**San Antonio Area Early Action Compact**
**Ozone State Implementation Plan Revision**
**Rule Log Number 2004-085-SIP-NR**

**San Antonio Area Early Action Compact SIP: Response to Comments**

The commission received comments from the following entities: Alamo Area Council of Governments (AACOG), Chemical Lime, Ltd. (Lime), Citizens Organized for Good Science (COGS), City of Cibolo (Cibolo), City of New Braunfels (New Braunfels), City of Seguin (Seguin), Department of Defense (DoD), Environmental Defense (ED), Greater San Antonio Chamber of Commerce (SACoC), Guadalupe County (Guadalupe), United States Environmental Protection Agency (EPA), and 4 individuals.

General

AACOG, ED, DoD, SACoC, and an individual expressed their support and appreciation of the Early Action Compact (EAC) concept and the TCEQ's cooperation with areas in its implementation.

**The commission appreciates the support for the EAC concept, and reaffirms its commitment to the EAC process and principles. The commission also looks forward to continuing to work with the commentors and all those involved in the Texas EACs to achieve and maintain air quality in Texas.**

EPA expressed their appreciation to the commission for ensuring that the EAC SIPs and rules do not adversely affect the states' nonattainment areas.

**The commission appreciates the commentors' support and will continue to ensure that its SIPs and rules for nonattainment and EAC areas in Texas compliment each other.**

EPA suggested that the TCEQ and local areas may wish to track future regulation changes in surrounding areas to assess their impact on the EAC areas and ensure continued progress toward attainment.

**The Protocol for Early Action Compacts requires implementing "a continuing planning process that includes modeling updates and modeling assumption verification." As part of this process, future regulation changes in surrounding areas will be evaluated.**

One individual stated that an Early Action Compact SIP is not needed because the area is an attainment area.

**The area fails to meet the 8 hour NAAQS for ozone. The EAC precludes designation of the area as nonattainment if the activities outlined in Table 1.1-1 of the SIP are met.**

San Antonio Comments

AACOG and SACoC expressed their appreciation for the commission's cooperation in their local air quality planning efforts over the years and for the opportunity to implement an EAC.

**The commission has been pleased to work with the area in local air quality planning efforts and to be involved in the development of the EAC for areas like San Antonio.**

AACOG, EPA, Lime and SACoC all expressed their support for the San Antonio EAC SIP revision. Lime and SACoC both expressed their support for the local attainment plan submitted to the commission.

**The commission appreciates the commentors' support for the EAC plans and proposed SIP revisions and looks forward to continuing to cooperate in the implementation of the locally developed plan as integrated into this SIP revision.**

Transport

An individual questioned whether the SIP addresses transport issues.

**Section 4.4 of the SIP and Appendix M both address transport. In addition, the SIP addresses both inter-state and intra-state transport impacts in the background concentrations in modeling. Under the FCAA 110(a)(2)(D), states are required as part of their SIPs to control emissions that will contribute significantly to nonattainment or interfere with maintenance by another state.**

COGS submitted an analysis of the impact of transport on several episodes of high local ozone in the San Antonio area.

**The commission appreciates the commentor's presentation and contribution to air quality science. Analyzing air quality events is a complex undertaking that often involves multiple models and tasks. TCEQ will evaluate the information the commentor submitted as part of the continued air quality planning process.**

Cibolo commented that all exceedances in the San Antonio area are influenced by transport and transport of pollutants into the area continues. An individual also commented that the local San Antonio area only generates 20-25% (or, as estimated by commentor, 17-21 ppb) of the ozone in the area and that the rest is from outside and out of area's influence.

**The commission agrees that transport is an important issue affecting ozone levels in the San Antonio area, and that a significant portion of local ozone in the San Antonio area originates outside of the area. However, a portion is also under local control and can be successfully addressed at local level, as the EAC is designed to do.**

Cibolo and an individual commented that regardless of what measures were implemented at the local level, they would make no difference given the impact of transport on the area. In addition, COGS commented

that the area will fall into nonattainment in 2007 if wind is from the east or northeast, regardless of control strategies in place.

**The commission disagrees with these comments. Modeling completed by the area for the purposes of the SIP indicates that the area will achieve the 8-hour ozone standard by its EAC goal of 2007 with the measures included in the SIP. In addition, this modeling represents a typical transport episode, with winds from the east and northeast for much of the episode, and accounts for the influence of transport on the area.**

COGS and Cibolo requested a change in EPA transport policy.

**It is not within the scope of this SIP or the authority of the commission to change EPA's policy on transport. TCEQ continues to engage EPA in policy discussions to further the related science.**

COGS and Cibolo requested the commission's support of passage of HR 1891. Cibolo stated that if EPA was as aggressive regarding transport as it has been in nonattainment designations then HR 1891 would not be necessary.

**The commission looks forward to any direction Congress provides to EPA and the states regarding the transport issue and exceptional events. However, the commission declines to use the SIP process to show support for passage of this measure. The SIP is not an appropriate place to express a position on legislation.**

**The commission believes that EPA's options for addressing transport are limited by federal law, primarily the FCAA, and that federal courts have significantly limited EPA's transport rules: the Section 126 Rule and the $NO_X$ SIP Call. The TCEQ previously submitted a BPA SIP with an extended attainment deadline based on a transport demonstration (in this case transport from HGB). The EPA's approval of this SIP was ultimately overturned by the courts.**

Cibolo requested that an exemption for future transport related exceedances be included in the SIP.

**The state does not have the authority to exempt the San Antonio area from future transport related ozone exceedances. That authority lies with the federal government.**

Guadalupe asked whether the SIP includes exemptions allowed for international transport, including an estimated 5-10% of background from Asia.

**As stated previously, impacts from transport of ozone precursors from other areas, within Texas and upwind states, into the San Antonio region are reflected in the background concentrations.**

**FCAA § 179B, International Border Areas, allows the EPA to approve an "exemption" from certain attainment demonstration requirements for areas that show that attainment could be demonstrated but for emissions emanating from outside the U.S. This provision does not prevent a nonattainment designation, nor the requirement to make reductions through local controls.**

Guadalupe asked why the commission has no plan to begin negotiations under CAA to reduce regional emissions.

**The commission recognizes that Texas' air quality problems cannot be solved and the national air quality standards cannot be attained without regional and national controls that address emissions from neighboring states. The TCEQ has been actively engaged in discussions with the EPA regarding this issue and will continue to work to encourage and facilitate such reductions within Texas and in our neighboring states.**

**In addition, EPA has proposed an Interstate Air Quality Transport rule (now called the Clean Air Interstate rule) to reduce $NO_X$ and other emissions from large point sources in 29 states. The TCEQ supports, in principle, reductions that address national and regional transport of pollutants, and have provided comments to EPA on their proposed rule. In addition, the TCEQ urges EPA to implement emission reduction programs in a way that maximizes the emission reductions from sources that impact Texas.**

New Braunfels commented that they and the AACOG AIR Executive committee realized that transport was an issue in San Antonio's air quality, but also recognized and aimed to address their own contribution to local pollution.

**The commission agrees that transport is an issue and that large urban areas contribute to air quality issues in Texas. The best way to address air quality in Texas is through implementing measures at the local level combined with regional measures to reduce background levels.**

Opportunity for Comment

An individual commented that there was insufficient opportunity for comment and asked why the public hearings were not given reasonable notice in local and regional media.

**Two public meetings were held in San Antonio on August 26, 2004. A 30 day public comment period allowed opportunity for public participation. In addition, public comment on all EAC SIP packages was accepted at public meetings held in Austin and Longview as well. Written comments submitted by mail, email, and fax were also accepted.**

**The notices given for the public meetings met federal and state requirements for reasonable notice. The commission met the statutory requirements for public notice through local**

**newspapers and the Texas Register. In addition, the TCEQ provide public notice on the agency's website. The format for notice of this meeting is identical to the notice given in all meetings on rule and SIP measures the EPA has approved as part of the Texas SIP.**

**The commission is committed to full participation by the public in its processes. The Federal Clean Air Act and state rules on public participation were followed on the EAC SIP packages.**

An individual asked why there were no commission press releases in cities where hearings were held or explanations to radio and TV about purpose of hearing.

**Generally, the TCEQ does not issue press releases on meetings for rulemakings or SIP revisions Information on these hearings and their purpose is made available on the commission website, in the newspaper notices and in the Texas Register. The TCEQ is always available to answer any questions or provide information to media outlets that request information on agency processes. It is up to individual news organizations to determine whether to broadcast such information. However, the TCEQ will consider issuing press releases for future public hearings.**

An individual asked if the commission is required to post notice in local newspapers and whether this was done for all cities with hearings.

**The TCEQ is required to post public notice in local newspapers for public hearings. Notices were published in the Austin American Statesman on July 20, the San Antonio Express News on July 18, and the Longview News Journal on July 19.**

Cibolo commented that the commission had publicly defended its practice of using daytime hearings to reduce attendance and that an evening hearing was scheduled only after letters were sent to AACOG, the commission, and EPA, and after a request from EPA to the commission. An individual also commented that public intervention by Mr. Mims was required to get an evening hearing.

**The commission decided to grant a second hearing for the San Antonio area as a result of a request by Mr. Mims and other citizens. TCEQ schedules hearings based on the availability of facilities, court reporters, the appropriate notice requirements, ability to accommodate the number of commentors, and in the case of multiple hearings, the availability of appropriate staff to respond to issues. Often when numerous commentors are expected, a daytime hearing is selected to allow ample time for everyone to speak.**

AACOG, New Braunfels, and 2 individuals expressed their appreciation for the hearings in San Antonio. In addition, New Braunfels and an individual expressed their opinion that there was sufficient or more than sufficient opportunity to comment.

**The commission appreciates commentors support and agrees that sufficient opportunity for**

**comment was provided.**

An individual commented that AACOG has prevented public participation in development of plan.

**The commission believes that the stakeholder process in San Antonio has been a success. AACOG's public participation process has been assessed by EPA and others and found to meet all applicable public participation requirements.**

An individual commented that the San Antonio SIP proposal contains no documentation of public input from the local plan drafting process.

**Appendix J of the San Antonio SIP contains description of the various AACOG AIR committees, their structure, rule and policies. The AACOG AIR committees have been the primary mechanism for public involvement in the development of the area's local attainment plan. In addition, as described in the SIP, AACOG conducted several public meetings to allow for more public participation and comment during the development of the plan. The input received at these meetings has been added to Appendix J.**

EI, Modeling, and Technical Issues

Guadalupe questioned why the SIP revision is not peer reviewed. The commentor also stated that the OMB is concerned about the lack of peer review of EPA's work.

**The FCAA requires that states submit a clean air plan to EPA for approval. Peer review of the SIP is not required by federal law. The commission believes peer review is a natural part of the extensive public input into the SIP process at the local and state level over the two years leading up to submittal. Technical review of all EAC SIP proposals are conducted by qualified staff at the local, state, and federal levels. The public comment process offers technical experts a significant opportunity for review of local, state, and federal proposals. EPA must review and approve any SIP or SIP revision submitted by the state. EPA also provides an opportunity for comments during their review process.**

Guadalupe asked whether the SIP addresses the mandate of EPA's strategic plan that requires best available scientific information, models, methods and analysis.

**The early action plan submitted by AACOG for inclusion in the Texas SIP contains substantial monitoring and modeling data, including descriptions of methods and analysis of its findings. The plan submitted by AACOG as integrated into the San Antonio SIP revision meets the requirements of the FCAA.**

Guadalupe questioned why the SIP does not include an analysis of the impact of individual power plant

plumes on local ozone levels.

**Ozone modeling with the CAMx model explicitly addresses plumes from individual point sources, with the Plume in Grid algorithm. Point source plumes have been included in this modeling.**

An individual commented that City Public Service (CPS) is not addressed by the SIP, that power plants such as CPS should not be allowed to choose their own rules, and that they are only doing what is federally required to reduce emissions.

**Emissions from CPS are included in the area's photochemical modeling and in the SIP. As previously stated, this modeling indicates that the area will achieve the 8-hour ozone standard by its EAC goal of 2007 with the measures included in the SIP. However, under the EAC the local area has the option to pursue additional measures, including those for local point sources like CPS. CPS has made additional emission reduction commitments as part of the EAC, including a commitment to not increase its emissions in the future despite an increase in its capacity.**

Guadalupe asked why the SIPs fail to address recent findings about serious discrepancies in EPA ozone models (cite L. Marfu - Geo. Phys. Res. Let. Jul 15 2004 - about Aug 2003 blackout & air quality).

**The referenced paper describes aircraft measurements made during the 2003 North American electrical blackout, showing the decrease in $NO_X$, SO2, and ozone levels over Pennsylvania during the blackout. The paper suggests that the ozone reductions were greater than expected, and speculates that power plant emissions may have been understated or inaccurately represented in EPA modeling. Power plants in Texas have continuous emissions monitors (CEMs) and those measurements were incorporated into CAMx with the Plume in Grid algorithm for the San Antonio modeling.**

Guadalupe asked why the SIP does not discuss the role of chlorine from the Houston area on Austin and San Antonio. In addition, this individual asked why no discussion of an"internal TCEQ debate" over this issue and "internal changes of exaggerated findings and research paid for by the taxpayers" was included in the SIP.

**The commission funded preliminary research by The University of Texas, which found the impact of chlorine emissions on ozone formation is relatively small compared to the impact of VOC and $NO_X$ emissions in Houston. The impact of chlorine emissions is expected to be less significant in the San Antonio nonattainment area. This question has been previously discussed and resolved in TexAQS scientific meetings as well as technical meetings in San Antonio.**

Guadalupe questioned why the SIP does not discuss the role of smoke and fire in local air quality.

**Research conducted by the University of Texas at Austin during the 2000 TexAQS quantified**

**ozone precursor emissions and has shown that fires in western Louisiana and eastern Texas add a small amount to the background levels of ozone found in East Texas. These findings are based on the amount of wildfires observed in Texas during 1999. These contributions have been accounted for in the photochemical modeling.**

COGS asked whether AACOG submitted Appendix M (Transport study) to the commission.

**Appendix M was submitted to the commission as part of the local attainment plan March 31, 2004. The appendix was also included the in the proposed SIP revision for the area. Appendix M will be provided to the U.S. EPA as part of this SIP revision.**

EPA requested further documentation in the SIP language explaining the development of the future base case emissions inventory outside of the local EAC areas.

**Each of Austin and San Antonio developed its own base case and growth emissions files for its own local area, and shared those files with other areas. The commission provided 4-km, 12-km and 36-km emissions files for base case and future growth for areas outside of the EAC areas. The emissions files outside of the EAC areas were the same as the emissions files being used for the HGB MCR at the time the EACs were developed. Additional documentation has been provided in the SIP documents.**

**Growth and control assumptions for areas outside of Texas and Louisiana were taken from the EPA sponsored Heavy Duty Diesel Modeling for 2007. Data were downloaded via FTP from the EPA website and reformatted into AFS files for modeling. The TCEQ made diurnal adjustments to the point files, but the emissions totals were unchanged.**

EPA asked for additional data from all the EAC areas to evaluate base case performance. They based their request upon suggestions outlined in two EPA guidance documents (1991 and 1999).

EPA requested further documentation of the 8-hour ozone performance metrics for the base case modeling used to demonstrate attainment.

**AACOG has provided most of the relevant material in their 1999 Base Case Development and Performance Evaluation report which is Appendix E of the TCEQ EAC Revision for the San Antonio area. In response to this comment, additional materials have been added to the EAC SIP appendices:**

- **1-hour ozone scatter plots have already been provided, and may be found in Appendix E starting with Figure E-26 (page E-35). 1-hour ozone quantile plots have been included in the final SIP documents.**
- **Movie animations have been archived and are available on request.**
- **1-hour ozone time series data for each monitor have been provided and may be found in**

**Appendix E starting with Figure E-22 (page E-33). Additional 8-hour ozone time series which have been included in the final SIP documents.**

**The commission believes that the suite of performance measures chosen by the TCEQ and EAC areas reflect a body of evidence that satisfactorily demonstrates model performance. The commission is concerned that some performance measures suggested by the U.S. EPA may be inappropriate or of limited utility. Without sufficiently large monitoring networks, some of the statistical metrics recommended in the *draft* EPA modeling guidance may suffer from problems such as bias or overly large variances. These tests also raise the possiblity that modeling could produce apparently acceptable performance, but in reality the modeling might be producing the "right answer for the wrong reason." The commission believes that this issue could be of particular relevance for the Texas EAC areas which possess small numbers of monitors.**

**Additionally, EPA *draft* guidance is based on eight hour averaged ozone estimates. While this is consistent with the time period for the ozone NAAQS, eight hour averages smooth data and mask a number of critical performance issues (that would be apparent using one hour ozone averages) such as:**

- **location and timing of ozone peaks;**
- **the impact of source alignment;**
- **the impact of changes in wind direction;**
- **the influence of transport; and**
- **the background contribution to total ozone.**

**The commission hopes that the EPA's finalized modeling guidance will reflect the following characteristics:**

- **a limited number of practical tests;**
- **tests for which the purpose and expected outcome are clearly stated;**
- **tests which are relevant for areas with limited monitoring networks; and**
- **tests that examine location and timing of ozone peaks, source alignment, changes in wind direction, and the influence of transport and background ozone.**

**The TCEQ believes that these goals can be met by using a balanced mix of one hour performance metrics and focused, practical eight hour metrics.**

EPA noted that Relative Reduction Factors were calculated using three different methods, and requested a tabular format and further documentation of the RRF calculations.

**The EPA guidance on calculating RRF values is unclear, in that there are three possible interpretations of 'near the monitor' that lead to three computational methods, and EPA is aware**

**of this issue. The commission recommends that EPA guidance be clarified on this issue.**

**The final adjustments to the control strategies have been made. The RRF computations are provided in a tabular form for each day and monitor during the episode, in the SIP documents in Appendix H.**

EPA suggested that it might be helpful to include additional information for each day of the episode, specifying the time of the 8-hour max, the minimum, maximum, median and 8-hour average ozone for each monitor in the network.

**The commission has provided this information to the U.S. EPA.**

Monitoring

Guadalupe and an individual questioned why the SIP includes CAMS 23 data ("known to be defective") with no discussion of issues related to this data. Furthermore, Guadalupe asked whether the commission would guarantee that the commission or the EPA will be able to measure ozone as accurately as school children.

**The TCEQ estimated some bias in CAMS 23 ozone data from 2000, 2001, and 2002, and alerted data users in the local Council of Governments and the EPA during the 2001 and 2002 ozone seasons. The biases as measured by EPA-accepted methods were large enough to signal corrective actions, and small enough to fall within the acceptance tolerances stated in the TCEQ's Quality Assurance Project Plan. The biases were of such a magnitude that in total they have not affected the attainment status of the area, and data from individual days have still been useful for assessing air pollution events.**

**All TCEQ's monitors meet EPA regulatory requirements. It is the charge of the TCEQ and other environmental programs in Texas to remotely measure ozone around the clock at five-minute time resolution reported electronically in near-real-time at more than 100 locations around the state under a wide range of challenging weather conditions. The average accuracy is approximately 7 percent.**

Two individuals requested that the 20 percent error allowed by EPA for ozone monitors be changed to a "scientifically acceptable" 3 percent error.

**The stated data accuracy on individual samples (± 20 percent) does not directly reflect the accuracy of the "design value" statistics used to make regulatory decisions. A design value is based on a series of calculations involving truncations, fixed start/stop times, and data rejections that bias the design value downward, and rankings and averaging techniques that reduce random errors in the design value. These factors result in a very small probability that a monitor will be**

**incorrectly classified as nonattainment when it should really be classified as attainment. Furthermore, the presence of more than one monitor providing similar summary statistics helps to assure proper classification of an area. These facts apply to the data collected in San Antonio.**

Cibolo stated that in a November 10, 1998, memo, EPA declared itself the final authority in whether an ozone exceedance qualifies as an exceptional event.

**Under federal law there is a process for evaluating monitoring data and to determine exemptions or exceptions for monitoring data. EPA is the final approval authority for exemptions or exceptions.**

Corrections and Other Comments

EPA commented that although there was reference to Appendix I in the SIP proposal no appendix of that name was included on the web page.

**The commission appreciates this observation and has posted the appendix on the web page. The appendix is included as part of this SIP revision.**

Guadalupe questioned why the commission had no plan to ensure EPA SIP decisions made by well-qualified officials, and in particular why all nonattainment decisions for EPA Region 6 were managed by an aquatic biologist and toxicologist.

**The commission has no authority in EPA's staffing decisions. TCEQ maintains a good working relationship with EPA that promotes discussion of issues and interpretation of rules and guidance.**

Guadalupe asked why the SIP does not include a measure requiring idling of power plants on ozone action days.

**The TCEQ questions the feasibility and cost effectiveness of this proposed measure, however, under the EAC program, control measure selection is up to the local authorities. AACOG has adequately shown that it can demonstrate attainment of the 8-hour ozone standard by 2007 using the control strategies in their plan.**

Guadalupe questioned why the SIP language does not include a description of the health impacts of ozone.

**As the SIP is a plan for reaching attainment of the NAAQS, not a description or justification of the basis of the health based NAAQS as established by the FCAA and EPA, a description of the health impacts of particular NAAQS, including ozone, has not traditionally been a part of the SIP. A detailed discussion of the health impacts of ozone can be found in EPA's proposal and adoption**

**of the 8-hour ozone standard. However, language has been developed for a recent Houston SIP revision because of significant interest expressed by commentors, and this language has been included in Chapter 1 of EAC SIPs.**

New Braunfels commented that from personal experience, asthma triggers may vary from person to person, but that the commentor personally could not receive certain treatments on high ozone days due to the effect on commentor's health.

**The primary health concerns for ozone are effects to the lungs and overall respiratory system. Examples of effects include respiratory irritation and inflammation, impaired ability of the lungs to function normally, and aggravation of preexisting respiratory diseases such as asthma. These effects are generally associated with short-term exposure to high levels of ozone. Health effects from ozone generally resolve quickly once an individual is no longer exposed to high levels. However, in some sensitive individuals such as asthmatics, effects may linger and take longer to resolve. During periods when ozone is elevated, it may be advisable to limit the length and intensity of outdoor activities and spend more time indoors to reduce exposure. Ozone levels are generally highest during the hottest parts of the day during warm months. Therefore, planning outdoor activities for cooler parts of the day during warm months will generally reduce exposure and minimize the likelihood of experiencing adverse health effects.**

COGS commented that personally as an asthmatic the commentor has no problems on high ozone days but rather suffers effects in the winter due to allergies.

**Health studies have established that ozone can trigger symptoms and attacks in asthmatics. The ability of ozone to cause such effects depend on the levels of ozone in air, the length of time exposed, the breathing rate of exposed individuals, as well as a person's overall health status. During periods when ozone is elevated, it may be advisable to limit the length and intensity of outdoor activities and spend more time indoors to reduce exposure. Ozone levels are generally highest during the hottest parts of the day during warm months. Therefore, planning outdoor activities for cooler parts of the day during warm months will generally reduce exposure and minimize the likelihood of experiencing adverse health effects. Ozone levels are typically not a health concern during the winter in Texas, therefore asthma effects experienced during winter are likely attributed to factors other than ozone.**

Guadalupe asked why the SIP does not include the 4 new counties in the updated MSA.

**The EAC SIP revisions, like EPA's initial 8-hour ozone designations, are based on the 1990 MSA definitions. The EPA will include these counties in a designation only if emissions are found to significantly impact ozone in the San Antonio area.**

COGS expressed its opinion that the commission should think beyond man-made health issues and address natural issues as well, for example health alerts on high pollen days.

**Natural allergens such as pollens are beyond the scope of the commission to control through the SIP process. In many metropolitan areas, local media provides such allergy alerts through newspapers and television.**

An individual commented that they did not believe that parties to the EAC should threaten to sue EPA or try to get out of their common responsibility regarding local air quality.

**The EAC process is voluntary and offers significant opportunities to address air quality issues in the San Antonio area. The commission remains committed to the success of the EAC process.**

An individual commented that EPA and commission employees are people whose salaries are paid by public and have a moral and civil obligation to treat citizens with competency, fairness and respect.

**The commission is ever mindful that it serves the people of Texas. One of its highest principles is to ensure meaningful public participation in the decision-making process. The commission is committed to responding to all customers in a timely, efficient and professional manner, in compliance with all applicable state and federal statutes and regulations. Furthermore the commission is committed to basing its decisions on the law, common sense, good science, and fiscal responsibility.**

An individual commented that they would like to support the work of AACOG, but if they had not focused on I/M alone that the committee might have seen the obvious.

**The San Antonio plan and SIP do not include a vehicle inspection and maintenance program as a strategy. The strategies recommend by local area through AACOG will achieve air quality goals in 2007. The commission and local areas continue to monitor and evaluate each high ozone day to understand the root causes of and, if needed, alter control strategies to accurately reflect the most current science.**