

REVISIONS TO THE STATE IMPLEMENTATION PLAN (SIP)
FOR THE CONTROL OF OZONE AIR POLLUTION

VEHICLE MILES TRAVELED OFFSET SIP FOR
FOR THE HOUSTON/GALVESTON NONATTAINMENT AREA

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- A Excerpt from the General Preamble for Implementation of Title I of the Clean Air Act of 1990, pages 124 to 132. April 16, 1992, 57FR13498.

- B "Chapter 2: Emissions Estimation Procedure," from VMT Offset SIP Emissions Estimation Procedure for the Houston-Galveston Ozone Nonattainment Area, revised: August, 1994, by the Houston-Galveston Area Council.

- C Resolution from the Transportation Policy Council, Gulf Coast State Planning Region, November 15, 1993.

- D Texas Natural Resource Conservation Commission (TNRCC) (30 Texas Administrative Code §114.23), Transportation Control Measures Enforcement Rule.

B. OZONE CONTROL STRATEGY

1.-7. (No change.)

8. MOBILE SOURCE (Revised)

a. Vehicle Inspection/Maintenance Program (No change.)

b. Vehicle Miles Traveled Offset

1) General

The Federal Clean Air Act (FCAA) Amendments of 1990, under §182(d), required states to submit by November 15, 1992 State Implementation Plan (SIP) revisions for severe or worse ozone nonattainment areas that include specific enforceable transportation control measures (TCMs) to offset increases in emissions resulting from growth in vehicle miles traveled (VMT) or numbers of vehicle trips. However, as stated in the General Preamble for Implementation of Title I (Appendix A), the United States Environmental Protection Agency (EPA) acknowledged that the November 15, 1992 deadline did not provide states adequate time to develop effective long-term TCMs and allowed states to submit committal VMT Offset SIP revisions by that date.

Therefore, the Texas Natural Resource Conservation Commission (TNRCC) submitted a committal SIP revision for the Houston/Galveston nonattainment area on November 10, 1992, which required the development and submittal of subsequent SIP revisions in 1993 and 1994 to provide necessary, enforceable TCMS. These revisions are outlined below:

a) The committal SIP was followed by the 1993 VMT Offset SIP revision, which paralleled the development of the Rate-of-Progress SIP revision, submitted to EPA in November 1993. The 1993 VMT Offset SIP revision included the following information:

(1) a projection of the mobile source emissions profile for the Houston/Galveston nonattainment area through the year 2010, including the effects of required reductions from the mandatory vehicle Inspection/Maintenance (I/M) program, Reid Vapor Pressure (RVP) controls (used from 1992 until reformulated gasoline is introduced in the Houston/Galveston nonattainment area), reformulated gasoline, Employer Trip Reduction Program (ETR), and Stage II Vapor Recovery for refueling;

(2) an estimation of the lowest point in these emissions projections after which growth in VMT results in higher emissions despite improvements in cleaner vehicles and fuels, representing the required mobile source emissions ceiling; and

(3) a set of TCMs and other mobile source controls which further reduced emissions below this ceiling.

b) The 1994 VMT SIP revision, to be submitted to EPA no later than November 15, 1994, is intended to satisfy the final requirements of §182(d)(1)(A) of the FCAA Amendments of 1990. The 1994 VMT Offset SIP revision parallels the Ozone Attainment Demonstration SIP revision. The 1994 VMT Offset SIP revision includes a modification of the mobile source emissions projection and ceiling level to reflect updated information and methodologies, and establishes that no additional TCMs are required to offset increases in emission from VMT or numbers of vehicle trips.

2) Calculation of Mobile Source Emissions Ceiling

Mobile source emissions for the Houston/Galveston nonattainment area were estimated, for the base year (1990) and future years, in order to determine the rate of change in volatile organic compounds (VOCs) relative to a growth in VMT (see Figure A: Emission Estimation for VOC). Emissions were projected for the years 1996, 1999, 2002, 2005, 2007, and 2010. Two scenarios were prepared that

estimate VOC emissions for these years: one scenario assumes EPA-mandated transportation controls are in effect (upper curve), and one scenario assumes EPA-mandated controls plus additional controls are in place (lower curve). The EPA-mandated controls include: reformulated gasoline regulations; a fuel volatility, or RVP, of 7.8 pounds per square inch (used from 1992 until reformulated gasoline is introduced in the Houston/Galveston nonattainment area); the ETR program; the TCMs adopted by the Houston-Galveston Area Council (H-GAC) in the 1993 VMT Offset SIP; and an enhanced vehicle I/M program for Harris and Galveston Counties only. The additional controls include an enhanced vehicle I/M program for six additional counties in the Houston/Galveston region, applied in 1995 in three counties (Brazoria, Fort Bend, and Montgomery), and applied in 1997 to an additional three counties (Chambers, Liberty, and Waller).

If emissions estimates in the lower curve are at any point higher than the lowest point of the upper curve, it will be necessary to implement measures to offset the growth in emissions due to growth in VMT. The H-GAC has prepared an analysis and projection of mobile source emissions of VOCs from the years 1990 to 2010, including the effects of all federally mandated programs (Appendix B). The lowest point in the curve defines the horizontal ceiling line which future mobile source emissions in the area may not exceed. The lowest point of the upper curve, 82.21 tons/day of VOCs, occurs in the year 2005. Emissions shown in the lower curve

are not expected to exceed this amount until sometime after the year 2010. Additional TCMS will be applied to maintain the lower curve below the ceiling line.

3) VMT Offset Strategies

a) Vehicle I/M Program

An enhanced vehicle I/M program is required in the Houston/Galveston nonattainment area in accordance with the FCAA Amendments of 1990. The I/M program will be implemented throughout the consolidated metropolitan statistical area consisting of Harris, Galveston, Brazoria, Fort Bend, and Montgomery Counties by 1995 and Waller, Chambers, and Liberty Counties by 1997. The enhanced vehicle I/M program is predicted to maintain emissions below the ceiling until the year 2007 (Figure A).

b) TCMS

The H-GAC and the Transportation Planning Committee for Multimodal Planning for the Gulf Coast State Planning Region adopted TCMS in 1993 (see Appendix C). These TCMS include the following:

(1) 19.8 miles of high occupancy vehicle Lanes, with an emissions benefit of .17 tons (340 pounds) of VOCs per day.

(2) 4,400 parking spaces in various Park-and-Ride lots, with an emissions benefit of .02 tons (40 pounds) of VOCs per day.

These adopted and committed TCMs are adequate to satisfy the VMT offset requirements of the FCAA Amendments of 1990. Other than the two TCMs listed above, additional TCMs are not needed, but will be considered in the future if required. The H-GAC has also included air quality projects other than the adopted TCMs in the 1994 Transportation Improvement Program (TIP); emissions reductions for these projects will provide additional reductions below the ceiling.

4) TCM Enforceability and Funding

a) The FCAA Amendments of 1990 require states to ensure that all TCMs included in the SIP are enforceable by rule. The 30 Texas Administrative Code §114.23 regarding TCMs (Appendix D), was adopted by the TNRCC Commission on October 27, 1993 to require Metropolitan Planning Organizations (MPOs), including the H-GAC, to submit specific TCM commitments and ensure adequate funding through the TIP process. The MPOs have an opportunity to revise the TIP to provide additional TCMs as necessary to achieve full anticipated emission reductions.

b) Transportation projects with demonstrated air quality benefits are to receive priority allocation of funds regardless of funding source. Therefore, TCMs included in the SIP must receive maximum priority for approval and funding for timely implementation.

9.-11. (No change.)

APPENDICES (No change.)

TECHNICAL SUPPLEMENT (No change.)