Kathleen Hartnett White, *Chairman*
Larry R. Soward, *Commissioner*
H. S. Buddy Garcia, *Commissioner*
Glenn Shankle, *Executive Director*

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

July 27, 2007

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
2007 JUL 27 PM 4:47
CHIEF CLERKS OFFICE

LaDonna Castanuela
Chief Clerk
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, TX 78711-3087

Re: TCEQ DOCKET NUMBER 2004-0049-AIR

Dear Ms.Castanuela:

Enclosed you will find the original and eleven copies of the Executive Director's Response to Comments on Executive Director's Report to the Commission on Renewal of ASARCO Incorporated's Air Quality Permit No. 20345.

If you have any questions about this matter, please call me at 239-1201.

Sincerely,

Brad Alan Patterson
Staff Attorney
TCEQ Office of Legal Services

Attachments

TEXAS
COMMISSION
ON ENVIRONMENTAL
QUALITY

2007 JUL 27 PM 4: 47

CHIEF CLERKS OFFICE

TCEQ DOCKET NO. 2004-0049-AIR

APPLICATION OF ASARCO INCORPORATED TO RENEW AIR QUALITY PERMIT NO. 20345	§ § §	**BEFORE THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY**

EXECUTIVE DIRECTOR'S RESPONSE TO COMMENTS ON EXECUTIVE DIRECTOR'S REPORT TO THE COMMISSION ON RENEWAL OF ASARCO INCORPORATED'S AIR QUALITY PERMIT NO. 20345

The Executive Director (ED) of the Texas Commission on Environmental Quality (TCEQ or Commission) files this Response to Comments (Response or RTC) on Executive Director's Report to the Commission on Renewal of ASARCO Incorporated's (ASARCO) Air Quality Permit No. 20345 pursuant to the Commission's Interim Order dated March 10, 2006 (Interim Order).

BACKGROUND

On May 1, 2007, the ED filed his Report to the Commission on Renewal of ASARCO's Air Quality Permit No. 20345 (Report or ED's Report).[1] Under the Interim Order, all parties in this matter had seven weeks after the filing of the ED's Report to file in the Austin Office of Chief Clerk, and mail to all other parties, their comments on the ED's Report and ASARCO's modeling.[2] The comment period ended June 18, 2007. The following parties to the July 11 – 22, 2005 contested case hearing submitted timely comments on the ED's Report and ASARCO's modeling: Sunset Heights ACORN et. al. (ACORN), the Honorable Eliot Shapleigh (Senator Shapleigh), the TCEQ Office of Public Interest Counsel (OPIC), Sierra Club, et. al. (Sierra Club), Get the Lead Out (GTLO), the City of El Paso, and ASARCO. Comments on the ED's Report were also submitted by the Honorable Silvestre Reyes (Congressman Reyes) and the New Mexico Environment Department (NMED). Although these two commenters were not parties in this matter, the ED has addressed their comments in this Response.

A significant number of letters were received from members of the public. Many letters expressed opposition to the air quality permit renewal and general concerns air emissions from the ASARCO smelter will adversely affect human health, the environment, and air quality in the El Paso area. In addition, letters were received expressing support for the air quality permit renewal. The ED acknowledges the significant public interest in this renewal application, and this Response generally addresses the concerns expressed.

COMMENTS AND RESPONSES

Written comments have been combined where it was determined that a common response could be provided.

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[1] The ED's Report is available at http://www.tceq.state.tx.us/agency/ed_report_permit20345.html.
[2] Commission Interim Order, March 10, 2006.

COMMENT 1: The City of El Paso and GTLO express concern regarding adverse health impacts due to air emissions from the ASARCO smelter. The City of El Paso expresses concern for the cumulative effects of arsenic and lead contamination, resulting in risks to public health and welfare. GTLO expresses concern air emissions from the ASARCO smelter will adversely affect air quality, and states clean, healthy air must be present and accessible to individuals to promote life. Senator Shapleigh states issuance of the permit renewal would release 7,000 tons of new pollutants in the airshed of El Paso, Juarez, and Southern New Mexico, including over 6,600 tons of sulfur dioxide per year. The City of El Paso states the ASARCO smelter will contribute to a condition of air pollution if smelting operations resume.

NMED states the area affected by the smelter has been subject to serious environmental degradation for a long time. NMED states the Paso del Norte airshed adjacent to El Paso has historically experienced elevated levels of ozone and particulate matter. NMED states the area may soon be designated nonattainment for the revised NAAQS for $PM_{2.5}$. NMED states the area also suffers every year from elevated levels of PM_{10}. NMED states the region and Sunland Park have suffered the effects of lead and arsenic contamination in soils, and states this contamination is directly attributable, in part, to the ASARCO smelter.

RESPONSE 1:

Modeling

For many permits, potential impacts to human health and welfare or the environment are determined by comparing air dispersion modeling predicted emission concentrations from the smelter to appropriate state and federal standards and effects screening levels.[3, 4, 5] The specific health-based standards or guidance levels employed in evaluating the potential emissions include the National Ambient Air Quality Standards (NAAQS); TCEQ standards contained in 30 Texas Administrative Code (TAC) Chapter 112, specifically 30 TAC § 112.3; and TCEQ Effect Screening Levels (ESLs).[5]

NAAQS are established by the United States Environmental Protection Agency (EPA) in accordance with the Federal Clean Air Act (FCAA) and are set to protect sensitive members of the population such as children, the elderly, and individuals with existing respiratory conditions.[6] The NAAQS, as defined in the federal regulations (40 Code of Federal Regulations § 50.2),

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[3] See the document "Air Quality Modeling Guidelines" for details on air modeling at the TCEQ website at http://www.tceq.state.tx.us/assets/public/permitting/air/Guidance/NewSourceReview/rg25.pdf. Also visit the agency air modeling page at http://www.tceq.state.tx.us/permitting/air/nav/modeling_index.html.

[4] Documents referenced in this response that are available on the TCEQ website are also available in printed form at a small cost from the TCEQ Publications office at 512-239-0028.

[5] To view the ESL list or obtain more information on ESLs, visit the TCEQ website at http://www.tceq.state.tx.us/implementation/tox/esl/list_main.html.

[6] 42 United States Code Annotated § 7409(b)(1) (42 USCA § 7409(b)(1)).

include both primary and secondary standards. The primary standards are those which the Administrator of the EPA determines are necessary, with an adequate margin of safety, to protect public health, including sensitive members of the population such as children, the elderly, and individuals with existing lung or cardiovascular conditions. Secondary NAAQS are those which the Administrator determines are necessary to protect public welfare and the environment, including animals, crops, vegetation, and buildings, from any known or anticipated adverse affects associated with the presence of an air contaminant in the ambient air.[7] The standards are set for criteria pollutants: ozone, lead, carbon monoxide, sulfur dioxide, nitrogen dioxide, and respirable particulate matter.[8]

In this instance after the permit application's modeling review was complete the modeling results were then sent to the TCEQ's Toxicology Section (TS) to evaluate whether emissions from the smelter are expected to cause health or nuisance problems. TS reviewed the results from air dispersion modeling by comparing those results to the TCEQ ESLs. ESLs are constituent-specific guideline concentrations used in TCEQ's effects evaluation of constituent concentrations in air. These guidelines are derived by TS and are based on a constituent's potential to cause adverse health effects, odor nuisances, and effects on vegetation. Health-based screening levels are set at levels lower than levels reported to produce adverse health effects, and as such are set to protect the general public, including sensitive subgroups such as children, the elderly, or people with existing respiratory conditions. Adverse health or welfare effects are not expected to occur if the air concentration of a constituent is below its ESL. If an air concentration of a constituent is above an ESL, it is not necessarily indicative an adverse effect will occur, but rather further evaluation is warranted. Generally, maximum concentrations predicted to occur at a sensitive receptor which are at or below the ESL would not be expected to cause adverse effects.

Although this permit action is a no-increase renewal and updated air dispersion modeling would normally not be required, the Commission directed ASARCO to conduct updated modeling and evaluate impacts out to 50 kilometers (km) beyond their property.[9] In response, ASARCO conducted site wide modeling that included emissions from all sources at the site. The modeling was audited by the TCEQ Air Dispersion Modeling Team (ADMT) and a third party consultant as discussed in the ED's Report.

The likelihood of whether adverse health effects caused by emissions from the ASARCO's smelter could occur in members of the general public, including sensitive subgroups such as children, the elderly, or people with existing respiratory conditions, was determined by comparing the smelter's predicted air dispersion computer modeling concentrations to the relevant state and federal standards and effects screening levels. The permit reviewer used modeling results to evaluate predicted ground level concentrations from the smelter and

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[7] 42 USCA § 7409(b)(2).
[8] 42 USCA § 7409(a)(1).
[9] Ordering Provision No. 2, Commission Interim Order, March 10, 2006.

concluded ground level concentrations are not likely to adversely impact off-property receptors. TCEQ background concentrations from the geographic area surrounding the site or other appropriate background are added to the modeled concentrations when applicable. The overall evaluation process builds in conservative assumptions to ensure the permit is protective of the public.

Nuisance

In addition to complying with the federal and state standards and guidelines mentioned above, applicants must also comply with 30 TAC § 101.4, which prohibits nuisance conditions. Specifically, the rule states, "No person shall discharge from any source whatsoever one or more air contaminants or combinations thereof, in such concentration and of such duration as are or may tend to be injurious to or to adversely affect human health or welfare, animal life, vegetation, or property, or as to interfere with the normal use and enjoyment of animal life, vegetation, or property." As long as the smelter is operated in compliance with the terms of the permit, nuisance conditions or an instance of air pollution are not expected.

Criteria Pollutants

According to the smelter's maximum allowable[10] emission rate table (MAERT) in the draft permit, the smelter would be authorized to emit approximately 353 tons per year of particulate matter, 230 tons per year of nitrogen oxides, 6673 tons per year of sulfur dioxide, 288 tons per year of carbon monoxide, 7.69 tons per year of lead,[11] and 7.7 tons per year of volatile organic compounds.

Sulfur dioxide (SO_2) was evaluated for the ASARCO smelter. The SO_2 NAAQS, regulated by the EPA, are based on three-hour, twenty-four hour, and annual time periods. Predicted SO_2 air concentrations occurring below the three-hour, twenty-four hour, and annual NAAQS of 1,300 micrograms per cubic meter ($\mu g/m^3$), 365 $\mu g/m^3$, and 80 $\mu g/m^3$, respectively, are not expected to cause adverse health effects. Modeling of this smelter resulted in predicted air concentrations of SO_2, with background concentrations included, to be 913 $\mu g/m^3$ (three-hour), 258 $\mu g/m^3$ (twenty-four hour) and 36.1 $\mu g/m^3$ (annual), which are each below the NAAQS.

Nitrogen dioxide (NO_2) was also evaluated for the ASARCO smelter. The NO_2 NAAQS, regulated by the EPA, are based on an annual time period. Predicted NO_2 air concentrations occurring below the annual NAAQS of 100 $\mu g/m^3$ are not expected to cause adverse health

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[10] The term "allowable" means the maximum emission rate of a specific pollutant from a given source over a specified time period, as specified in the permit.

[11] If the permit is renewed, as a result of a pending Notification of Changes to a Qualified Facility action, lead emissions will be reduced to 2.59 tons per year. ASARCO has represented East Helena matte and speiss, which are high in lead content, will no longer be processed, thus reducing potential lead emissions. *See* TH&SC § 382.0512 and 30 TAC 116.116(e).

effects. Modeling of this smelter resulted in predicted air concentrations of NO_2, with background concentrations included, to be 46.5 $\mu g/m^3$ (annual), which is below the NAAQS.

Lead (Pb) was also evaluated for the ASARCO smelter. The Pb NAAQS, regulated by the EPA, are based on a quarterly (three month) averaging period. Predicted Pb air concentrations occurring below the quarterly NAAQS of 1.5 $\mu g/m^3$ are not expected to cause adverse health effects. Modeling of this smelter resulted in predicted air concentrations of Pb, with background concentrations included, to be 0.27 $\mu g/m^3$, which is below the NAAQS.

Finally, carbon monoxide (CO) was modeled to determine whether a state NAAQS analysis was required. In this analysis, the resulting maximum concentrations from the sources associated with this smelter are compared to the federal Modeling Significance Levels (MSL) (found in 40 C.F.R. § 52.21(b)(23)) to determine the significance level of CO. Concentrations that do not exceed the MSL are considered to be well below the NAAQS levels and do not require a state NAAQS analysis. The CO MSL are based on one-hour and eight-hour time periods. The CO MSL are 2,000 $\mu g/m^3$ (one-hour) and 500 $\mu g/m^3$ (eight-hour). Modeling of this smelter resulted in predicted air concentrations of CO to be 53.8 $\mu g/m^3$ (one-hour) and 22.6 $\mu g/m^3$ (eight-hour). Therefore, since predicted CO air concentrations occur below the MSL, a state NAAQS analysis was not required for this pollutant.

In summary, based on the potential concentrations reviewed by the ED's staff, the predicted concentrations comply with the NAAQS, and therefore it is not expected there will be adverse health effects in the general public, sensitive subgroups, or animal life as a result of exposure to the expected levels of SO_2, NO_2, CO, or Pb. Furthermore, adverse impacts to air quality and the environment are also not expected.

Particulate Matter

Given the ASARCO smelter is located in a portion of El Paso that is nonattainment for particulate matter (PM) and particulate matter having diameter 10 microns or less (PM_{10}), the evaluation of PM and PM_{10} emissions was conducted by comparing the modeling results of individual constituents to their respective ESLs. The TCEQ Toxicology Section (TS) conducted a health effects review of these emissions from the ASARCO smelter. Ambient air modeling predicted concentrations at locations, including all ambient monitoring sites and schools within 50 km of the smelter. The smelter is located in an industrial area. Industrial receptors as well as non-industrial receptors surround the Copper Smelter.[12] The maximum off-property ground level concentrations ($GLCs_{max}$) are predicted to occur at or near ASARCO's property line.

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[12] 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*

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.[13] TS evaluated the predicted concentrations for their potential to cause adverse health effects and determined the predicted impacts are not expected to cause adverse health effects among the general public.

As noted in the ED's Report, 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 $GLCs_{max}$ for arsenic, manganese oxide, and silver are 1.7, 1.7 and 1.3 times their ESLs, respectively at or near ASARCO's property line. However, 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 $GLCs_{max}$ are below their ESLs. The predicted impacts meet Tier II Criteria of the Effects Evaluation Procedure.[14] Therefore, TS concluded the proposed concentrations for arsenic, manganese oxide, and silver are acceptable.

As further noted in the ED's Report, 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 smelter. 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, TS concluded the predicted impacts for copper dust are allowable.

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.

[13] *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).

[14] 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.

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."[15]

Cumulative impacts were evaluated for all criteria pollutants expect CO. This was accomplished by adding a representative background concentration to the modeled concentration. A cumulative impacts analysis was not done for CO because predicted concentrations were well below the NAAQS, and such an evaluation was not necessary. Health-based ESLs are set with a generous safety factor to protect sensitive members of the general public, and layers of conservative assumptions are made in the worst-case modeling analysis itself. TS typically requires the maximum concentration predicted to occur at a sensitive receptor must be at or below the ESL. Each facility is evaluated against this criterion, so multiple facilities in an area have been reviewed to the same level of protectiveness. Further, in the event multiple facilities in an area emit the same contaminant, it is highly unlikely the maximum concentrations resulting from emissions from other facilities emitting the same contaminants would occur at the same location. Therefore, TS concludes adverse effects would not be expected in the general public, even when multiple facilities in an area emit the same contaminant.

COMMENT 2: The City of El Paso states emissions from the ASARCO smelter must be evaluated on a multi-media basis. The City of El Paso states many of the contaminants emitted by the ASARCO smelter do not simply dissipate in the air, but instead settle and accumulate in the soils, water, and onto surfaces in the vicinity of the smelter. The City of El Paso states exposure to contaminated food and soil contribute the majority of the estimated risk associated with many air toxics. The City of El Paso states the ASARCO smelter could contribute to existing soil contamination in neighborhoods near the smelter by emitting arsenic, which could result in increased risk of developing cancer associated with arsenic exposure for nearby residents and workers.

Senator Shapleigh states ASARCO has relentlessly polluted the three-state and two-country region of Texas, New Mexico, and Chihuahua, citing a 1972 study on epidemic lead absorption. Senator Shapleigh states ASARCO was recently named a Potentially Responsible Party by the EPA for lead and arsenic contamination in residential areas near the smelter. GTLO states ASARCO's emissions of lead and arsenic have been detrimental to El Paso, and have caused significant danger to students and schools in the area.

RESPONSE 2: The action under consideration is the renewal of an air quality permit. While the TCEQ has responsibility for the environmental protection of all media, including water and soil, the law governing air permits specifically address air-related issues. Water and land contamination issues cannot be addressed in an air quality permit, and therefore, the scope of this air quality permit application review does not include water assessment or consideration of issues involving water quality or land contamination. However, ASARCO must comply with all

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[15] Executive Director's Report to the Commission on Renewal of ASARCO Incorporated's Air Quality Permit No. 20345.

TCEQ rules and regulations including any applicable permitting or regulatory requirements regarding water quality or waste.

As of June 1, 2007, 706 residential properties were remediated prior to June 1, 2006, and 124 sites were remediated in 2006. Approximately 200 to 300 residential properties are awaiting cleanup. Access to approximately 600 residential properties has been denied, therefore EPA, the lead agency for addressing off-site remediation efforts, has been unable to sample to determine if remediation is needed.

Based on the updated modeling and available monitoring data, TS does not expect air arsenic and lead emissions from the ASARCO smelter will cause adverse health effects to the general public at any location within 50 km of the smelter.

COMMENT 3: The City of El Paso states there is a potential for health effects from lead, even if the lead NAAQS have been met. The City of El Paso states the default concentrations used to develop the NAAQS for lead are much lower than the concentrations found in the residential neighborhoods surrounding the ASARCO smelter.

The City of El Paso states there is a potential for negative health effects even if the particulate matter having diameter of 2.5 microns or less ($PM_{2.5}$) standards had been met. The City of El Paso states data suggest health effects may occur at levels below the current $PM_{2.5}$ standards.

RESPONSE 3: EPA sets primary the NAAQS to protect public health, including the health of "sensitive" populations such as asthmatics, children, and the elderly. TS believes the current lead NAAQS is protective of human health and the environment, because ambient air concentrations at and below the NAAQS are not associated with lead poisoning. The highest predicted 3-month average lead concentration of 0.27 $\mu g/m^3$ is well below the current NAAQS of 1.5 $\mu g/m^3$. The predicted off-site lead concentration, which is the sum of predicted impacts from ASARCO smelter and the background lead level near ASARCO, is considered conservative.

The NAAQS, including those for $PM_{2.5}$, are set to protect human health and welfare. The NAAQS undergo regular review and are updated as new data suggest it is necessary. For example, the EPA recently revised the $PM_{2.5}$ 24-hour NAAQS from 65 $\mu g/m^3$ to 35 $\mu g/m^3$. The predicted 24-hour and annual concentrations of $PM_{2.5}$ for ASARCO are below the newly revised standard and would not be expected to cause adverse health effects.

Epidemiological cohort studies follow subjects who do not have a health outcome of interest to determine whether or not they develop that health outcome. Subjects in these studies are grouped by their exposure characteristics. The resulting ratio of the risk of disease or death among the exposed to the risk among the unexposed is termed relative risk (RR). Although some epidemiological studies at and below PM levels established by the NAAQS indicate increased relative risks for total mortality, cardiopulmonary mortality, and lung cancer mortality

in adults, most of the reported relative risks indicate a weak association (RR = 1.1-1.3) and several include the null value (RR = 1.0) with 95% confidence the true value is within that range. In addition, recent analysis of the large American Cancer Society (ACS) human cohort study indicated no association between $PM_{2.5}$ and respiratory diseases at concentrations between 7.5-30 $\mu g/m^3$. Therefore, the TS believes the current NAAQS are protective of human health.

COMMENT 4: GTLO states ASARCO's air emissions will interfere with the normal use of evaporative air conditioners in the entire El Paso del Norte Air Shed. GTLO states Texas Health and Safety Code (THSC) § 382.034 requires the Commission to conduct research on the environmental impacts of ASARCO's air emissions on the normal use of evaporative air conditioners in the area. GTLO encourages the Commission to conduct studies in cooperation with other non-profit groups, states agencies, and interstate and international environmental agencies to determine the risk associated with ASARCO's air emissions. GTLO states children are at risk due to evaporative air conditioners installed at area schools, and specifically cites to Dr. Green Elementary. GTLO states the media that produces the cooling effect is not designed to be a particulate filter, and cannot remove material from the air to purify and deliver clean air. GTLO states the Texas Clean Air Act (TCAA) required the Commission to consider possible adverse short-term and long-term side effects of air contaminants or nuisance odors from the smelter on the individuals attending the schools. GTLO states THSC § 382.05196, Permits by Rule, does not limit the Commission's general power to purse any investigation it can promote to protect the general welfare of this community during the use of evaporative air conditioning by residents, and other federally funded institutions.

RESPONSE 4: THSC § 382.034 provides the TCEQ with authority to conduct research and investigations it considers advisable and necessary to perform its duties under the TCAA. The Commission has not conducted research on the effects of emissions on normal use of evaporative air conditioners in the area. The TCEQ has performed its permit review in accordance with applicable federal and state requirements.

Based on the modeling results for the PM emissions from the ASARCO smelter, it is not expected the PM constituents impacts will interfere with the normal use of evaporative air conditioners installed at any area schools. Direct exposures to the PM impacts reported by the ASARCO are well below the levels that may cause adverse health effects to the general public in the vicinity of the ASARCO smelter. See additional discussion in Response 1.

COMMENT 5: Congressman Reyes expresses concern the effect of ASARCO's operations and permit renewal will have on Ciudad Juarez.

RESPONSE 5: The Interim Order directed modeling be conducted within 50 km of the smelter in all directions, and therefore the modeling included sites within Ciudad Juarez. As stated in the Dr. Jong-Song Lee's April 12, 2007 memorandum to Mr. Dois Webb, TS does not expect adverse health effects to occur among the general public at any location within 50 km of the

ASARCO smelter including Ciudad Juarez, as a result of exposure to the proposed PM emissions including arsenic from the ASARCO smelter.[16]

COMMENT 6: The City of El Paso states ASARCO's use of 24-hour air monitoring data fails to accurately evaluate acute health effects. The City of El Paso states ASARCO's use of a conversion factor to convert from 24-hour data to 1-hour values has the potential to underestimate the 1-hour concentration. The City of El Paso states the Toxicology Section used the same conversion factor used by ADMT to convert 1-hour ESLs to 24-hour ESLs. The City of El Paso states ESLs derived using this conversion factor lack scientific basis, and use of the same factor to convert 1-hour ESLs and 1-hour air concentrations to their corresponding 24-hour values renders the entire exercise pointless.

The City of El Paso states modeling factors are not an appropriate basis for adjusting a toxicity value because the internal dose of a chemical at the target tissue is dependent on the combination of time and concentration. The City of El Paso states according to the new ESL guidelines, duration adjustments for toxicity benchmarks should be based on Haber's rule, which defines toxicity as the product of concentration and time. Use of Haber's rule to estimate 24-hour ESLs results in some contaminants exceeding the 24-hour ESL. The City of El Paso states mechanistic information would greatly improve predictions across exposure conditions, and the Toxicology Section should obtain this type of information to derive scientifically defensible 24-hour ESLs. The City of El Paso states the Toxicology Section Health Effects Review cannot be relied upon to show emissions from the ASARCO smelter will not result in negative health effects.

RESPONSE 6: The 25 speciated particulate matter (PM) constituents to be emitted from ASARCO are considered either nuisance dust (e.g., gypsum and limestone) or constituents which are primarily of concern from chronic exposure (e.g., silica and metals). Therefore, the use of 24-hour air monitoring data protects against acute health effects for these constituents while annual averaging times protect against potential chronic effects.

The 1-hour ESLs are calculated from 8-hour time weighted average (TWA) occupational exposure limits (OELs) which are no-observed-adverse-effect levels. Uncertainty factors of 100 are applied to the OELs to produce 1-hour ESLs that are protective for the general population, including sensitive subpopulations. The 1-hour ESLs can be used as health-protective air concentrations to evaluate exposures up to 8 hours since the original averaging time of the OEL is 8 hours. If the 8-hour TWA exposure duration of the original OELs is adjusted to a 24-hour exposure duration using Haber's Law with $n = 1$, as suggested by the City of El Paso, the factor would be 8 hr /24 hr = 0.33. Using Haber's Law with $n = 1$ is a conservative procedure when adjusting exposure durations from shorter to longer exposure durations. The modeling factor of 0.4 used to adjust the 1-hr ESLs to 24-hour ESLs for the ASARCO air monitoring evaluation is

[16] Executive Director's Report to the Commission on Renewal of ASARCO Incorporated's Air Quality Permit No. 20345.

similar to the factor of 0.33. Although Haber's Law could have been used, the modeling factor is similar to the Haber's Law factor and is sufficiently conservative.

TS believes the 24-hour monitoring data is best used to calculate annual averages, and the annual averages should be compared to annual ESLs. TS also believes that 24-hour modeled numbers (of total particulate) are best compared to the appropriate size-fraction NAAQS. The TS believes if the predicted modeling impacts and/or monitoring data for total PM_{10} and $PM_{2.5}$ meet the respective 24-hour and annual NAAQS, and 1-hour and annual ESLs for individual PM constituents, no adverse effects are expected to occur due to exposure to PM emissions from the ASARCO smelter.

TS has not developed ESLs using the new guidelines for any contaminant to be emitted from the ASARCO smelter. The ESLs used to review ASARCO's modeling were based on the previous guidelines, which are still valid.

COMMENT 7: Congressman Reyes states El Paso has grown since ASARCO opened, and a plant that was originally located on the outskirts of town is now surrounded by communities in Texas, New Mexico, and Mexico. Congressman Reyes expresses concern reopening the ASARCO smelter could threaten El Paso's attainment status.

RESPONSE 7: 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.[17] The ADMT judges whether the modeling performed sufficiently estimates reasonable worst case concentrations of pollutants from the facilities being authorized.

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.

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 PM_{10}, $PM_{2.5}$, SO_2, Pb, NO_2, 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 km (about 31 miles) of the site. This data is intended for use as representative

[17] 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.

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 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.

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 EPA.

The modeling predicted that emissions comply with NAAQS and state standards. Therefore, air emissions from the ASARCO smelter should not threaten El Paso's attainment status.[18]

COMMENT 8: NMED states the testing, monitoring, and reporting requirements are not sufficient to ensure practical and federal enforceability of the permit. NMED states the permit is essentially void of any on-going monitoring and recordkeeping requirements to ensure enforceablitity of process design and work practice requirements, fugitive dust controls, operational limitations, and emissions limitations for sources not equipped with Continuous Emissions or Opacity Monitoring Systems. NMED opposes issuance of the permit under the terms and conditions specified in the ED Report.

RESPONSE 8: Permit No. 20345 contains a number of provisions for ensuring compliance with allowable emissions reflected by the MAERT. First, an outlet grain loading performance standard is established for fabric filters, and in-flue concentration values for SO_2 and H_2SO_4[19] are established for the acid plant stacks and a variety of flues leading to the 828 foot stack. With respect to PM emissions, visible emission and opacity limits, which are indicative of proper performance, are established for a number of emission points. The visible emission and opacity limits are to be determined using appropriate EPA Test Methods. The permit requires the installation, calibration, and use of Continuous Emissions Monitors (CEMS) to measure and record in-stack concentration of SO_2 and the volumetric flow in the acid plant stacks. Also Continuous Opacity Monitors (COMS) are required for the fluid bed concentrate dryer baghouse and the flue exiting the converter building ventilation baghouse. Finally, records addressing production limits, operating parameters, and monitoring data are required to be kept. The foregoing operating parameters, monitors, and recordkeeping requirements have been found to be adequate for determining compliance with the permit conditions.

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[18] See the ED's Report for a complete discussion of the modeling submitted by ASARCO and the audit performed by ADMT.
[19] Sulfuric Acid.

Furthermore, the ED's Report recommends if Permit No. 20345 is renewed, ASARCO should be required to conduct stack testing and submit the reports identified in the ED's Report to demonstrate process and control equipment have been evaluated and found to be in proper operational condition, and emissions are in compliance with the permit.

COMMENT 9: NMED states stack testing should be required to determine compliance with applicable emissions limitations for all emitting units, using appropriate EPA stack testing methods within sixty days of startup. Sierra Club states stack testing is too late and too infrequent. Sierra Club states the ED's Report recommends stack testing two months after startup, and states this is too long to wait for citizens of El Paso to know if the smelter is operating as represented.

Sierra Club expresses concern for lead emissions exceeding permitted amounts during the startup period. Sierra Club states stack testing should occur within 15 – 20 days of startup. Sierra Club states the permit fails to require continuous emissions monitoring for lead or set a schedule for periodic stack testing for lead.

RESPONSE 9: Although the MAERT for Permit No. 20345 contains many emission points, the majority of the emissions are from emission point numbers (EPNs) CU/STK,[20] CU/STK/AN,[21] and APS.[22] Furthermore, the ED recommends if the permit is renewed, ASARCO be required to conduct stack testing of CU/STK for SO_2 and CU/STK/AN for PM, PM_{10}, CO, SO_2, Pb, arsenic, silver, cadmium, copper dust, copper fume, and manganese oxide within 60 days of start up, and submit CEMS data collected during the stack testing for in-stack concentrations of SO_2. The required tests would be monitored by TCEQ Regional Staff and would be conducted using appropriate EPA stack testing methods.

Stack testing within 60 days following startup of a facility is common practice. Additionally, the limitations in the permit regarding operating parameters and recordkeeping will be in effect from the first day of operation and will serve as an indication of proper operation and compliance with permit limitations.

As previously noted, the permit contains a variety of operating parameters and production limitations to include surrogate methods for determining compliance, and operating in compliance with the foregoing criteria will demonstrate compliance. For example, the permit contains acid and copper throughput limits to ensure emissions limitations are not exceeded. In addition, the permit contains opacity limits. Compliance with opacity limits is a demonstration of control equipment operating correctly. See Response 8 for more information.

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[20] The Copper Stack.
[21] The Copper Stack Annulus.
[22] The Acid Plant Stack.

Additionally, if the smelter resumes operation, stack testing of EPN CU/STK/AN for Pb will be required. Although periodic stack testing for Pb is not required by the permit, Pb emissions would be expected to remain in compliance so long as the smelter is operating in compliance with the parameters set forth in the permit.

COMMENT 10: Sierra Club states monitoring provisions in the proposed permit are not sufficient to ensure the "condition and effectiveness of existing emission control equipment and practices." Sierra Club states the Commission should require a fence line ambient air monitoring program around the perimeter of the smelter for ASARCO to demonstrate continuous compliance with the lead NAAQS. Sierra Club states ASARCO should bear the cost of funding an increased lead community ambient air monitoring program. Sierra Club requests an annual independent audit to determine compliance.

RESPONSE 10: As noted previously, the permit contains a variety of operating parameters, monitoring systems, and record-keeping that provide an adequate means for determining compliance with permit requirements. For example, the permit establishes a maximum outlet grain loading for a number of baghouses as well as associated opacity levels that are indicative of proper operation. Also, as noted in the ED's Report, the ED recommends stack testing if the smelter resumes operation.

Given the foregoing, and modeling of all site emissions sources predicted the maximum ground level concentration of lead at any location including the background level would be less than 20% of the NAAQS for lead, property line monitoring would not typically be required, but the Commission may in its discretion choose to add it as a requirement.

Pursuant to Office of Compliance and Enforcement procedure, if the ASARCO smelter resumes operations, it will be inspected on a regular basis to evaluate compliance.

COMMENT 11: NMED believes substantive protocols should be established for the evaluation of the investigation of air quality control equipment. NMED states the Report's requirements are general and vague. NMED states results of the investigation and reports submitted by ASARCO demonstrating compliance with these recommendations should be subject to formal public comments. NMED states commencement of startup should not take place without the control equipment being in excellent condition.

RESPONSE 11: As previously noted, Permit No. 20345 requires a variety of control equipment, specifies operating/performance parameters for the equipment, and requires the control equipment be properly maintained and in place during operation of the smelter. These requirements will remain in effect if the smelter resumes operation. Additionally, the ED's Report recommends in order to meet permit renewal requirements, ASARCO should conduct inspections, develop plans for repair, and submit reports of their plans and findings to the TCEQ no later than 90 days prior to startup. These reports will be evaluated by TCEQ staff. It is within

the Commission's discretion to subject the results of ASARCO's investigations and the reports to public comment.

The ED respectfully disagrees the recommendations in the ED's Report are general and vague. The actions recommended by the ED's Report follow:

A. 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.

B. 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 startup. 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.

C. 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.

D. 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.

E. 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.

F. ASARCO with regard to "general housekeeping, cleaning, and repair" 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.

G. 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.

The ED's Report also recommends a 5 year renewal period for the permit, rather than a 10 year period.

COMMENT 12: NMED states most smelters of this vintage have been permanently shut down and dismantled, and outdated industry standards and practices have been shown to be inadequate to protect health and environment.

RESPONSE 12: The Continuous Top-feed Oxygen (ConTop) process for smelting copper authorized by this permit replaced an older methodology and was considered state of the art technology in 1992 when Permit No. 20345 was first issued. In his Report, the ED recommended additional conditions the ED finds to be economically reasonable and technically practicable considering the age of the facility and the effect of its emissions on the surrounding area. Furthermore, the Process Engineer concluded, "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."[23]

COMMENT 13: The City of El Paso states the City was not included in the site investigations that form the basis for the ED's Report, and therefore cannot provide substantive comments on these issues. The City of El Paso states the City and the other Protestants participated in a walk-through tour of the ASARCO smelter in preparation for the hearing on the merits, and a drive-through tour during the hearing, and the City's recollection from those visits is of a corroded, dilapidated facility in much need of repair.

RESPONSE 13: The Commission directed the ED to conduct a vigorous investigation of air quality control equipment at the ASARCO smelter.[24] The ED complied with the Commission's directive and in addition, required ASARCO to have a process engineer, subject to ED oversight, assess the condition and effectiveness of air quality control equipment. Some components were noted by the Process Engineer as requiring additional repairs. These items are indicated in the ED's recommendations in his Report. A thorough and robust review of ASARCO's air quality control equipment has been conducted. Some components of the smelter are rusted and corroded as noted in the Process Engineer's report and the Phase I report. Given the smelter has been idle for some time, significant cleaning and repair may be necessary to restart the operation.

COMMENT 14: Sierra Club comments findings with regard to the condition of the existing control equipment cannot change the already demonstrated lack of effectiveness. Sierra Club states it cannot matter if an applicant has equipment that is in perfect working order if said equipment and practices are not effective.

RESPONSE 14: Review of reports and data from the last years of operation of the smelter and TCEQ staff observations of the ASARCO operation prior to idling indicate the smelter operated in compliance with the permit and that control equipment was effective. Based on the previous smelter performance, the Process Engineer concluded with appropriate repair the smelter can again successfully operate in compliance with the permit and applicable standards. One purpose of the ED's Report was to identify conditions necessary to ensure control equipment is effective.

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[23] Executive Director's Report to the Commission on Renewal of ASARCO Incorporated's Air Quality Permit No. 20345.
[24] Commission Interim Order, March 10, 2006.

COMMENT 15: Congressman Reyes states the ASARCO smelter has emitted many times the amount of certain pollutants than originally permitted. Congressman Reyes does not believe a company that has demonstrated its inability to comply with the rules of its permit should be granted the confidence of the government that it will comply in the future. Congressman Reyes further states ASARCO's poor compliance history warrants denial of the permit.

NMED states ASARCO's compliance history and future commitments do not provide assurance public health will be protected. NMED states the construction permitting history included in the ED's Report reveals a pattern of ASARCO's noncompliance with emission limits and recurring needs to increase allowable emissions after permit issuance.

RESPONSE 15: The allowable emission rates established in the 1992 permit were based on the best information available at the time and the values were believed to be valid. Additionally, the original 1992 permit required stack testing. Once the smelter was constructed as authorized by the permit and placed into operation, stack testing determined the actual SO_2 emissions were greater than the allowable value. Accordingly, ASARCO applied for a permit amendment to update the permit to reflect emissions based on testing. Additionally, even with the increase in SO_2 emissions authorized by the amendment, the new allowable SO_2 emission rate was approximately 40,000 tons per year less than what was emitted prior to construction of the ConTop configuration.

The second issue referred to SOAH by the Commission was: 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. The ALJs concluded that "(t)he evidence does not support a finding that Applicant was in substantial compliance with the permit and with the Texas Clean Air Act."[25] The commission's current compliance history program in Texas Water Code ch. 5, subch. Q, is not applicable to this renewal. The applicable standards are found in former Tex. Health & Safety Code §§ 382.055(d)(1).

The ED has been unable to identify any permit renewal application that was denied based upon that standard. At the time of the SAOH proceeding, the ED took the position that ASARCO's compliance history during the last five years of operation warrants renewal of the permit.

COMMENT 16: NMED states the Process Engineer's findings related to the current control equipment condition, projected operator experience levels, and past compliance history call into question the ability of ASARCO to ensure compliance with the permit conditions requisite to protect public health.

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[25] ALJs' Proposal For Decision at 127.

RESPONSE 16: The purpose to the ED's Report was to assess the sufficiency of existing plant control equipment and practices. The Process Engineer identified issues that need to be addressed prior to startup. The ED's Report, if adopted, will require those issued be addressed.

All permit requirements will be in effect if the smelter resumes operation. ASARCO will be required and expected to operate in compliance with the permit. Thus ASARCO will have to resolve the issue raised regarding employee selection and training. While employee selection and training is a business decision, again, operation in compliance with the permit will be required.

COMMENT 17: NMED states allegations of illegal hazardous waste incineration at the El Paso smelter in the 1990s erode confidence in ASARCO's willingness and ability to comply with environmental laws regulations. NMED states the TCEQ should explain how this new evidence of an adverse compliance history will be taken into account in considering whether to renew the permit. Senator Shapleigh states ASARCO illegally burned 144,000 trainloads of hazardous waste between 1992 and 1997 at the El Paso smelter. Senator Shapleigh states ASARCO had a permit to extract metals from hazardous waste, but instead simply sent it to El Paso to be incinerated in a "sham recycling" scheme. Senator Shapleigh and Congressman Reyes state more than 5,000 tons of waste were illegally burned in El Paso, including more than 300 tons of chemical warfare agents from the Rocky Mountain Arsenal. The City of El Paso and GTLO state ASARCO has processed hazardous waste received from Encycle, including materials from the Rocky Mountain Arsenal. GTLO states the public did not receive full disclosure from ASARCO in relation to the ultra-hazardous activities conducted at the smelter.

RESPONSE 17: The Department of Justice and the State of Texas jointly negotiated a Consent Decree in 1999 to address the "sham recycling" operations at the ASARCO El Paso and Encycle Corpus Christi facilities.[26] That Consent Decree, which was subject to public comment, imposed civil penalties of $5.5 million dollars, provided injunctive relief to stop unauthorized activities, specified the clean up of any releases of hazardous constituents, and required the completion of supplemental environmental projects (SEPs) to benefit their local communities. Although ASARCO and Encycle have filed for bankruptcy protection from creditors, they remain subject to the requirements of the 1999 Consent Decree and must comply with the terms and conditions of the Consent Decree. Currently, the State of Texas has filed damage claims with the bankruptcy court to secure adequate funding for ASARCO and Encycle to complete their environmental clean-up obligations and SEPs.

Furthermore, the ED is advised the United States Government Accountability Office (GAO) has initiated a review of Department of Defense (DOD) procedures for disposal of hazardous waste and how the DOD and EPA ensure waste is properly disposed. The ED supports and willfully cooperates with the GAO in its review.

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[26] Notice of the proposed consent decree was published May 4, 1999, in the Federal Register at 64 FR 23858.

COMMENT 18: OPIC comments the ED's Report fails to adequately analyze the appropriateness of an amendment application. OPIC states during the public interest hearing, a witness for ASARCO testified the ConTop reactors permitted in 1992 were replaced with reactors designed and built by ASARCO after the reactors began leaking water, and states the originally installed reactors were licensed and built by an entity unaffiliated with ASARCO. OPIC comments the ED's Report ignores sworn testimony regarding significant changes to the ASARCO smelter, and instead the ED opted to review its "permit files" and conduct an external investigation to determine if an amendment is appropriate. OPIC states the ED's witness at the hearing testified ASARCO should have notified the agency a re-build and replacement of the reactors took place, and the City of El Paso states the TCEQ's permit engineer did not learn of the replacement of the reactors until the hearing on the merits. OPIC states, under the Commission's Interim Order procedure, the ED's on-site investigation should have merely supplemented existing testimony and the information in the existing application. OPIC suggests the ED issue an NOD requiring ASARCO to provide any information necessary on the re-build to allow the ED to determine the appropriateness of an amendment. The City of El Paso states ASARCO should have sought an amendment or other revision to the permit to authorize the replacement of the ConTop reactors. The City of El Paso states the ConTop reactors are unpermitted facilities, and appropriate enforcement action should be taken against ASARCO. The City of El Paso states the ED's Report fails to address a key modification at the smelter (the ConTop reactors), and because of that omission, it is impossible to rely on the accurateness and completeness of the ED's evaluation regarding the condition of existing ASARCO facilities.

RESPONSE 18: ASARCO replaced the original reactor vessels to address the cooling water leakage problem. This was done under Standard Exemption #111 for replacing like or same equipment and was reported to the TCEQ Regional Office by ASARCO during an annual investigation conducted in 1994. This exemption did not require pre-authorization of prior approval. The only modification was to the external cooling tubes and did not involve any internal design changes to the reactors and did not alter the cyclones throughput of concentrate or fuel. The change made to the reactors did not result in any increase in emission rates, change in the character of emissions, or a change in the method of control. Therefore, the change was not an amendment. Typically, this type of change would not be reflected in the permit conditions or the MAERT, and therefore the changes to the reactors were not included in the discussion in the ED's Report.

In response to the Commission Order, ED staff conducted a site investigation to determine at the condition of equipment and compared equipment with the permit. The purpose of this investigation was to determine whether the smelter configuration concurred with the permit and if equipment had been maintained as claimed by ASARCO. A second investigation was conducted again including ED staff and a process engineer with extensive copper smelter experience. This second investigation focused on equipment condition, past operating records, and necessary actions for returning the smelter to operation. Additional conditions are

recommended by the ED to address concerns regarding air pollution control equipment and operation.

COMMENT 19: The City of El Paso states the ED's Report inaccurately summarizes ASARCO's past permitting actions. The City of El Paso states this section of the ED's Report is replete with deficiencies regarding the analysis of certain key changes made to the ASARCO smelter. The City of El Paso states the ED's review of ASARCO's past permitting actions is at best a recitation of past events, and does not fully evaluate the effects of multiple amendments, but instead mistakenly relies on the determinations that were made at the time of the permit revisions.

RESPONSE 19: The discussion of past permit actions reflected in the ED's Report was a summary of those actions submitted to and reviewed by TCEQ. The review considered ASARCO's requested action, the action taken by TCEQ, and whether review of the action was consistent with TCEQ practice at the time of the action. Review of the permit file indicates the requests submitted by ASARCO were reviewed by a variety of TCEQ staff and the decisions made were processed in accordance with agency procedure at that time.

Each permit action is evaluated based on the requested action and its potential impacts. When approved, the action is incorporated into the permit (i.e permit conditions and or the MAERT are updated as appropriate) and the revised conditions and MAERT become the documents that authorize the facilities addressed by the permit. Therefore, subsequent permitting actions do take into account previous changes to the permit. Each permit action is evaluated to ensure the requested action will comply with all applicable state and federal air quality requirements.

COMMENT 20: The City of El Paso states ASARCO's permit amendment applications to increase SO_2 emission rates and annual hours of operation for the Fluid Bed Concentrate Dryer, the two Sulfuric Acid plants, and the Wastewater Treatment Plant were improperly authorized and circumvented TCEQ air quality permitting rules in violation of 30 TAC § 101.3. The City of El Paso states the amendment should have gone to notice, therefore the actual levels of SO_2 emissions from the ASARCO smelter have never been properly authorized through the permit amendment process. The City of El Paso states ASARCO's increase in permitted emission levels without public notice and the opportunity for participation were in violation of state law in 1994 and 1995, and are still violations of state law today.

RESPONSE 20: As discussed in the ED's Report, the original 1992 permit resulted in a reduction of approximately 43,600 tons per year of SO_2. The requested 3,600 tons per year increase in SO_2 would result in a net decrease approximately of 40,000 tons per year of SO_2 emissions associated with the ConTop Permit approval. The requested changes to ASARCO's permit did not constitute circumvention under 30 TAC § 101.3. This rule sets forth that "[n]o person shall use any plan, activity, device or contrivance which the executive director determines will, without resulting in an actual reduction of air contaminants, conceal or appear to minimize

the effects of an emission which would otherwise constitute a violation of the Act or regulations." While the amendment resulted in an increase of emissions, the effects of the emissions were fully evaluated in that BACT, health effects and modeling were reviewed. With regard to public notice and opportunity for participation, at the time the amendment applications were submitted, TCEQ rules provided any person applying for a permit or amendment must provide public notification of the amendment "as required by the Executive Director."[27] No notice was required by the Executive Director.

COMMENT 21: The City of El Paso states ASARCO's utilization of a SB 1126 permit alteration circumvented TCEQ air quality permitting rules in violation of 30 TAC § 101.3. The City of El Paso states the August 1996 SB 1126 action and the October 1996 permit alteration should have been considered together, and to consider the two actions separately is a violation of TCEQ rules. The City of El Paso states ASARCO's increase in copper anodes and sulfuric acid production rates by use of a SB 1126 modification on August 12, 1996, followed by a permit alteration on October 28, 1996, to increase permitted emissions from the ASARCO smelter due to the production increase, is a prohibited circumvention of air quality requirements.

RESPONSE 21: Change to a Qualified Facility actions and permit alterations are separate actions. A Change to a Qualified Facility action may or may not require a permit alteration. If a Change to a Qualified Facility action does not require a change in the permit special conditions or the MAERT, than an alteration is not required. In such a case, the applicant requesting a Change to a Qualified Facility would be sent a letter acknowledging concurrences with the claim.

In ASARCO's case, the Change to a Qualified Facility action resulted in a need to update the special conditions to reflect the increased production rates. Therefore, the need to change the special conditions was considered a permit alteration.

Review of the files show the Change to a Qualified Facility request and alteration request were both received by the TCEQ on July 15, 1996. The two requests were reviewed together by the same permit reviewer. ASARCO requested increases in anode and sulfuric acid production through process experience and current equipment optimization. As a Change to a Qualified Facility, this claim did not result in an increase in emissions, but rather was a modification in smelter operation. By letter dated August 12, 1996, the TCEQ recognized the Change to a Qualified Facility request.

Although both actions were received on the same day, the Change to a Qualified Facility action was completed before the alteration. Recognition of the Change to a Qualified Facility action did not require updating the permit conditions or MAERT, nor review by ASARCO and/or the TCEQ Regional staff. Accordingly, the Change to a Qualified Facility action response was

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[27] 30 TAC § 116.130 (August 16, 1993).

completed before the alteration request. The alteration updated the permit conditions to reflect the changes claimed under the Change to a Qualified Facility. Air quality requirements were not circumvented.

The alteration also updated the MAERT to reflect emissions increases due to contemporaneous Permit By Rule (PBR) authorizations. At that time, PBRs were referred to as standard exemptions. Although not Air Permit Division (APD) practice today, at that time updates to the MAERT resulting from a PBR authorization would be accomplished through an alteration.

COMMENT 22: The City of El Paso states the permit amendment approved by the TCEQ on November 4, 1994, increased emission rates significantly, stating arsenic and lead emissions increased 1545% and 7700% respectively. The City of El Paso states a small change in the content of a toxic heavy metal may result in a drastic change in the character and level of emissions from the ASARCO smelter.

RESPONSE 22: The November 4, 1994 amendment did increase the allowable annual emissions rate from EPN S-1[28] for arsenic by 1545% and lead by 3900%. However, these increases in quantity of compound were 0.0289 tons per year or 57.8 pounds per year of arsenic, and 0.0038 tons per year or 7.6 pounds per year of lead. Further, it is true small changes in the emission rate of a toxic compound can result in a drastic change in emission impacts. In this case however, ED staff determined through review of previous modeling and engineering professional judgment these increases would not result in adverse impacts. Additionally, the updated modeling required by the Interim Order predicts site-wide arsenic and lead emissions will comply with state and federal requirements.

COMMENT 23: The City of El Paso states the Commission determined a permit amendment application submitted by ASARCO on December 20, 1996, did not require PSD review or public notice because the increase in emissions fell below significance values requiring those actions, and states the ED's Report failed to address the existing level of SO_2 emissions prior to the approval of the amendment and the effects of adding additional SO_2 emissions after the approval of the amendment. The City of El Paso states the Commission should have required modeling to demonstrate increases approved in 1997 did not result in violation of the pertinent standards.

RESPONSE 23: The emission increases for PM, PM_{10}, and SO_2 resulting from the permit amendment authorizing outdoor matte pouring were all less than the PSD significance level and did not trigger PSD review. Also, the increases were less than the public notice trigger level at the time.

Additionally, review of the files reveals the permit reviewer did not require additional modeling. The permit reviewer however considered prior modeling, the small increase in allowable

[28] The Spray-dryer Baghouse Stack.

emissions, the infrequency of the new emissions, and engineering professional judgment to conclude additional modeling would not be necessary, and the increases in emissions would not invalidate previous modeling predictions and not result in violation of applicable standards.

COMMENT 24: The City of El Paso states ASARCO's newest permit amendments acknowledge ASARCO has operated the ASARCO El Paso smelter in violation of existing permit requirements. The City of El Paso states ASARCO's plans to no longer process East Helena matte and speiss illustrate two issues: 1) ASARCO was in violation of its permit throughout the operational life of the smelter after issuance of the permit in 1992, and 2) the raw materials processed at the El Paso smelter have a direct impact on the emissions from the smelter, and because the permit has no restrictions on the input concentrate, ASARCO can and has processed materials that will result in violations of the permit. The City of El Paso states performance testing and stack tests during the life of the permit demonstrate ASARCO has operated in constant violation of Permit No. 20345. The City of El Paso states the permit had inadequate provisions for limiting raw materials processed at the ASARCO smelter. The City of El Paso states ASARCO does not sample the incoming raw materials for all contaminants on a routine basis, and Permit No. 20345 does not require any monitoring of the metals emitted from the ASARCO smelter, therefore there was no method to ensure incoming raw materials did not contain metals and contaminants in excess of the represented levels.

RESPONSE 24: In the past, ASARCO did conduct stack testing that reflected emitted contaminants were not in compliance with permit allowables. Consequently, several permit actions were required between issuance of Permit No. 20345 in 1992 and the idling of the operation in 1999 to address compliance issues. Typically, an applicant uses emission factors to demonstrate compliance and establish emission limits when seeking a pre-construction permit. After the permit is issued, stack testing or other methods will reveal the need to adjust emission limits. This could be the result of inaccurate emission factors, improper calculations, or other issues. The applicant will then seek an authorization to correct the permit.

ASARCO represented raw materials are combined to form the ultimate mix that is processed by the smelter. Copper concentrate content, both compound species and quantity varies depending on the source, and thus concentrates from different sources are combined to provide the correct mix. Given the foregoing, ASARCO's acknowledgment East Helena matte and speiss will no longer be processed does not acknowledge the concentrate mix processed by the smelter was a violation of permit representations.

The permit conditions did not specify a limit on the lead content of the matte and speiss, and emission rates were calculated based on the expected content in the raw material mix processed by the smelter. However, the permit MAERT establishes a limit on lead emissions and that limit is based on stack testing. Furthermore, ASARCO represented in the original 1992 permit application certain concentrate concentrations, and even though not in the permit, those representations are enforceable.

Although the permit does not contain specific procedures or monitoring requirements for lead, the permit establishes limits on lead and other metal emissions. ASARCO must be able to demonstrate compliance with the permit. Also, based on previous testing results, monitoring, and the most recent air dispersion modeling, lead emissions are expected to comply with the permit and the maximum concentration of lead in the air is expected to be well below the NAAQS.

ASARCO has recently submitted a Change to a Qualified Facility action and permit alteration request that will preclude future processing of matte and speiss from East Helena. This action will result in a decrease in lead emissions.

COMMENT 25: GTLO states Phelps Dodge currently uses solvent extraction/electrowinning (SX/EW) to produce copper from low grade ore mines, and Phelps recently removed its twin smokestacks in the City of Hurley, New Mexico. GTLO states it is clear ASARCO has the technology to use SW/EX, based on prior statements, and it is clear the copper industry no longer needs to pollute the air to be productive.

RESPONSE 25: Although there are a variety of methodologies for converting copper ores into copper anodes, and other companies have chosen a process different from ASARCO, the issue under consideration is renewal of ASARCO's existing permit subject to state and federal law. THSC § 382.055(d) provides the Commission shall consider at a minimum the applicant's compliance history and the condition and effectiveness of existing control equipment and practices. When an applicant applies for a renewal, the TCEQ evaluates the application based on the process that has been authorized. Under the TCAA, the permit renewal process does not allow the TCEQ to require a change in methodology.

COMMENT 26: Sierra Club comments the ED has stated his staff lacks the expertise to "assess equipment that has not been operating, staff has been unable to assess the sufficiency of existing plant control equipment and practices and whether the plant can operated in accordance with the permit conditions and with industry standards and practices," and asks how the public can be assured ASARCO has complied with the conditions proposed by the ED upon startup. Sierra Clubs state lack of staff expertise makes ability of future enforcement highly speculative.

RESPONSE 26: The TCEQ staff is fully qualified to evaluate an operating facility and determine if the operation complies with the permit. However, determining the condition of idle equipment requires a different set of skills. As previously noted the TCEQ staff conducted a thorough investigation of the ASARCO smelter to determine whether all equipment remained in place and whether the smelter configuration was as represented by the permit. During this investigation, the staff clearly noted rust and corrosion, and the need for repair of both process and control equipment. The second inspection included a process engineer with extensive copper smelter experience. His observations and conclusions were factored into the ED's evaluation of ASARCO's air permit renewal application.

TECQ staff findings and observations, and the report by the Process Engineer were used to develop the ED's conclusions in his Report. If the smelter resumes operation, TCEQ staff will again inspect it against the permit requirements and performance criteria.

COMMENT 27: ASARCO states it submitted its air dispersion modeling on September 11, 2006, the deadline stated in the Interim Order. ASARCO states it supplemented the modeling at the TCEQ's request on November 22, 2006. The City of El Paso states ASARCO submitted a modeling analysis on September 11, 2006, that contained deficiencies causing the TCEQ modeling team to request additional information to complete the review of the air quality analysis.

RESPONSE 27: ASARCO submitted its air quality analysis, *Air Quality Analysis for ASARCO El Paso Plant*, to APD on September 11, 2006. Upon evaluation of the air quality analysis, the ADMT determined additional information would be needed to complete the review of the air quality analysis. A letter requesting additional information, dated October 9, 2006, was sent to Mr. David Cabe of Zephyr Environmental Corporation from Mr. Robert Opiela of the ADMT. The request for additional information included a description of the process used to determine the land use classification of the area surrounding the ASARCO site and the references for the corresponding surface roughness length values used in the modeling demonstration; the data used to supplement the site-specific meteorological data collected at the ASRACO site; an electronic archive of the monitoring data presented in the air quality analysis; and an explanation to the significance of the modeled elevation discrepancies. A revised air quality analysis, dated November 22, 2006, was submitted by ASARCO to the APD in response to the letter requesting additional information. The second air quality analysis included responses to the requests for additional information contained in the letter from Mr. Robert Opiela to Mr. David Cabe.

COMMENT 28: NMED states the air quality modeling analysis is not sufficiently conservative. NMED states, although ASARCO's air quality analysis is consistent with the modeling protocol specified by TCEQ, NMED believes a more conservative approach is called for, especially given the elevated levels of PM_{10} and $PM_{2.5}$ in the area. NMED states monitoring data, especially for PM, is representative only of a specific place and time, and monitoring data may not be representative of background concentrations near the source. NMED suggests modeling nearby facilities, as well as including a background concentration, to ensure the prediction of maximum concentrations is conservative. NMED suggests in addition to the ASARCO source, all neighboring sources within the radius of impact plus 50 km of the source, or within 65 km (whichever is greater) should be included in modeling the maximum predicted concentration. NMED suggests for the particulate analysis, this cumulative impact concentration should then be added to the monitored background for comparison to the applicable standard. NMED states this method will ensure all nearby sources, as well as transported pollutants and precursors, are accounted for in an appropriately conservative manner.

RESPONSE 28: The purpose of the air quality analysis was to demonstrate ASARCO's potential contribution to the existing air quality from its authorized emissions for a representative worst-case evaluation and not the most conservative worst-case evaluation. The ED disagrees the air quality analysis is not sufficiently conservative. Maximum predicted concentrations associated with maximum emission rates and worst-case meteorology were added to either conservative or representative monitoring data without regard to the actual locations or the time of occurrence of model-predicted or ambient air monitoring concentrations for a total concentration to compare with applicable state standards and ESLs. Based on the representations made in the permit application, ASARCO has demonstrated air emissions from the smelter would not adversely affect human health and welfare.

COMMENT 29: NMED notes whereas the TCEQ modeling protocol call for reporting of the maximum predicted concentration, ASARCO's analysis utilizes the "controlling concentration" in its report. NMED and the City of El Paso state TCEQ notes the absence of reporting of the highest predicted concentration of $PM_{2.5}$ in its modeling audit. NMED and the City of El Paso state using the highest predicted $PM_{2.5}$ concentration of 14 $\mu g/m^3$ in combination with the background concentration of 21 $\mu g/m^3$, TCEQ reports a total concentration of 35 $\mu g/m^3$, which is equal to the newly promulgated NAAQS for that pollutant. NMED states while using the highest seventh high predicted $PM_{2.5}$ concentration is appropriate and acceptable, TCEQ should explain the significance of the finding that the highest predicted $PM_{2.5}$ concentration pushes the area to the brink of exceeding the NAAQS.

RESPONSE 29: The short-term maximum predicted concentrations for the state NAAQS analyses were not reported by ASARCO in the air quality analysis (the seventh highest predicted concentrations were reported for $PM_{2.5}$ and the second highest predicted concentrations were reported for CO, PM_{10}, and SO_2). Since ASARCO did not model with more than one year of meteorological data, ASARCO should have reported the short-term maximum predicted concentration concentrations for the state NAAQS analyses. However, the short-term maximum predicted concentrations were included in the modeling files submitted by ASARCO and were reported by the ADMT in the ADMT audit memo attached to the ED's Report.

Due to the conservative nature of the modeling demonstration, the ED disagrees predicted concentrations plus background concentrations that equal the NAAQS requires any explanation; this is standard modeling practice when the modeling demonstration shows that a source would not cause or contribute to a violation of a standard. A predicted concentration plus a background concentration that equals the standard is not a violation of the standard. Also, at this point in time the ED does not concur with NMED the use of the highest seventh high predicted $PM_{2.5}$ concentration is appropriate and acceptable. EPA has not provided guidance for the implementation of the $PM_{2.5}$ NAAQS for the New Source Review program. Guidance from EPA has only been provided for attainment demonstrations for purposes of submitting State

Implementation Plans.[29] The TCEQ currently follows EPA guidance and has incorporated it into the current TCEQ Air Quality Modeling Guidelines.[30] "Compliance with the pre-1997 form of the PM_{10} NAAQS will be the surrogate for compliance with the 1997 form of the PM_{10} NAAQS, and the new $PM_{2.5}$ NAAQS."[31]

The EPA memorandum from John S. Seitz, Director, Office of Air Quality Planning & Standards (10/23/97) provides this guidance. In addition, the memorandum from Steve Page, Director, Office of Air Quality Planning & Standards (4/5/2005), provides this same guidance.

Furthermore, the Commission decided in a 2 to 1 vote on November 15, 2006, in the case of KBDJ L.P. for Permit No. 55480, the TCEQ would continue to use PM_{10} as a surrogate for $PM_{2.5}$ until EPA fully implements the new $PM_{2.5}$ NAAQS.

Compliance with the 24-hour $PM_{2.5}$ NAAQS standard is based on a three-year average of the annual 98th percentile 24-hour average values. Because the maximum predicted $PM_{2.5}$ concentration and representative monitoring data is conservative, the NAAQS would not be exceeded based on the representations made by ASARCO.

COMMENT 30: The City of El Paso states ASARCO excluded two nearby monitors (the Sun Metro monitor in El Paso and the Sunland Park monitor in Sunland, New Mexico) in determining background concentrations to add to the modeled emissions of $PM_{2.5}$ and PM_{10}. The City of El Paso states, contrary to ASARCO's conclusion, the Sunland Park monitor is probably the most representative PM_{10} and $PM_{2.5}$ monitor of those that exist near the smelter because the ASARCO smelter is influenced by similarly localized, unique geographic features. The City of El Paso states the University of Texas at El Paso (UTEP) monitor is not located within the "pass" between the Franklin Mountains and the Sierra de Juarez, and is located on the other side of a large hill.

RESPONSE 30: When determining representative $PM_{2.5}$ and PM_{10} background concentrations to use in the air quality analysis, ASARCO did consider other nearby monitors (Sun Metro in El Paso and Sunland Park in New Mexico). The Sun Metro monitor was excluded from further consideration due to the local effects of a nearby rail yard and other mobile sources. The Sunland Park monitor was excluded from further consideration based on information ASARCO provided from personal communication with the NMED Air Quality Bureau. Staff at the NMED Air Quality Bureau indicated the Sunland Park monitor is influenced by very localized and unique geographical features that tend to funnel pollutants to the monitor. The ED found the rationale provided by ASARCO for excluding these two monitors to be reasonable.

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[29] Guidance on the Use of Models and Other Analyses for Demonstrating Attainment of Air Quality Goals for Ozone, $PM_{2.5}$, and Regional Haze (EPA-454/B-07-002).
[30] TNRCC RG-25, February 1999.
[31] *Id* at 23.

ASARCO used the UTEP monitor for representative $PM_{2.5}$ and PM_{10} background concentrations in the air quality analysis. This choice is reasonable given topographic maps show the UTEP monitor is located within the "pass" between the Franklin Mountains and the Sierra de Juarez. The base elevation of the ASARCO site (1155 meters) and the UTEP monitor (1158 meters) differ by only three meters, or about ten feet. Additionally, the Sunland Park monitor is located on the back side of a 700-foot hill and not within the ASARCO line of sight.

COMMENT 31: The City of El Paso states PM_{10} and $PM_{2.5}$ monitors should be set up at the location of the maximum modeled concentration for these contaminants, and monitoring should be conducted for at least one year prior to any decision regarding ASARCO's application to renew Permit No. 20345.

RESPONSE 31: Monitors are used to show air quality in the general area and cannot feasibly be placed in all locations. The intent of pre-construction monitoring is to determine an existing ambient background concentration for a pollutant of interest. Typically, pre-construction monitoring would be required only if representative or conservative background concentrations were not available to use during the PSD permitting process.

COMMENT 32: The City of El Paso states ASARCO's method for deriving $PM_{2.5}$ background concentrations is not supported by applicable regulations, and the highest 98th percentile value should have been chosen as opposed to the highest 95th percentile.

RESPONSE 32: ASARCO used the UTEP monitor for representative $PM_{2.5}$ background concentrations in the air quality analysis. ASARCO reported the highest 95th percentile concentration over a period from 2003 to the first half of 2006 as a representative $PM_{2.5}$ background concentration. The ED agrees the use of the highest 95th percentile is not directly supported by current modeling guidance. However, the $PM_{2.5}$ background concentration of 21 $\mu g/m^3$ (highest 95th percentile) is equivalent to the three-year average of the annual 98th percentile 24-hour average values when the high wind events are removed. The removal of concentrations resulting from excessive natural events is supported by current EPA guidance. This equivalent concentration is in the form of the $PM_{2.5}$ NAAQS, and is an appropriate background concentration to use.

COMMENT 33: The City of El Paso states ASARCO's November Air Quality Analysis implies the maximum modeled concentrations for $PM_{2.5}$ should be ignored because they do not occur at "population oriented" receptors. The City of El Paso states this is not prudent, since there are residences and schools in the area.

RESPONSE 33: The maximum predicted $PM_{2.5}$ concentration added with representative monitoring data without regard to the actual locations or the time of occurrence of model-predicted or ambient air monitoring concentrations is conservative and shows the NAAQS would not be exceeded based on the representations made by ASARCO, for all receptors considered in

the modeling demonstration. The receptors considered in the modeling demonstration extended 50 km from the ASARCO site and included population oriented receptors.

COMMENT 34: The City of El Paso states particulate emissions from roads are not included in ASARCO's November Air Quality Analysis, and inclusion of roads would affect the impacts analysis for PM_{10} and metals.

RESPONSE 34: Under the TCAA, a road is not a facility, meaning its operation does not require an authorization. However, though it is not a facility, it can be a source of emissions. It has been agency policy to evaluate all sources in permit application reviews. In the past that evaluation would be exclusively through air dispersion modeling. Experience using air dispersion models has shown it is not technically feasible to model emissions from roads and obtain a reasonable estimate of predicted concentrations. The rationale is twofold: first, the basis for the air dispersion model is a source is continuously emitting a pollutant. This modeling assumption means a source emits at a constant, consistent rate. When vehicles travel on a road, they cannot be over the entire road all of the time at the same time, but that is the way the dispersion model treats this activity. Because the dispersion model results in concentrations of particulate from roads that do accurately reflect activity, particulate emissions are not included in air dispersion modeling. Secondly, the emission factors for particulate emissions from roads in AP-42[32] had a high degree of uncertainty. The text in AP-42 warns that the emission factors should not be used for short-term (24-hour) analyses.

Due to the uncertainty with both the emission rates and the treatment of the emissions by the dispersion model, the ED developed certain practices and procedures that apply to all applications. Though the road emissions are not modeled, they are evaluated. If Best Management Practices (BMP) are implemented, through watering of roads and/or other dust suppression methods, there should be no particulate emissions from the roads. The BMPs are included as permit conditions to ensure that road emissions are minimized.

COMMENT 35: OPIC comments based on testimony from the hearing and the findings of the ALJs regarding Oglebay Norton, the ED should have required the Oglebay Norton emission source to be included in the modeling.

RESPONSE 35: It is the ED's understanding operations at Oglebay Norton have ceased, therefore the Ogelbay Norton emission source was not included in the modeling. If Oglebay Norton were to resume slag processing operations, Oglebay Norton would need proper authorization for those activities, in which case the TCEQ would evaluate any request for authorization for compliance with applicable rules.

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[32] EPA's *Compilation of Air Pollutant Emission Factors.*

COMMENT 36: OPIC states it is unclear whether the ED required the SO_2 emissions from the matte pouring area to be considered as part of ASARCO's newest modeling, but if the SO_2 emissions were not considered, this contravenes the intent of the Commission's Interim Order, which found ASARCO failed to demonstrate the effectiveness of its emission control equipment and practices with regard to the ALJs' assessment of the SO_2 area control plan.

RESPONSE 36: SO_2 emissions from the matte pouring area (EPN F-MATTE-P) were included in the modeling demonstration.

COMMENT 37: OPIC comments the modeled emissions inventory included ASARCO's Permit No. 4151, which the ALJs considered violative of the Commission's circumvention rule. OPIC states it appears the ED and ASARCO handpicked the emissions sources they felt were appropriate without regard to the Commission's reliance on the ALJs' findings to construct the Interim Order. OPIC states the ED's Report needs to address these emission sources to explain and justify the basis of the Commission's determination ASARCO has failed to demonstrate the effectiveness of its existing emission control equipment and practices.

RESPONSE 37: ASARCO was required to perform dispersion modeling for all primary and secondary sources of air contaminants at the site for all short-term and long-term averaging periods. ASARCO represented all on-property emissions required to be modeled in the modeling demonstration, including sources authorized under Permit Nos. 20345 and 4151, as well as sources authorized under PBRs.

COMMENT 38: The City of El Paso states every modeled "controlling concentration" reported in Table 10-1 of the November Air Quality Analysis had decreased when compared to the same table in the September report. The City of El Paso states the maximum modeled SO_2 1-hour concentration reported in the September report was at the standard of 0.5 parts per million (ppm), whereas in the November Air Quality Analysis, the same parameter was reported as a twenty-percent lower value of 0.4 ppm. The City of El Paso states the reasons for these discrepancies are unclear based on a review of the two modeling reports.

RESPONSE 38: A letter requesting additional information, dated October 9, 2006, was sent to Mr. David Cabe of Zephyr Environmental Corporation from Mr. Robert Opiela of the ADMT regarding the September air quality analysis submittal. The letter noted discrepancies with the modeled receptor elevations and also requested additional information on the technical justification for the surface roughness length values used in the modeling demonstration. In response to the letter, receptor elevations and surface roughness length values were revised to representative values by ASARCO in the November modeling submittal. These revisions are the reason for the differences in predicted concentrations when comparing the two modeling submittals. The state SO_2 standard for ASARCO is based on an agency order that allows them to go up to 0.5 ppm over two consecutive half-hour averages.

COMMENT 39: GTLO states the ED provided guidance for selecting receptor sites for ASARCO to model, and exclusion through omission was the method used by the ED and his legal, administrative, and other expert staff. GTLO states omitting the federally funded Region XIX Head Start School sites in the El Paso region creates a disparate impact to a sensitive population in the area. GTLO states omitting Head Start Schools from the modeling leads GTLO to understand infants, toddlers, and children who could potentially be exposed to ASARCO's air emissions are at greater risk due to facility design and operational methods by the use of evaporative air conditions installed at many schools managed by Region XIX. GTLO states these children are at risk due to industrial pollutants such as metal fume material transferred from the outdoor air into the classroom through the evaporative air conditioner.

RESPONSE 39: The ED disagrees the guidance provided by the ED regarding the selection of receptor sites was exclusion through omission. The ASARCO Air Quality Analysis Protocol notes ASARCO should develop a receptor grid that extends 50 km from the site, including areas of Texas, New Mexico, and Mexico. Additionally, all identified schools and ambient monitors within 50 km should be modeled as discrete receptors. Even if ASARCO did not identify all schools within 50 km to include in the modeling demonstration as discrete receptors, ASARCO has demonstrated air emissions from the smelter would not adversely affect human health and welfare for all locations within the modeling domain, based on the representations made in the permit application.

COMMENT 40: GTLO states the model and direction provided by the ED fails to consider plume dynamics and plume characteristics, and states this is a particular concern with regard to Dr. Green elementary, as there are no natural barriers to prevent direct contact between the school and ASARCO's sulfurous plume.

RESPONSE 40: The modeling demonstration was conducted using the EPA preferred regulatory model AERMOD (American Meteorology Society/EPA Regulatory Model). Plume dynamics and characteristics are accounted for in AERMOD by plume rise and dispersion algorithms appropriate for both the convective and stable boundary layers.[33] While there are no natural barriers between Dr. Green Elementary and the ASARCO site, ASARCO has demonstrated air emissions from the smelter would not adversely affect human health and welfare, based on the representations made in the permit application.

COMMENT 41: GTLO states the ED indicated ASARCO not model downwash effects outside of the property line, and questions why the ED required this protocol since UTEP is adjacent to the ASARCO smelter. GTLO states not considering downwash is another example of the failure to protect students in the region. GTLO states the interpretation of THSC § 382.052 used by ASARCO and the ED creates an omission that fails to provide honest services to the community's most sensitive citizens.

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[33] U.S. Environmental Protection Agency, 2004: AERMOD: Description of Model Formulation. (EPA-454/R-03-004)

RESPONSE 41: Downwash effects were accounted for in the modeling demonstration. ASARCO was directed to provide a table listing all downwash structures used in the modeling demonstration and the associated building/tier heights. Input data for these downwash structures were used in the downwash analysis and are consistent with the aerial photography, plot plan, and data in the air quality analysis.

COMMENT 42: ASARCO states reactivation of the smelter will result in an economic benefit to the community of El Paso and the State of Texas, citing a three part study conducted by the Institute for Policy and Economic Development at the University of Texas at El Paso. Congressman Reyes states reopening the smelter could jeopardize El Paso's potential for a new level of prosperity.

RESPONSE 42: Under the TCAA, the positive or negative impact to the local economy is not a factor for consideration by the TCEQ when evaluating whether to approve a particular permit application.

COMMENT 43: Senator Shapleigh states ASARCO is the worst type of corporate citizen, citing the pending federal bankruptcy and the numerous claims and environmental complaints from across the country. The City of El Paso states ASARCO is one of the biggest polluters in US history, filing bankruptcy largely because of its massive environmental liabilities. The City of El Paso states ASARCO has admitted to environmental responsibility for almost one hundred sites across the U.S. and has billions of dollars in environmental liabilities, and the City cites a number of pending claims. GTLO states the El Paso Independent School District (EPISD) has a claim against ASARCO for the removal and disposal of contaminated soil at 4 EPISD schools. GTLO states the pending claims against ASARCO stem from the likelihood ASARCO was negligent while operating in El Paso and air quality subsequently has detrimental effects on school property.

RESPONSE 43: For this application, ASARCO filed for bankruptcy after the ED conducted his review and completed the draft permit. THSC § 382.055(d) provides, in determining whether and under which conditions a preconstruction permit should be renewed, the Commission shall consider, at a minimum the compliance history of the applicant and the condition and effectiveness of existing emission control equipment and practices.

COMMENT 44: ASARCO states the community supports reactivation of the smelter, citing over 1,000 inquiries received by ASARCO, a series of community meetings, and over 1,000 letters received by the Commission since the ED's Report was filed on May 1, 2007. Senator Shapleigh comments the El Paso community, elected officials, the City of El Paso, the Muncipio of Juarez, the City of Sunland, New Mexico, and area legislators have opposed the reopening of ASARCO. Congressman Reyes states El Paso elected officials and thousands of his constituents oppose renewal of Permit No. 20345.

RESPONSE 44: The ED has reviewed the permit renewal application in accordance with applicable requirements of the FCAA and TCAA, and performed the directives set forth in the Commission's Interim Order. THSC § 382.055(f) and (g) set forth specific provisions for renewal of an air permit, including a schedule of requirements to which the applicant must adhere if the Commission determines facility will not meet permit renewal requirements.

COMMENT 45: GTLO states the TCEQ and its predecessor agencies have acted in collaboration with ASARCO to promote industry, at the cost of public health, causing reckless harm to the El Paso community for at least one decade, ignoring the facts, and stonewalling the community by failing to provide honest services. GTLO states it is clear the ED's staff favors ASARCO.

RESPONSE 45: The ED disagrees the TCEQ has acted in collaboration with ASARCO. The ED reviews air quality permits to determine whether all applicable state and federal statutes, rules, and standards are met, without regard to the particular applicant. THSC § 382.055 mandates the TCEQ must renew the permit if all criteria are met.

COMMENT 46: NMED states the TCEQ has failed to provide an analysis of whether the proposed restart of the smelter constitutes construction of a new facility or a major modification and is therefore subject to review under the PSD program, citing to the *Entergy Monroe* case. NMED states under *Entergy Monroe*, a shutdown of more than two years is presumed to be permanent unless the owner can demonstrate a continuous intent to reopen. NMED states among the factors for determining the operator's intent is the status of the source's operating permit and whether permit fees have been paid. The City of El Paso states ASARCO has not demonstrated intent to restart the smelter in the foreseeable future, citing testimony from the hearing on the merits. NMED states ASARCO has not paid its Title V fees and has allowed the permit to lapse. NMED notes the payment of permit fees and the maintenance of active permits were among the conditions stipulated by TCEQ in its April 19, 1999, letter to ASARCO as a prerequisite for the shutdown to be considered temporary on an indefinite basis. ACORN and the City of El Paso comment the EPA's Reactivation Policy may apply to ASARCO's reactivation, and states the ED's Report does not explain why ASARCO should not be required to apply for and receive a PSD permit. ACORN and the City of El Paso state the proposed startup of ASARCO's smelter is subject to PSD requirements. Sierra Club and the City of El Paso comment this is a case of speculative permitting, stating ASARCO has failed to come forward with any specific plans on the record about re-start or re-opening.

RESPONSE 46: The Executive Director's Report addresses the issues raised in the Commission's Interim Order regarding whether ASARCO's air quality permit may be renewed. When originally reviewed, the permit was issued to a previously grandfathered facility and resulted in a significant reduction in emissions and, therefore, did not trigger federal review. For these reasons, the only matter under consideration is whether the state permit authorization may

be renewed; federal permitting review and whether reactivation of the plant would require that review is a separate permitting action and is not an issue for renewal.

As stated in TCEQ's November 3, 2005 letter to NMED, the TCEQ responded the threshold requirement for determining applicability of the Reactivation Policy is restart of the ASARCO smelter. Therefore, the ED believes application of the Reactivation Policy should not be considered until ASARCO demonstrates it is ready to restart. In his Report the ED recommends certain actions be taken by ASARCO. If the Commission adopts the ED's Report, ASARCO will provide the ED with a report of certain activities no later than 90 days prior to startup. At that time, the applicable requirements should be applied to the totality of the circumstances surrounding the idling and the reactivation of the smelter. The reactivation policy requires a case-by-case review, which is extremely fact intensive.

COMMENT 47: ACORN comments the deadlines included in the Commission's Interim Order are a "schedule" as that term is used in Texas Health & Safety Code § 382.055(g), which provides "[i]f the applicant does not meet those requirements in accordance with the schedule, the applicant must show cause in a contested proceeding why the permit should not expire immediately." Senator Shapleigh, Sierra Club, and the City of El Paso state the ED and ASARCO failed to meet the deadline in the interim order. Senator Shapleigh and ACORN state this matter should be referred to SOAH for a contested show-cause hearing.

Senator Shapleigh and the City of El Paso state ASARCO and the TCEQ failed to meet mandatory deadlines in the Interim Order, therefore Air Quality Permit No. 20345 is effectively denied. The City of El Paso states ASARCO failed to timely obtain third-party consultants as required by the ED, and states events related to the third-party consultants occurred weeks and months after the Commission's deadline for completion of the ED's Report. Senator Shapleigh states ASARCO's failure to procure a timely independent third-party audit as ordered by the Commission effectively terminates any right to renew Air Quality Permit No. 20345. Senator Shapleigh states the ED may claim no statutory or plenary authority to set its own deadlines or create procedure ad-hoc in contradiction of an explicit Commission order.

ASARCO states the permit renewal application should not be denied solely because the ED's Report was not completed by November 10, 2006. ASARCO states the Commission did not act on a motion urging this position in December 2006, and such a position is even less justifiable now the investigation is complete and the ED's Report has been issued. ASARCO states the unprecedented scale of the investigation and the need to retain two specialized consultants justify the additional time needed to complete the ED's Report. ASARCO states Protestants have characterized the need for an extension as the result of ASARCO's "foot-dragging" or "lack of cooperation." ASARCO presumes if the ED was of the opinion ASARCO's conduct warranted it, the ED would have recommended denial at the November 10, 2006, deadline rather than requesting an extension.

RESPONSE 47: The ED disagrees the deadline in the Interim Order is the schedule referred to in THSC § 382.055(g). The ED interprets the reference to the schedule in THSC § 382.055(g) to correspond to the schedule referenced in THSC § 382.055(f). Therefore, this matter should not be referred to a show-cause hearing on the basis of failing to meet the deadline in the Interim Order. The ED's Report, which is the report required by THSC § 382.055(f), includes a recommended schedule for meeting the requirements in the Report. If the Commission adopts the ED's Report and recommended schedule, this matter may be referred to a show-cause hearing if ASARCO fails to meet the Commission's requirements within the schedule adopted by the Commission.

COMMENT 48: ACORN comments should the Commission decide this case based on evidence adduced in the ED's Report, the Commission will be relying on evidence outside the record developed by SOAH. ACORN states this would deny the Protestants basic due process by precluding cross-examination or any challenge, and for this reason ACORN objects to the Commission's consideration of the ED's Report and moves that it be struck from the record in its entirety.

Senator Shapleigh states the TCEQ is bound by precedent to call a contested case hearing in the public interest on Air Permit No. 20345. Senator Shapleigh states the ED's Report proposes to circumscribe and disregard the public interest by disallowing a public hearing on the permit. Senator Shapleigh states the Commission is bound by its prior determination this case merits a contested case hearing in the public interest. Senator Shapleigh states the updated modeling must also be subject to a contested case hearing in the public interest.

Senator Shapleigh comments the ED failed to conduct a Constitutional analysis on whether due process demands a public hearing on Air Permit No. 20345. Senator Shapleigh states the ED's Report concludes ASARCO will not meet the requirements for renewing its permit and does not recommend issuance, and then in apparent contradiction, outlines a process for granting the permit, without a public hearing. Senator Shapleigh states given the great risk to the public health, ASARCO's miserable record of environmental safety, and the clear value of the past hearing denying the permit, the ED failed by not conducting a Constitutional due process analysis and recommending to the Commission a public hearing on Air Permit No. 20345.

Senator Shapleigh comments the recommendations of the ED are contrary to established precedent, contrary to the ALJs' recommendations, circumvent full public participation in the permitting process, and fall beyond the scope of his authority to cure ASARCO's failure to comply with procedure.

Senator Shapleigh and the City of El Paso state the findings of the ALJs remain on the record and have not been overruled or otherwise contradicted. Senator Shapleigh and the City of El Paso state the Commission should uphold the ALJs' rulings and deny the air permit renewal.

Sierra Club states it is inappropriate to invoke the ED's Report to nullify or buffer the previous ineffectiveness finding made by the Commission.

Sierra Club states a contested case hearing was conducted pursuant to Commission rule and Chapters 2001 and 2003 of the Texas Government Code, and the record is closed. Sierra Club states the Commission may not consider evidence outside the record. The City of El Paso states the record has not been reopened and the ED's Report and ASARCO's modeling and air quality analysis are outside of the record. The City of El Paso states the Commission's decision on this permit renewal application must be based on evidence in the record. Sierra Club states, through the APA, the legislature explicitly granted due process rights to parties. Sierra Club objects to the admission of any additional evidence (i.e. the ED's Report) without remand to SOAH for the opportunity for all parties to conduct discovery, present additional evidence, and participate in an additional evidentiary hearing where evidence and testimony may be presented and cross-examined for full disclosure of the facts. The City of El Paso requests a contested hearing to protect due process rights under the APA. GTLO states the Commission cannot deny fundamental rights under the U.S. Constitution to equal justice under the law.

Sierra Club comments the ED's Report fails to address critical findings of fact and conclusions of law. Sierra Club states nothing in the ED's Report changes the findings of the ALJs in this matter. Sierra Club states ASARCO has failed to meet its burden and the ED has not provided a basis for altering the ALJs' proposed findings and conclusions. OPIC states the ED's Report merely re-urges arguments made at the hearing as a party supportive of the renewal application without regard to the Commission's Interim Order determination.

The City of El Paso states the ED's Report and ASARCO's air modeling analysis and related modeling fail to address the issues raised by the Commission at its February 8, 2006, Agenda Meeting and provide no information on which the Commission can rely in making its final decision in this proceeding.

RESPONSE 48: The ED and ASARCO were directed, as a result of Commission consideration of the ALJs' October 27, 2005 Proposal for Decision, to perform certain assessments in order to make the required determinations under THSC § 382.055(d)(2) and (e). Accordingly, the application was remanded to the ED to comply with THSC § 382.055(f) and (g), which required issuance of a report and schedule for additional requirements prior to a Commission decision denying a permit renewal application. The information set forth in the ED's Report supplements the prior analysis of ASARCO's renewal application. There has been an opportunity for comment on the ED's Report and the ED's Response to Comment has been made available to the parties and citizens of El Paso. Both the ED's Report and this Response have been posted on the Commission's website to ensure maximum public accessibility. If ASARCO fails to meet the requirements set forth in the Commission's schedule, it must show in a contested case hearing why the permit should not expire immediately. While the ED appreciates the concerns raised

regarding the unique renewal statutory requirements associated with air permit renewal applications, the ED does not believe there is a violation of constitutional due process.

COMMENT 49: ACORN comments the Report's recommendations have contingent deadlines, and THSC § 382.055(f)(2)(A) requires a final deadline for meeting the Commission's requirements. ACORN submits the deadlines provided in the Report do not comport with the rule. ACORN states the Report's deadlines are not sufficiently specific to determine compliance.

RESPONSE 49: The ED agrees THSC § 382.055(f)(2)(A) requires a final deadline for meeting the Commission's requirements. However, the ED's Report contains some flexibility given the uncertainty of when the Report would be considered by the Commission. The ED has recommended a final deadline of 365 days from Commission consideration and action on the Report. The recommended deadlines in the ED's Report can be made final if the Commission adopts the recommendations of the ED.

COMMENT 50: ASARCO comments the 365 day period recommended in the ED's Report represents a very ambitious timetable for completing the ED's recommendations. ASARCO asks the ED and the Commission to consider two complicating factors not identified in the Report: whether custom-manufactured components may be more easily replaced rather than repaired and ASARCO's bankruptcy status will require ASARCO to obtain court approval for expenditures necessary to complete the ED's recommendations.

RESPONSE 50: While consideration of factors such as the availability of custom-manufactured components and ASARCO's bankruptcy status may be warranted, the ED's recommended schedule is intended to comply with THSC § 382.055(f)(2)(a), which requires completion of the final date for meeting Commission requirements as expeditiously as possible. Accordingly, the ED has not modified the recommended schedule.

COMMENT 51: OPIC and Sierra Club find the Commission erred in requesting the ED's Report, stating a remand to the ED for the purpose of a second review of the application and second opportunity for ASARCO to carry its burden of proof requires a strained interpretation of THSC § 382.055. OPIC and Sierra Club comment THSC § 382.055 applies to the ED's initial technical review of the renewal application, rather than to a review of the application following the issuance of an ALJ's PFD. OPIC and Sierra Club state 30 TAC §§ 116.310-116.314 implement THSC § 382.055. OPIC and Sierra Club comments the ED found ASARCO met all the applicable requirements for renewal and consequently eliminated the need for issuance of a further report under THSC § 382.055 and 30 TAC § 116.314.

RESPONSE 51: Following the Commission's exercise of its plenary authority to hold a hearing in the public interest, the Commission determined ASARCO failed to demonstrate the effectiveness of its existing control equipment and practices as set forth in THSC § 382.055.

Because the ED had originally recommended renewal of the permit, the schedule provisions of THSC § 382.055 and 30 TAC § 116.114 were not triggered. Therefore, in order to comply with the statute and consistent with the Commission's Interim Order, the ED has prepared a report and recommended schedule.

COMMENT 52: Sierra Club states the City of El Paso's Motion for Immediate Denial of ASARCO's Application should be granted. Sierra Club states the Commission may deny the permit renewal application pursuant to 30 TAC § 50.117, or revoke ASARCO's permit pursuant to Texas Water Code §§ 7.302 and 7.303. Sierra Club states ASARCO failed to demonstrate it will not cause or contribute to a condition of air pollution, and it may not have a permit. Sierra Club states the ED's Report fails to change the impact of ASARCO's failures, and the application must be denied.

RESPONSE 52: The Interim Order issued by the Commission directed the ED to conduct an investigation and prepare a report pursuant to THSC § 382.055. The ED has completed his investigation and submitted recommendations to the Commission. The ED's Report and any related schedule and the comments shall be considered for Commission consideration during a public meeting.[34] It is within the Commission's discretion to consider other requests and motions, and the Commission will make the ultimate decision regarding the renewal of Permit No. 20345.

COMMENT 53: The City of El Paso states the Professional Services Agreement between ASARCO and EHP contains the following terms that fail to meet the requirements of the ED's May 5, 2006, letter and limit the impartiality of the review:

- EHP agreed it would hold in strict confidence any and all information provided by ASARCO or obtained from ASARCO's site and any data, findings, and results of EHP's work.
- EHP was required to provide a draft report to ASARCO for review and comment prior to preparing a final report. In addition, EHP was required to consider ASARCO's comments in formulating and finalizing the final report.
- EHP was required to maintain confidentiality of all documents, including drafts, and ASARCO retained the authority to determine what information was turned over to TCEQ and by what method such information was provided to TCEQ.
- EHP representatives could not enter the ASARCO smelter unless they were accompanied by ASARCO personnel, unless ASARCO granted permission otherwise.
- EHP was required to advise ASARCO of any investigation or inspection by any federal, state, or local government.

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[34] Commission Interim Order, March 10, 2006.

The City of El Paso states, through the Professional Services Agreement, ASARCO altered the standards for EHP's review as a process engineer of the air quality control equipment at the ASARCO smelter, by substituting the word "could" for "will" in the Agreement.

The City of El Paso states the potential the reviews provided by EHP and Arnold Srackangast are not impartial because of conditions imposed by ASARCO leads to the conclusion parties such as the City must be given an opportunity to determine whether the reports are truly impartial. The City of El Paso states such a determination can only be made through a contested case hearing.

The City of El Paso comments the terms of the third party consulting agreements limit the impartiality of the review and thus call into question the validity of the results. The City of El Paso states both professional services agreements do not comply with the impartiality standards outline in the ED's May 5, 2006 letter. The City of El Paso states EHP has previously provided metallurgical consulting services to ASARCO and was retained to continue providing those services, and the City states given the past and apparently on-going relationship between ASARCO and EHP, it is difficult to fathom how EHP could be considered an impartial third party.

Senator Shapleigh comments the ED created a conflict of interest when the ED allowed ASARCO to hire and fund an employee to conduct its own air modeling audit on its own air quality permit. Senator Shapleigh states the relationship between ASARCO and the Modeling Auditor was an employee relationship and not the independent third-party relationship required under the Interim Order. Senator Shapleigh states by allowing ASARCO to influence the investigation into their air permit renewal, the TCEQ effectively aligned its interest with ASARCO at the expense of El Paso citizens.

RESPONSE 53: The ED disagrees the terms of the Professional Services Agreement (Agreement) limited the impartiality of the third party consultants. Although the Process Engineer was required to provide a draft report to the TCEQ and ASARCO, the Agreement states any comments received may be, but are not required to be, included in the Process Engineer's final report. Further, the Agreement states the Process Engineer shall exercise his independent professional judgment in conducting the review and preparing his final report. Finally, the Agreement specifies ASARCO's or TCEQ's agreement or disagreement with the Process Engineer's conclusions shall not be considered evidence of compliance with, or a breach of, the Agreement.

The Agreement for both consultants specified all direction and communication to the consultants be made jointly by the TCEQ and ASARCO. Under the Agreement, the consultants and ASARCO agreed to only communicate in the presence of a TCEQ representative and to copy the TCEQ on all written or electronic communication.

Consistent with the Agreement, ED staff and ASARCO jointly communicated with the Process Engineer. On January 3 and 4, 2007, ED staff and ASARCO accompanied the Process Engineer on a smelter tour and inspection. The Process Engineer provided his final report to the TCEQ and ASARCO on April 9, 2007. 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 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 ADMT reviewed the independent modeling audit report and offered responses to the Modeling Auditor's comments in the ED's Report.

In any permitting case, the applicant bears the burden of proof to demonstrate all regulatory requirements are met by the application. Reliance on third parties to assemble information and perform analysis in support of a permit application is a common practice. Most of the work that must be performed in complex permitting matters is beyond the expertise of the applicant and beyond the resources of the TCEQ. The TCEQ relies on the expertise of these third-party professionals to perform the initial scientific analysis needed. ED staff then reviews the submission made by the third party on behalf of the applicant. For instance, air quality modeling is generally performed by a third party hired by the applicant and then audited by the TCEQ modeling staff.

ED staff closely scrutinized the work of the third-party contractors in making a recommendation to the Commission. The ED believes the analysis performed by the third-party consultants was consistent with the terms of the Agreement. These actions were taken ensure the independence of the third parties.

CHANGES TO THE ED'S REPORT IN RESPONSE TO COMMENT

The ED evaluated the comments set out above. Responses were provided explaining how the comments were addressed in the ED's evaluation and subsequent Report. Numerous permit changes and actions are recommended in the ED's Report; however, in response to comments received, the ED does not recommend any revisions to his Report.

Respectfully submitted,

Texas Commission on Environmental Quality

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Representing the Executive Director of the Texas Commission on Environmental Quality

CERTIFICATE OF SERVICE

On the 27th day of July, 2007, a true and correct copy of the foregoing instrument 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.

Brad Alan Patterson

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
2007 JUL 27 PM 4:47
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