

**Austin Area Early Action Compact
Ozone State Implementation Plan Revision
Rule Log Number 2004-086-SIP-NR**

Austin Area Early Action Compact SIP: Response to Comments

The commission received comments from the following entities: Central Texas Clean Air Coalition (CAC), City of Lockhart (Lockhart), City of New Braunfels (New Braunfels), Clean Air Force of Central Texas (CAF), Department of Defense (DoD), Early Action Compact Task Force (EACTF), Environmental Defense (ED), Travis County (Travis), United States Environmental Protection Agency (EPA), and 2 individuals.

General

ED, DoD 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.

Austin SIP

ED and an individual expressed their support of the Austin Clean Air Action Plan submitted to the commission by the CAC. In addition, ED, EPA, and Lockhart expressed their support for the Austin EAC SIP proposal.

The commission appreciates the commentors' support for the EAC plans and proposed SIP revisions and looks forward to continuing to cooperate to achieve air quality goals in Austin.

CAC and ED requested that the policy statements included in the CAAP as submitted to the commission March 31, 2004, be included in the Austin EAC SIP revision.

The commission feels it is not appropriate to include the CAAP as a part of the SIP language. TCEQ and the U.S. EPA are aware of the CAAP.

CAC, ED, and an individual requested that the SIP include all the measures requested by the CAC in the CAAP as submitted to the commission.

The commission did not propose all of the measures submitted by the EAC areas. Rules for lower Reid Vapor Pressure gasoline for the Austin and San Antonio areas were not proposed because a waiver from EPA would be required for these rules. Although the commission has requested such a waiver from EPA, the request it is not expected to be approved.

Two other measures submitted by the Austin EAC area, autobody refinishing and petroleum dry-cleaner requirements, were not proposed because they resulted in few VOC reductions and to justify their impact on agency resources.

The other measures submitted by the EAC area that are not part of this proposed rulemaking were a "commute reductions" measure and an offsets measures for new large NO_x sources locating in the Austin EAC Region (AER). Neither of these measures was included in the final model run for the area. The commission has expressed its concerns about adopting rules for these measures, and concluded that the TCEQ authority for these measures is precarious. The commission has an ongoing dialogue with local stakeholders in the Austin area to develop alternative control strategies.

In addition, the commission will be re-evaluating the need for further measures statewide as part of the process of developing attainment demonstrations for the state's 8-hour non-attainment areas. The TCEQ has launched a voluntary program for State Agencies in the Austin area to reduce 1750 commuting trips a day.

CAC, EPA, and Travis expressed their hope that if the commission did not include all the measures requested in the CAAP that the commission would continue to work with the Austin area to develop alternatives to address the emissions sources targeted by the proposed measures. Commentors also expressed their willingness to assist in this process.

The commission is committed to pursuing alternative methods to the measures not proposed for rulemaking with the EAC SIPs. The commission also continues to discuss the offsets measure with the local stakeholders, and is exploring options for possible implementation in a flexible, effective, and efficient manner. The commission reaffirms its commitment to continuing to work on these measures with the Austin area.

CAC and Travis expressed their agreement with the commission's position that the proposed measures do not exceed the commissions' legal authority.

The commission appreciates the commentors' support and agrees with their conclusions on this matter.

ED requested that the commission reconsider its opinion on its legal authority to require offsets in the Austin EAC area, and provided an alternative legal interpretation.

As noted in the ED's comments, the commission's July 12, 2004 memo describing the commission's legal opinion on this issue is clearly limited to the question of whether the TCEQ has the legal authority to require offsets as part of its state air permitting program. The memo was not intended to address alternative ways of mitigating emissions from new large NO_x sources in the AER. The commission respectfully disagrees with ED's alternative interpretation of the agency's statutory authority, and declines to reconsider the conclusion reached in the memo. However, the TCEQ continues to work with ED and the other Austin EAC entities to find an offsets strategy that the commission can support from both a legal and policy perspective.

Modeling

CAC and ED requested that the final modeling run be developed in consultation with the CAC and that the results be made available as soon as possible for review.

The commission agrees with the commentors that the local area, or CAPCO in the AER, is most appropriate to implement the final model runs, with the technical advice of the commission. CAPCO has completed the final model runs and the results are documented in the SIP.

CAC and ED requested that if the final modeling run did not indicate an adequate margin of safety that additional measures be considered for inclusion into the final SIP.

The final modeling run and related analysis indicate the area is in compliance and maintains an adequate margin of safety. The area's margin of safety will be increased by a number of emission reduction measures not quantified and not included in the area's modeling, including energy efficiency measures and the Clean Air Partners program.

ED requested that the commission consider the impact on the EACs of potential changes to the low-NO_x gas-fired water heater rule.

The commission agrees that it is important to consider the impact of future potential rule changes on the EACs. According to industry sources, the low-NO_x water heaters will not be available in significant numbers until January 2006. Due to the uncertainty about the implementation date of this rule and the availability of the required technology, the final modeling run for the Austin EAC SIP revision does not include statewide credit for the gas-fired water heater rule

CAC and EPA asked why the emission reduction estimate for the degreasing measure as included in the SIP language differed from that included in the CAAP.

Emission reduction estimates for this measure were revised by CAPCO staff after submission of the CAAP to the TCEQ but before the commission proposed the SIP revision. Revisions were made to eliminate double counting and ensure that rule penetration estimates were consistent with AACOG's assumptions. CAPCO shared these revised computations with its opinion that the revised data was superior to the previous estimates included in the CAAP. The revised data was integrated into the proposed SIP.

CAC and EPA inquired as to why the emission reduction estimate for the gas can measure as detailed in the SIP language varied from that calculated by the local area and included in the CAAP.

On May 26, 2004, the commission proposed a portable fuel container rule which, if adopted, will implement this measure statewide by January 1, 2006. Emission reduction estimate calculations for the proposed rule varied slightly from those included in the CAAP submitted by the local area to the commission in March 2004. For consistency, the TCEQ elected to use the calculations included in the proposed rule.

CAC and EPA requested clarification of why the emission reduction estimate used for the idling measure was different in the SIP than what was included in the area's CAAP and in the proposed rule.

The Austin CAAP documentation indicates that the proposed idling restriction rule for all vehicles over 14,000 pounds GVWR would yield 0.19 NO_x tpd of benefit. This analysis was performed by ERG several months ago in a manner similar to analyses performed by ERG under contract to the commission for the December 2000 Houston area SIP. Prior to January 2004, there was no technical guidance available from EPA on calculating the benefits from idling restriction measures. ERG developed innovative approaches to assessing the potential idling restriction measures.

In January 2004, EPA released *Guidance for Quantifying and Using Long Duration Truck Idling Emission Reductions in State Implementation Plans and Transportation Conformity*, which states that "extended idling" emissions account for 3.4% of the total emissions calculated with MOBILE6.2 for the HDDV8a and HDDV8b vehicle classes. These two vehicle types, more commonly referred to as the diesel-powered "18-wheeler" trucks, are collectively responsible for the majority of both the heavy-duty onroad NO_x and, in particular, the diesel-powered portion of the onroad NO_x. In addition, 18-wheelers are the most common source of "extended idling" events. Consequently, the majority of any idling restriction benefit will come from the HDDV8a and HDDV8b classes.

According to the EPA guidance, the 3.4% figure represents a maximum amount of SIP credit that can be claimed for idling reduction measures, whether they be mandatory or voluntary, or a combination. Therefore, under this conservative scenario for estimating emission

reductions from the idling restriction rule, where the rule applied only to the HDDV8a (33,001-60,000 pounds GVWR) and HDDV8b (60,001-and-above pounds GVWR) classes, the maximum possible benefit would be 0.67 NO_x tpd for the 5-county Austin area. This figure was developed by taking 3.4% of the HDDV8a/HDDV8b emissions for the 5-county Austin area (as developed by TTI) and processing those emissions through EPS2x by applying both a temperature/humidity NO_x correction and the benefit for LED. Thus, the appropriate level of emission reduction credit for this measure, which is now included in both the SIP revision and the rule language, is 0.67 NO_x tpd for the 5-county Austin area.

EPA requested further documentation in the SIP explaining how the future base case EI outside of the local EAC areas was developed.

Austin and San Antonio developed their 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 added to the SIP narrative to address this issue.

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 further documentation and clarification of the HGB portion of the emissions inventories, in particular whether the base or future case inventories included adjusted HRVOC data.

The EAC SIPs did not include the HRVOC emissions inventory adjustments for the HGB in the EAC modeling. 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 added to the SIP narrative to address this issue.

EPA requested clarification in the SIP language that the final modeling run will include changes to local and regional emission control strategies.

The final modeling run for the Austin EAC SIP revision does include all updates to local and regional emission controls strategies included elsewhere in the SIP. These include:

- Removal of statewide credit for the gas fired water heater rule due to uncertainty about this implementation date of this rule and the availability of the required technology;
- New statewide gas can rule as adopted;
- TERP commitment of 2 tpd;
- Vehicle inspection and maintenance program for Travis and Williamson Counties; with revised emission reduction estimates;
- Heavy duty vehicle idling rule, with revised emission reduction estimates;

- **Stage I vapor recovery rule**
- **Degreasing rule, with revised emission reduction estimates;**
- **Cutback asphalt rule;**
- **Local power plants voluntary emission reductions.**

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.

Austin followed the EPA Draft Modeling Guidance for the 8-hour ozone NAAQS and used software developed by ENVIRON for calculating ozone metrics. Austin participated in extensive discussion with the TCEQ and EPA Region 6 during the fall of 2003 to decide which metrics were most appropriate for the Austin area given the limited number of monitors in the area. The agreed upon metrics were provided and discussed in detail in their 1999 Base Case Modeling report, which is Appendix H of the TCEQ EAC Revision for the area. Below, each point in EPA's comment is addressed:

- **8-hour ozone scatter plots and quantile-quantile plots have already been provided, and may be found in the 1999 Base Case Modeling report starting with Figure 26 (page 69). 1-hour ozone scatter plots and quantile-quantile plots were not included based upon agreement with EPA and the commission.**
- **Movie animations have been archived and are available. (Requests should be submitted to Pete Breitenbach at (512) 239-1468.)**
- **The TCEQ is not aware of any issue that would be resolved by 8-hour ozone time series since they smooth the data and mask essential model performance issues. However, 1-hour ozone time series data for each monitor, which are very useful in assessing model performance, have been provided and may be found in the 1999 Base Case Modeling report starting with Figure 19 (page 59).**
- **Standard bias calculations for the 8-hour ozone data at each monitor have already been provided in the 1999 Base Case Modeling report starting with Table 14 (page 66) .**

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 possibility 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.

Austin used only one method or approach in calculating its Relative Reduction Factors. 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 I.

EPA suggested the inclusion of additional information for each day of the episode, specifying the time of the 8-hour ozone maximum, the minimum, maximum, median and 8-hour average ozone concentration for each monitor in the network.

The TCEQ is not aware of any issues that would be resolved by these additional metrics. Without an identified problem area or purpose for the analysis, the commission is uncertain as to why there would be any added value from these additional statistical measures.

EPA asked for a clarification of what new permitted sources were included in the future base case emissions inventory.

Newly permitted sources may be found in Table 6.1-9 in the Maintenance for Growth section of the SIP. Those sources indicated as "n/a" in 1999 were permitted after 1999.

CAC and ED requested that credit for all power plant emission reductions scheduled to occur before 2007 be included in the final modeling run, rather than only those by December 31, 2005 as proposed.

The commission agrees that, given that the area is demonstrating attainment with no additional control measures, consistency with other measures and normal modeling protocols is most important. Therefore, the final modeling run does include all power plant emission reductions scheduled to occur by 2007, including local reductions. The SIP narrative has also been updated to reflect this change.

CAC expressed its support for including a 2 tpd NO_x emission reduction commitment from TERP in the final modeling run and recommended that the commission confirm its support for this allocation before then.

The commission agrees with the area's commitment to pursue at least 2 tpd of reductions through TERP. The commission's allocation making that funding available is an important part of the local emission reduction strategy and has been included in the final modeling run to receive full SIP credit for this measure.

Minor Corrections, Updates, and Clarifications

An individual commented on the importance of drive times and traffic light signalization in reducing onroad mobile emissions, inquired about what steps were being taken to address this issue in the Austin area, and recommended that traffic studies in the area be used to analyze this issue and improve traffic light timing.

The commission understands the importance of vehicle drive times in onroad mobile emissions, and agrees that traffic light signalization can be an important tool in reducing idling at stop lights and the associated emissions. Implementation of this tool is the prerogative of local planning organizations which, in the Austin area, is the Capital Area Metropolitan Planning Organization (CAMPO). CAMPO shared the following information about local efforts improve traffic light timing and drive times in the region:

"Many of the region's projects and programs to reduce drive times are reflected in the Transportation Emission Reduction Measures (TERMs) included in the proposed SIP. Project specific information can be found in Appendix L. In general, the region has an incident management program and courtesy patrol, signal synchronization programs (the largest of which belongs to the City of Austin), access management (which works to limit or combine driveways), add acceleration and/or deceleration lanes in busy areas on arterials, traffic flow improvements, grade separations, and bottleneck elimination program on state roadways. The region is also pursuing a number of projects and programs to reduce the number of vehicle trips taken, which of course reduces drive times for the remaining vehicles. These include bicycle and pedestrian facilities, transit, carpools and vanpools, the Commute Solutions

program and, to some extent, the Clean Air Partners program described in the SIP. According to the 2004 TTI Urban Mobility report, operational improvements reduced vehicle delay time (time spent sitting in traffic) in the region by 1,275,000 hours in 2002 and public transportation reduced vehicle delay time by 2,574,000 hours in 2002."

CAC and ED requested an update to language in the SIP that states that the Austin area is currently monitoring attainment of the 8-hour ozone standard. Commentors requested update to include the 2002-2004 ozone season results.

The commission agrees that monitoring results recorded for the Austin area since the SIP and rule packages were proposed have shown ozone readings that would cause the region to be in noncompliance of the NAAQS. These results have not yet been validated, but if they are they could form the basis for designating the Austin area as nonattainment for the 8-hour ozone standard. However, a nonattainment designation would be deferred if Austin continues to meet EAC milestones and obligations. As a result the SIP language has been modified to reflect the latest monitoring data as follows:

"In April 2004 the Austin area was designated attainment for the 8-hour ozone standard based on the design value from the 2001-2003 average. However, monitoring data from the 2004 ozone season, which has not yet been validated, indicates that the 2002-2004 average will result in a design value indicative of nonattainment for the area. Once the 2004 ozone season data is validated, it could form the basis for EPA to designate the Austin area as nonattainment. However, for such EAC areas EPA has committed to not revising its April 2004 attainment designation to nonattainment if the AER continues to meet EAC milestones and obligations."

CAC, EACTF, ED and EPA identified some grammatical and language errors in the SIP document and requested that they be corrected before adoption.

The commission appreciates the comments and has incorporated the correct information in the SIP.