmium plant in Special Condition No. 8 was deleted given the cadmium plant was retired in 1994). Likewise EPNs CD/BH/CUP⁴² and C-2⁴³ were deleted from the MAERT, while EPN C-6 was added to the MAERT.

The replacement of the No. 2 Acid Plant preheater and associated special condition changes were authorized by TNRCC letter dated August 1, 1995, in accordance with agency procedure at the time. This amendment did not require PSD review or public notice, as the increases in emissions fell below significance values requiring these actions.

6. A permit amendment application requesting authorization to replace the No.1 Acid Plant preheater and make minor changes to the No. 2 Acid Plant emission calculations was received on May 10, 1996. The purpose for the No. 1 Plant preheater replacement was to install a larger preheater which would improve the conversion of SO₂ to sulfuric acid. Likewise, new emission factors derived from operating data necessitated revision of the No. 2 preheater emission calculations.

⁴⁰ The Copper Stack Annulus.

⁴¹ The Spray-dryer Baghouse Stack.

⁴² The Cadmium Plant Roaster Baghouse.

⁴³ The Acid Plant #2 Preheater, renamed EPN C-6 in this permitting action.

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Both preheaters use natural gas for fuel and the only emissions are products of combustion. Emission changes resulting from this amendment and emitted from EPNs C-1 and C-6 follow:

PM/PM ₁₀	+5.69 TPY	CO	+5.70 TPY	NO _x	+11.05 TPY
SO ₂	+0.09 TPY	VOC	+0.57 TPY		

This amendment did not require PSD review or public notice, as the emissions increases fell below the significance values requiring those actions. The amendment was approved by TNRCC letter dated June 13, 1996, in accordance with agency procedure at the time.

7. By letter dated July 12, 1996, ASARCO filed a Notification of Change to a Qualified Facility, and requested alteration of the permit conditions and MAERT to reflect the increased production rates and emissions. ASARCO claimed standard exemptions to increase the allowable emissions for selected equipment. Through operating experience and process optimization, ASARCO determined both copper anode and sulfuric acid production could be increased without any significant physical changes. Accordingly, allowable anode production was increased from 133,000 TPY to 152,000 TPY and sulfuric acid production increased from 322,000 TPY to 378,500 TPY.

The emission increases resulting from the claimed standard exemptions were: 5.2 TPY of NO_x, 1.3 TPY of CO, 0.70 TPY of PM, 0.12 TPY of SO₂, and 0.1 TPY of VOC.

The Notification of Change to a Qualified Facility authorization procedure was acknowledged by TNRCC letter dated August 14, 1996.

8. A permit alteration was issued October 31, 1996. The permit conditions and MAERT needed to be updated because of the previous SB 1126 action discussed in paragraph 7.

9. By letter dated September 4, 1996, ASARCO submitted a permit alteration request to reroute the exhaust from the pugmill baghouse from the older 308 foot stack to the newer 828 foot copper annulus stack and to update the permit conditions and MAERT to reflect the change. The purpose for the change in emission routing was the structural condition and age of the former stack.

This change did not result in any increase in emissions or any change in the character of emissions. The change only routed the emissions to a different location. Given the difference in height of the former and new stacks, impact of the emissions would decrease due to improved dispersion.

The requested alteration was approved by agency letter on October 28, 1996.

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10. A permit amendment application was received on December 20, 1996. The application requested authorization to conduct outside copper matte pouring and reclaiming for not more than 720 hours per year. ASARCO's copper converter capacity is less than the ConTop reactor capacity. Therefore, ASARCO proposed to take the excess copper matte from the reactors and deposit it into designated areas outside the process building. Then at a later time the solidified matte would be reclaimed and processed.

Although emissions from the described operation would be insignificant, a new source of fugitive emissions was created.⁴⁴ A BACT review reflected controls to be employed to the reclaiming operation would comply with BACT criteria.

This amendment did not require PSD review or public notice, as the increase in emissions fell below significance values requiring those actions. The amendment was approved by TNRCC letter dated April 21, 1997, in accordance with agency procedure at the time.

11. ASARCO submitted a Notification of Change to a Qualified Facility by letter dated January 23, 1997. The proposed change was for the substitution of scrap tires for metallurgical coke breeze in the holding furnace and copper converters. Review of the request reflected no net increase in emissions or any change in the character of emissions. Furthermore, there would be no physical change to the plant. The proposal was determined to meet SB 1126 criteria and agency concurrence was transmitted to the applicant by letter dated February 18, 1997.

This permit action did not require an update to either the permit conditions or the MAERT and therefore was processed as a Notification of Change to Qualified Facility.

12. ASARCO submitted a permit amendment application on November 5, 1998. The amendment proposed the update of the allowable emissions from EPNs CU/STK/AN and AP/S, an increase in the operating hour basis for calculating annual combustion emissions from EPN CU/STK/AN, a change to the limit on hours of ConTop smelting furnace holding fire operation, and to update permit conditions to enhance enforceability and clarity.

The basis for increasing the allowable emission rates for EPNs CU/STK/AN and AP/S was recent stack testing that showed actual emissions were greater than the values in the permit.

This change resulted in the following increases in allowable emissions:

CO	246.5 TPY	NOx	101.9 TPY	VOC	0.89 TPY	Pb	1.17 TPY
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The changes to the operating hours for specified equipment simplified plant operations.

⁴⁴ Emissions increases were as follows: 1.98 TPY of PM, 1.98 TPY of PM₁₀, 14.10 TPY of SO₂, and .35 TPY of Pb.

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Changes to permit special conditions Nos. 5 and 6 tracked federal requirements for similar situations. Condition 5 specified no visible emissions from a variety of sources. The change to Condition 5 removed the words "nor any openings in the converter building." Condition 6 specified a maximum opacity from a number of sources. The change to Condition 6 added the words "the converter building openings." Permit condition Nos. 15, 25, and 26 were also revised to make them conform with changes to 30 TAC §§ 101.6, 101.7, and 101.11.

Neither public notice nor PSD review were triggered by this amendment, because the increases in allowable and actual emissions were below the significance levels requiring these actions.

The permit amendment was approved on February 12, 1999, and updated permit conditions and MAERT were provided to the applicant, in accordance with agency procedure at the time.

13. ASARCO submitted a letter dated February 24, 1999, noting permit condition No. 33 was not updated during the recent amendment review and requested permit condition No. 33 be updated.

Permit condition No. 33 was inserted into the permit when it was first issued in 1992 and provides a record of emission reductions accomplished by the installation of the Con Top project. This record is useful for tracking emission changes and determining netting calculations when the permit is being amended. The condition did not represent any binding emission limitations.

The permit alteration that updated and corrected permit special condition No. 33 was approved on March 15, 1999.

14. By letter dated March 16, 1999, ASARCO referenced a meeting between ASARCO and agency representatives on January 25, 1999, regarding shutdown of the El Paso plant for three years and specified their plans to demonstrate the shutdown would be temporary and thus permits would remain valid. Their proposal included the continued submission of required permit fees and emission inventories, and maintaining the permits throughout the duration of the shutdown.

The agency responded to ASARCO's request by letter on April 19, 1999, noting if ASARCO accomplished the agreed upon steps, the shutdown would be considered temporary on an indefinite basis.

15. ASARCO submitted a permit alteration request by letter dated November 16, 2001, requesting alteration of permit special condition No. 17. This condition required daily watering of plant roads to control fugitive dust. Since the plant had been idled and the plant roads were not in constant use, the applicant requested the road watering requirement be modified.

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In response to the request, permit condition No. 17 was modified by the insertion of condition No. 17 F, which includes language to regulate watering during periods of temporary cessation of operations. Since the proposed change would not result in any increase in emissions, no change in character of emissions, or a change in method of control, an alteration was appropriate.

This permit alteration did not require any change to the MAERT, but revised permit conditions were developed. The alteration was accepted on January 3, 2002.

The foregoing discussion presents both the chronology and details of changes made to Permit No. 20345, and the discussion is derived from a review of the permit files. The review of the files and analysis of procedure employed reflects changes were reviewed and processed in accordance with agency procedure at the time of the various permitting actions. The investigation of the ASARCO facility in El Paso on April 11, 2006, and a review of permit files indicate permit file representations properly reflect the plant configuration. Specifically, the permit submitted for renewal is reflective of both of the changes discussed above and the current plant configuration.

Second, the SB 1126 and permit alteration addressed in paragraph 7 and 8 were processed as two separate actions, whereas now the actions would be processed concurrently as one action. This request however was received and processed during initial agency implementation of SB 1126. Although the foregoing actions would be processed as one today, the actions would not trigger an amendment.

As previously noted, the focus of the review of the permit was to determine if all permit changes were properly reviewed and if the permit submitted for renewal is reflective of the plant configuration. Requested changes to the permit and other actions since September 2002 need to be addressed as well. Specifically, ASARCO submitted a permit alteration on March 21, 2006, that would reduce allowable site lead emissions by 9.49 TPY and Permit No. 20345 allowable lead emissions by 5.1 TPY. Therefore, this is a pending action.

Additionally, ASARCO has represented, by Notification of Changes to a Qualified Facility received May 18, 2006, that East Helena matte and speiss, which are high in lead content, will no longer be processed, thus reducing potential lead emissions. Facilities are required to provide notice according to 30 TAC § 116.117(b). For facilities that have received a preconstruction permit, all changes for which the notification procedure of that subsection has been used shall be incorporated into the permit when the permit is amended or renewed.⁴⁵

Traditionally, alteration and updating of permit conditions would be accomplished in conjunction with a permit renewal. The permit conditions currently being considered have not been updated in the permit.

⁴⁵ 30 TAC § 116.117(c)

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In conclusion, the past permitting actions were processed in compliance with agency procedure at that time. Based on a review of past permitting actions, in conjunction with a detailed examination of the changes proposed to be effected through the permit renewal process, only a permit renewal, and not an amendment or other permitting action, is required at this time. However, this does not preclude future amendments or other permitting actions as necessary.

TCEQ Modeling Audit

Air dispersion modeling is a tool used to predict ambient air concentrations from emissions sources. Equations and algorithms representing atmospheric processes are incorporated into various computer models. Predicted concentrations are used by the applicant in the air quality analysis to demonstrate the authorized emissions from the site would not cause or contribute to a condition of air pollution.⁴⁶ The TCEQ Air Dispersion Modeling Team (ADMT) judges whether the modeling performed sufficiently estimates reasonable worst case concentrations of pollutants from the facilities being authorized. The review process involves three main parts:

1. review of the modeling methodology and whether it was followed;
2. review of the model inputs for consistency with the modeling report and the permit application; and
3. determination of whether the source characterizations are representative and/or appropriate.

The purpose of this air quality analysis is for ASARCO to quantify the potential contribution to existing air quality concentrations in Texas, New Mexico, and Mexico from its authorized emissions and to demonstrate that these concentrations would not cause or contribute to a condition of air pollution.

The air quality analysis was to be performed in accordance with a methodology outlined in the ASARCO Air Quality Analysis Protocol drafted by the ED. Therefore, this part of the review is limited to ensuring ASARCO sufficiently followed the ED's methodology. For this air quality analysis, ASARCO was asked to perform air dispersion modeling for all primary and secondary sources of air contaminants at the site for all averaging periods. Contaminants include PM₁₀, PM_{2.5}, SO₂, Pb, NO₂, CO, state regulated pollutants listed in Chapter 112 of 30 Texas Administrative Code, and pollutants with an Effects Screening Level (ESL). ASARCO was asked to obtain available ambient monitoring data in Texas, New Mexico, and Mexico, for contaminants ASARCO would be authorized to emit, from monitoring sites located within 50 kilometers (km) (about 31 miles) of the site. This data is intended for use as representative background concentrations of air quality. ASARCO was asked to provide results in maps and tables for each modeled contaminant and for each applicable averaging period. This includes the

⁴⁶ Provided predicted concentrations meet the NAAQS, meet the property line standards, and pass a health effects review, authorized emissions would not be expected to cause or contribute to a condition of air pollution.

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overall maximum predicted concentration anywhere off-property and predicted maximum concentrations at the location of each identified school and ambient air monitor located within 50 km of the site.

The ADMT determines whether model inputs used by ASARCO are consistent with the representations made in the modeling report and permit application. The applicant was expected to represent all input data, e.g., source identifiers, elevations, locations, and exit parameters; building and structure locations, elevations, and heights; meteorological data for the proper period; and proper elevations of receptors where concentrations are calculated. The ADMT checks all representations against what was actually modeled. Since the site exists, and data is available, the ADMT checks the data for accuracy, such as whether the location of a source sufficiently represented the source location on a map.

The ADMT judges whether the source characterizations are representatively accurate or, if not, are represented in a conservative manner such that predicted concentrations should overestimate actual ambient air concentrations. For example, a vent or stack is easy to represent as a point source. However, for other sources, particularly sources that are not emitted from a vent or stack, the representation can vary.

These three parts of the review are the validation process of the modeling inputs. If there are technical deficiencies in the source characterizations or representations, the ADMT analyzes whether these deficiencies would change the modeling results to the point that they would not be technically equivalent had the modeling been more representative.

ASARCO submitted its air quality analysis to the TCEQ on September 11, 2006, and provided additional information on November 22, 2006.⁴⁷ Emissions from the site were modeled using an air dispersion modeling methodology developed by the ED to provide a reasonable worst case representation of the potential contribution to existing air quality concentrations in Texas, New Mexico, and Mexico. In addition, impacts from other non-project and off-site sources have been evaluated through the use of ambient monitoring data. The AERMOD (Version 04300) model used for this evaluation was developed, peer reviewed, tested, and validated by the United States Environmental Protection Agency (EPA).

The modeling performed in support of the permit application followed the ASARCO Air Quality Modeling Analysis Protocol with the exceptions noted in the TCEQ Modeling Audit. The exceptions consisted of not providing data in a preferred format and not reporting all available ambient air monitoring data. The exceptions to the modeling protocol would not affect the overall outcome of the modeling since the data was either included in the modeling files submitted by the applicant and were reported by the ADMT, or were related to ambient monitoring data not provided by the applicant but reported by the ADMT. The ADMT also

⁴⁷ ASARCO's Modeling Executive Summary can be found at Attachment H.

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added predicted concentrations of pollutants with ESLs to available ambient monitoring data to compare with ESLs. The totals were used in the toxicology review discussed below. In addition, the modeling predicted that emissions would comply with NAAQS and state standards.

The TCEQ Modeling Audit memo can be found at Attachment I.⁴⁸

Toxicology Review

The TCEQ Toxicology Section (TS) conducted a health effects review of emissions from ASARCO's Primary Copper Smelter Plant in El Paso. Ambient air modeling predicted concentrations at locations, including all ambient monitoring sites and schools, within 50 km of the plant. The facility is located in an industrial area. Industrial areas as well as non-industrial areas surround the Copper Smelter.⁴⁹ The maximum off-property ground level concentrations (GLCs_{max}) are predicted to occur at or near the ASARCO's property line. Modeling results were compared to their respective Effects Screening Levels (ESLs).

To facilitate their review, TS utilizes the Effects Evaluation Procedure, which is a guidance document describing the three-tiered approach of how ESLs are applied in the review of air permit applications.⁵⁰ The data used in an effects evaluation include the predicted maximum off-property GLCs of constituents resulting from the proposed emissions, and guideline concentrations called ESLs, which are used for the determination of whether any adverse health or welfare effects would be expected. Health-based ESLs are guideline comparison levels set below levels at which adverse health effects have been reported in scientific literature. An ESL is a conservative guideline concentration that is meant to serve as a screening tool. As such, the ESL has multiple built-in safety factors. Because of the safety factors, the conservative guideline concentration is considered to be protective of the general population, which includes the very young, the elderly, and people with pre-existing health conditions. If an air concentration is less than its ESL, adverse health effects are not expected to occur. If an air concentration is greater than its ESL, it does not necessarily indicate that adverse effects will occur, but rather that further evaluation is warranted. TS evaluated the predicted concentrations for their potential to

⁴⁸ The modeling files submitted by ASARCO may be found at: <ftp://ftp.tceq.state.tx.us/pub/OPRR/APD/ASARCO/>. The files created by ADMT during processing of the ASARCO data are also available at that site.

⁴⁹ An "industrial receptor" is defined as "a receptor relating to the manufacturing of products or handling of raw materials or finished products without any associated retail product sales on property." A "nonindustrial receptor" is "a receptor type such as residential, recreational, commercial, business, agricultural, or a school, hospital, day-care center, or church. Other types include rights-of-way, waterways, or the like. In addition, receptors in unzoned or undeveloped areas are treated as nonindustrial. Nonindustrial receptors may also be referred to as sensitive." See Modeling and Effects Review Applicability: How to Determine the Scope of Modeling and Effects Review of Air Permits (RG-324, October 2001). Available at:

<http://www.tceq.state.tx.us/assets/public/permitting/air/Guidance/NewSourceReview/mera.pdf>.

⁵⁰ See Appendix C of Modeling and Effects Review Applicability: How to Determine the Scope of Modeling and Effects Review of Air Permits (RG-324, October 2001).

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cause adverse health effects and determined the predicted impacts are not expected to cause adverse health effects among the general public.

Modeling results indicate that, except for arsenic, copper dust, manganese oxide, and silver, the predicted short-term (1-hour average) and long-term (annual average) maximum ground level concentrations for all other 21 speciated particulate matter constituents are below their ESLs.

The predicted short-term GLC_{max} for arsenic, manganese oxide, and silver are 1.7, 1.7 and 1.3 times their ESLs, respectively. The predicted short-term impacts are below their respective ESLs at all non-industrial receptors, including all monitoring sites and schools in Mexico, New Mexico and El Paso. The predicted long-term GLC_{max} are below their ESLs. The predicted impacts meet Tier II Criteria of the Effects Evaluation Procedure.⁵¹ Therefore, the proposed concentrations for arsenic, manganese oxide, and silver are acceptable.

The predicted short-term GLC_{max} for copper dust is 2.2 times its ESL. The predicted frequency of any ESL exceedance is 13 hours per year. All receptors where modeling impacts exceed its ESL are located immediately adjacent to the property line within the railroad right-of-way east of the plant. The predicted short-term impacts are below its ESL at all non-industrial receptors including all monitoring sites and schools in Mexico, New Mexico and El Paso. The predicted long-term GLC_{max} is below its ESL. Considering the magnitude and frequency of ESL exceedance, the predicted short-term impacts are below its ESL at all non-industrial receptors, and the long-term ESL is not exceeded at any receptors, the predicted impacts for copper dust are allowable.

TS concluded "we do not expect adverse health effects to occur among the general public, as a result of exposure to the proposed emissions from this facility." The TCEQ toxicology memo can be found at Attachment J.

Third-Party Review - Phase II

Due to the extended suspension of operations and lack of agency expertise and resources to assess equipment that has not been operating, ED staff was not able to assess the condition and effectiveness of all existing plant control equipment and practices and whether the plant will operate in accordance with industry standards and practices. As discussed above, the ED determined an independent third party was necessary to complete certain tasks. The findings of the process engineer and the modeler are discussed below.

⁵¹ In order to meet the Tier II Criteria of the Effects Evaluation Procedure, constituents whose $GLCs$ exceed either a health-based or odor-based ESL must meet the following conditions:

1. The GLC_{max} occurs on industrial use property and does not exceed the ESL by more than twice; and
2. The Ground-level concentration at the maximally affected, off-property nonindustrial receptor equals or does not exceed the ESL.

If both conditions are met, the GLC is acceptable.

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Process Engineer Report

As explained above, the ED determined a process engineer was necessary to assess the condition and effectiveness of all air quality control equipment and related practices at the Copper Smelter. This process engineer would also review all air quality control equipment and determine whether the Copper Smelter would operate in accordance with industry standards and practices.

Consistent with the Professional Services Agreement, ED staff and ASARCO jointly communicated with the independent process engineer consultant (Process Engineer). On January 3 and 4, 2007, ED staff and ASARCO accompanied the Process Engineer on a plant tour and inspection.

The Process Engineer reported the major air quality control equipment at the ASARCO El Paso Smelter was inspected to the extent possible during the site visit, and that start-up plans to include training documents and Standard Operating Procedures were reviewed. The Process Engineer's report concluded:

1. Except as noted below, minor repairs and refurbishments will suffice to prepare the equipment for a smelter startup and operation in accordance with industry standards and practices. These repairs and refurbishments are typical of what is expected following a long shutdown. During the refurbishment period, detailed inspection of equipment is recommended to supplement the observations made during the January 2007 site visit.
2. 1998 emission data from the acid plants and main baghouses (concentrate dryer baghouse and converter aisle building ventilation baghouse) confirm the equipment is capable of performing to the level required by the permit.
3. The ASARCO startup plan addresses all of the major issues that are associated with a smelter startup. The current startup plan is a high level summary; updates should include a more detailed description of the following subject matter:
 - a. Inspection protocol of equipment for corrosion damage, particularly to corrosion damage that is not evident from an external inspection.
 - b. Employee training program: It is expected a significant percentage of new employees should be trained by hands-on training at an operating smelter. The ASARCO Hayden Smelter in Arizona can be used to train employees with the skills required to operate air quality control equipment such

as baghouses, scrubbers, acid plants, and electrostatic precipitators. Hands-on training with hot metal processing is also recommended.

4. Corrosion damage to the drying and absorption towers in Acid Plant #1 must be addressed prior to start-up and operation. In lieu of repairs, ASARCO may elect to replace the towers based on cost considerations.

5. The instrumentation control system ("ICS") in smelter areas associated with the ConTop modernization project are controlled by Foxboro DCS (Distributed Control System). While the vintage of the DCS may warrant an upgrade, ASARCO has stated that Foxboro still supports the technology and accordingly, it is suitable for smelter startup.

6. Some of the ICS at the acid plant are 1970s vintage analog and have not been updated to digital. The acid plant ICS (and the acid plants as a whole) were functioning effectively prior to the smelter shutdown; acid plant tail gas was consistently below 300 parts per million SO₂ for the November 1998 data period that was reviewed.⁵² While the ICS proved effective prior to the shutdown, in the Process Engineer's opinion, the ICS is not up to "industry standards and practices." Modern ICS technology does more than control valve positions and tank levels. They operate as integrated data collection systems that facilitate the collection of data in a digital format that is conducive to data analysis. The Process Engineer credits the low emissions from ASARCO's acid plants in the 1990s not to their instrumentation and controls, but to what must have been a dedicated and experienced work force that understood the nuances of valve positions and temperature setpoints on acid plant operation. ASARCO may well be able to rehire the dedicated employees; however if new employees are hired, they could be more easily trained if the acid plant was equipped with a digital ICS.

ED staff reviewed the Process Engineer's report and did not identify any contradictions or inconsistencies compared to the findings documented in the Phase I Report.

The Process Engineer identified a number of issues that should be addressed prior to operation of the facility. Some of the baghouses show signs of corrosion, and bags need to be inspected and replaced as necessary. The Acid Plants show signs of corrosion as well, and Acid Plant #1 requires extensive repairs or replacement. The Cottrell Electrostatic Precipitators (ESPs) are old and pre-date the ConTop process and the downstream acid plants. The ESPs should be inspected for damage and repairs should be made as necessary. The Process Engineer also makes recommendations regarding the hiring and training of personnel. Finally, the Process Engineer

⁵² The permit limits for this gas stream are 960 ppm for a 1-hour average and 500 ppm for a 6-hour average.

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recommends ASARCO consider upgrading the instrumentation and control systems at the facility.

The Process Engineer's report can be found at Attachment K.

Independent Modeling Report

As explained above, the ED determined a qualified independent modeler was necessary to audit modeling performed by ASARCO in accordance with modeling protocol prescribed by the ED staff. The independent modeler (the modeling auditor) performed an audit of an air quality analysis performed by ASARCO. This is the same analysis ASARCO provided the ED, which was audited by the ADMT. Consistent with the Professional Services Agreement, the Modeling Auditor performed an independent audit of the modeling submitted to the TCEQ by ASARCO.

The Modeling Auditor states, "Results from the review indicate the applicant conducted the air quality analysis in accordance with the May 5, 2006 TCEQ modeling protocol." The Modeling Auditor determined the modeled results show compliance for all constituents evaluated.

However, the Modeling Auditor offered comments on portions of the analysis and states further consideration by the TCEQ may be warranted. These portions include the potential for terrain-induced downwash from the Acid Plant Stack (EPN AP/S) and the representativeness of the meteorological data used in the analysis. The Modeling Auditor notes further analysis may be necessary, at the TCEQ's discretion, to determine the significance of these issues.

The ADMT has reviewed the independent modeling audit report and agrees with the conclusion of the Modeling Auditor that the applicant conducted the air quality analysis in accordance with the Air Quality Analysis Protocol, and the conclusions presented in the analysis are deemed acceptable.

The ADMT responses to the comments the Modeling Auditor provided in the executive summary of the audit report are provided below.

- 1) The Modeling Auditor comments on the potential for terrain-induced downwash and the Good Engineering Practice (GEP) stack height of the Acid Plant Stack (AP/S).

The issue of the AP/S height being less than the GEP stack height as defined in 40 CFR § 51.100, is not a relevant issue to this demonstration and is not related to whether downwash structures should or should not be considered in the air quality analysis. The stack height provisions in 40 CFR § 51.118 (the GEP rule) are meant to place a creditable limit on stack heights so emissions limits can be set when stack heights are excessively tall. The GEP rule defines what is excessive so any height above the GEP height is not creditable when establishing emission limits. Since the purpose of this analysis is to demonstrate the potential impact of air emissions from the

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ASARCO site on the surrounding area, and not to establish emission limits, using the actual stack height is appropriate and a GEP determination is not relevant.

Whether a source is influenced by a downwash structure is determined within the model execution. GEP provides structural design information and stack height limitations and is not a consideration for model data input. The downwash algorithms in the program (AERMOD) were intended for building downwash and not for use with terrain features. Since most the maximum predicted pollutant concentrations are within 100 meters of the site property line, it would not be appropriate to consider a structure, like a terrain feature, that would dominate and downwash nearly all sources on the site. Further, AERMOD is a refined model capable of considering terrain effects.

2) The Modeling Auditor questions the representativeness of the meteorological data used in the modeling analysis given the adjustment of these data to ten meters.

The adjustment to the data to ten meters would not affect the representativeness of the data. AERMOD computes vertical profiles using data provided by AERMET and predefined similarity profile relationships.

The Modeling Auditor also noted other nearby monitors that collect meteorological data should have been considered in the modeling analysis. Given the terrain surrounding the site, the ADMT considers the meteorological data collected on-site and used in the modeling analysis to be the most representative meteorological data available.

General comments from the ADMT are provided on the independent modeling audit:

- Section 2.0 – The audit report notes reporting the highest seventh high concentration for $PM_{2.5}$ and the highest second high for PM_{10} is appropriate.

Since modeling was conducted using one year of meteorological data, the maximum concentrations were reported in the TCEQ modeling audit.

- Section 2.0 – The audit report notes five compounds exceeded their respective Effect Screening Levels (ESLs).

The 1-hr maximum concentration of copper fume was predicted to be $1 \mu g/m^3$ (1-hr $ESL = 1 \mu g/m^3$) and was not reported in the TCEQ modeling audit as exceeding the 1-hr ESL. The 1-hr maximum concentration for arsenic, manganese oxide, and silver exceed their ESL. However, the predicted annual concentration for all constituents is below their respective ESL. For a thorough discussion of the modeling results and the ESLs, please refer to the Toxicology Review above.

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- Section 2.0 – The audit report notes ASARCO misrepresented the SO₂ 1-hour standard as 0.5 ppm instead of 0.4 ppm.

The 0.4 ppm, 30-minute average SO₂ net ground level concentration rule does not apply to ASARCO at its El Paso Plant because they have an area control plan that allows them to go up to 0.5 ppm over two consecutive half-hour averages.

- Section 6.0 – The audit report notes aerial photography contained in the air quality analysis shows storage piles located near the northern end of the main property, but no emission sources were included in this area.

According to the representation made by the applicant in the air quality analysis, all primary and secondary sources have been included in the modeling analysis.

- Section 11.0 – The audit report notes since the 1-hr SO₂ predicted concentration exceeded 75 % of the standard (located in a “medium” grid spacing of 500 meters), TCEQ guidance suggests that additional modeling using a “tight” receptor grid (25 meter) around this receptor should have been conducted.

TCEQ guidance is to use the next lower grid spacing (“fine” grid of 100 meters in this case), and not the “tight” receptor grid spacing if there is a concern. Given that the maximum predicted concentration occurs on the back side of a mountain, the predicted concentration would be conservative.

The independent modeling audit can be found at Attachment L.

Conclusion and Recommendations of the Executive Director

The Commission has determined based on the evidentiary record from SOAH and particularly, the findings of the ALJ's with regard to predicted exceedences of the significance level for PM₁₀, PM_{2.5}, and NO₂, and of the SO₂ area control plan compliance standard, ASARCO has failed to demonstrate the effectiveness of its existing control equipment and practices as provided in TH&SC § 382.055(d)(2). ASARCO was directed to submit additional information regarding all emissions from and related to the El Paso Plant and their impacts on surrounding areas, including current modeling results. The ED was directed to conduct a vigorous investigation of all air quality control equipment at the El Paso Plant, including related practices, and based on that investigation and the results of the information submitted by ASARCO prepare a recommend report and any related schedule as required under TH&SC § 382.055.

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The ED conducted a vigorous investigation based on its level of resources and expertise, reviewed the modeling submitted by ASARCO and reviewed the Independent 3rd Party Reports. The ED's conclusions are set forth below:

Modeling

Modeling conducted by ASARCO for an air quality analysis, which was audited by the TCEQ ADMT and the Auditor, follows the protocol provided by the ED. The modeling was used to show the contribution of ASARCO's authorized emissions to existing air quality concentrations in Texas, New Mexico, and Mexico. The modeling demonstrated emissions would comply with applicable standards. A health effects review determined adverse health effects are not expected to occur as a result of exposure to the proposed emissions from the facility. Emissions from the Copper Smelter are not expected to cause or contribute to a condition of air pollution. Therefore, the ED does not recommend new controls or changes to current practices.

Investigation of Air Quality Control Equipment

All major process and abatement equipment and components, including associated operational controls and infrastructure required by the air quality permit, are present, intact, and in generally satisfactory condition. Due to the extended period of inoperation, certain repairs and refurbishments are required to prepare the smelter for startup and operation. ASARCO's startup plan addresses major issues associated with a smelter startup, and addresses restoration and maintenance issues noted in the investigations.

However, the ED has identified deficiencies, listed below, which must be addressed. Accordingly, the ED concludes that ASARCO will not meet the requirements for renewing its permit and does not recommend issuance. The basis of this recommendation is set out in this report, as supported by the Phase I and Phase II Investigations. Pursuant to THSC § 382.055(f) and (g), the ED has provided a recommended schedule for each requirement to which ASARCO must adhere, or in the absence of meeting these requirements, show in a contested case hearing why its permit should not expire immediately. If ASARCO meets the requirements set forth below, the ED recommends a permit duration of five years, rather than ten years.

Baghouses

The Process Engineer's report identified items needing attention at several baghouses. Based on these observations, ASARCO should inspect all baghouses. The inspection shall include identifying problems due to corrosion, bags that need to be replaced, and maintenance of bag cleaning systems (e.g., solenoids and shaking mechanisms).

ASARCO shall make the necessary repairs and replacements, and provide a report to the ED stating the general condition of each baghouse and actions taken no later than 90 days prior to startup.

Acid Plants

As noted in the Process Engineer's report, Acid Plant #1 appears to have extensive corrosion damage. ASARCO should determine whether to repair or replace Acid Plant #1, or rely solely on Acid Plant #2.

ASARCO shall conduct an inspection of Acid Plant #1 and Acid Plant #2 for corrosion. ASARCO shall report its action plan no later than 90 days prior to start up. The action plan shall include ASARCO's plan regarding Acid Plant #1 and #2, general condition of both plants, and necessary repairs or replacements for which plants will be kept in operation. If ASARCO chooses to rely solely on Acid Plant #2 the action plan shall include any necessary modifications and related schedule for Acid Plant #2 to handle the entire air stream.

Electrostatic Precipitators

As noted in the Process Engineer's report, the Cottrell Electrostatic Precipitators (ESPs) should be thoroughly inspected and repairs should be made as necessary. Missing wiring should be replaced or reconnected.

ASARCO shall conduct an investigation, make the necessary repairs and replacements, and provide the ED with a report of general condition of the ESPs and actions taken no later than 90 days prior to startup.

General Housekeeping

ASARCO should conduct a complete inspection of all vessels, equipment, and ducts to determine the full extent of corrosion damage. ASARCO shall provide a general description of corrosion damage and detail those items or equipment repaired or replaced.

A report of actions taken to ameliorate damage caused by corrosion shall be provided to the ED no later than 90 days prior to startup.

As noted in the Phase I report, any equipment removed for cleaning or mothballing purposes should be restored. Mothballed monitoring (CEMS and COMS) equipment should be restored, inspected, and calibrated to ensure the equipment is in proper working condition. The oxygen plant should also be restored.

Activities related to restoration of mothballed equipment shall be included in a report to be provided to the ED no later than 90 days prior to startup.

Also, as noted in the Phase I report, some areas of the facility are in need of general housekeeping. Cleaning, repair, or replacement of parts (electrical, electronic, switches, meters,

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hoses, air lines, etc.) will be needed to operate. There are some areas of dust accumulation, missing or frayed wiring, minor corrosion and/or oxidation of metal panels, and missing or dislodged covers on duct insulation.

ASARCO shall conduct an investigation, make the necessary repairs and replacements, and provide the ED with a report no later than 90 days prior to startup.

In any event, the requirements listed above related to baghouses, the acid plants, the ESPs, and general housekeeping, shall be met no later than 365 days after commission consideration and action on this report.

There are issues raised in the Phase I and Phase II investigations upon which the ED recommends no action be taken in the instant proceeding. Because the Process Engineer was charged with determining whether the Copper Smelter would operate within industry standards, his report raises concerns regarding the instrumentation and control systems. To this end, the Process Engineer suggests ASARCO consider updating these control systems. However, the Process Engineer acknowledges existing controls were used to operate the Copper Smelter within permitted levels. Also, the Commission historically has not considered instrumentation and control systems during the review of an air quality permit renewal application. The ED recommends no action regarding existing instrumentation and control systems.

The Process Engineer also makes recommendations regarding the hiring and training of personnel to operate and maintain the facility. The hiring and training of employees does not fall within the purview of the review of an air quality permit renewal application. Therefore, the ED recommends no action regarding hiring and training of personnel be required to retain the air quality permit.

Necessity of an Amendment Application

Based upon a review of past permitting actions and a site visit, the ED determined past actions by ASARCO do not necessitate an amendment application. However, to restart the Copper Smelter, ASARCO must perform numerous maintenance activities. An amendment application is not necessary for ASARCO to restart the plant at this time based upon available information. However, future activities may trigger permit changes and agency review and authorization. Whether an authorization is necessary and what type of authorization depends on the specific activity. Because of the numerous variables involved, it is not possible to predict all situations that may arise and how best to handle them. For any construction or modification of a facility, ASARCO is required to obtain authorization. Maintenance and startup activities may be subject to reporting requirements pursuant to 30 TAC chapter 101, subchapter F.

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Permit Conditions

As previously noted, permit conditions need to be updated due to permitting actions undertaken by ASARCO. Additionally, the ED recommends additional conditions to ensure ASARCO maintains effective pollution control equipment and practices. Each of the recommended changes is accompanied by a brief explanation for the change.

The ED recommends the following changes to the draft permit:

1. Remove references to the lead and zinc plants from Special Condition 19. A. This change is necessary because the lead and zinc plants are no longer in existence.
2. Add/update Special Condition 20 reflecting the SB 1126 action by ASARCO notifying it will no longer process matte and speiss from East Helena.
3. Add Special Condition 35 giving the permit only a 5 year renewal period from the date of commission action. This provision facilitates Commission review of ASARCO's permit to ensure ASARCO maintains effective pollution control equipment and practices within a shorter timeframe than a regular renewal.
4. Add Special Condition 12 requiring ASARCO, within 60 days of start up, to conduct stack sampling of EPNs CU/STK for SO₂ and CU/STK/AN for PM, PM₁₀, CO, SO₂, Pb, As, Ag, Cd, copper dust, copper fume, and manganese oxide. Additionally, ASARCO will be required to submit CEMS data collected during the stack test of 1-hour and 6-hour in stack concentrations of SO₂. This provision ensures the effectiveness of the pollution control equipment and practices.

**Executive Director's Report to the Commission on
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The ED finds these additional conditions to be economically reasonable and technically practicable considering the age of the facility and the effect of its emissions on the surrounding area. Furthermore, to the extent these additional requirements are more stringent than those of the existing permit, the ED finds the requirements are necessary to avoid a condition of air pollution or to ensure compliance with otherwise applicable federal or state air quality control requirements.

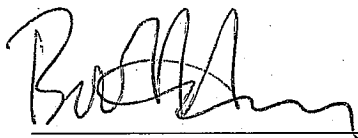
Respectfully submitted,

Texas Commission on Environmental Quality

Glenn Shankle
Executive Director

Stephanie Bergeron Perdue, Deputy Director
Office of Legal Services

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for Brad Alan Patterson, Staff Attorney
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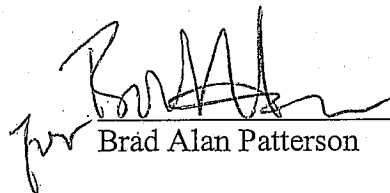
**Executive Director's Report to the Commission on
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List of Attachments

Interim Order – Attachment A
August 10, 2006 letter from Glenn Shankle to ASARCO – Attachment B
May 5, 2006 letter from Glenn Shankle to ASARCO – Attachment C
ASARCO Air Quality Analysis Protocol – Attachment D
Professional Services Agreements – Attachment E
ED's Interim Report and Request for Extension – Attachment F
Phase I Regional Investigation Report – Attachment G
Air Quality Analysis submitted by ASARCO – Attachment H
TCEQ Modeling Audit – Attachment I
TCEQ Toxicology Memo – Attachment J
Process Engineer Report – Attachment K
Independent Modeling Audit – Attachment L
Comparison Versions of Permit No. 20345 – Attachment M

CERTIFICATE OF SERVICE

On the 1st day of May, 2007, a true and correct copy of the foregoing instrument and the listed attachments was served on all persons on the attached mailing list by the undersigned via deposit into the U.S. Mail, inter-agency mail, facsimile, or hand delivery.



for Brad Alan Patterson

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Application of ASARCO, Incorporated to renew Air Quality Permit No. 20345

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