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Approval and Promulgation of Implementation Plans: Texas; the Houston/Galveston Nonattainment Area; Ozone; Proposed Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[TX134–1–7501; FRL–7011–4]

Approval and Promulgation of Implementation Plans; Texas; the Houston/Galveston Nonattainment Area; Ozone

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: Through parallel processing, the EPA is proposing to approve the Texas one hour ozone attainment demonstration State Implementation Plan (SIP) for the Houston/Galveston (HG) severe nonattainment area based on Texas' commitment to submit by October 1, 2001 a SIP revision that incorporates enforceable commitments to adopt and submit the remaining measures necessary to demonstrate attainment of the one hour standard; that incorporates recent legislation and its effects upon the proposed control strategy necessary to demonstrate attainment of the standard; that corrects and modifies the Post 1999 Rate of Progress (ROP) plans; that adequately demonstrates all Reasonably Available Control Measures (RACM) have been implemented in the HG area; and that modifies the attainment Motor Vehicle Emissions Budget (MVEB) to account for changes in the Heavy Duty Diesel vehicle emissions projection. In the alternative, if they fail to meet this commitment, EPA is proposing to disapprove the attainment demonstration for the HG area.

DATES: Written comments must be received on or before August 13, 2001.

ADDRESSES: Written comments on this action should be addressed to Mr. Thomas H. Diggs, Chief, Air Planning Section (6PD–L), at the EPA Region 6 Office listed below. Copies of documents relevant to this action, including the Technical Support Document (TSD), are available for public inspection during normal business hours at the following locations.

Environmental Protection Agency, Region 6, Air Planning Section (6PD–L), 1445 Ross Avenue, Dallas, Texas 75202–2733.

Texas Natural Resource Conservation Commission, Office of Air Quality, 12124 Park Circle, Austin, Texas 78753.

Anyone wanting to examine these documents should make an appointment with the appropriate office at least two working days in advance.

FOR FURTHER INFORMATION CONTACT: Guy R. Donaldson, Air Planning Section (6PD-L), 1445 Ross Avenue, Dallas, Texas 75202–2733. Telephone Number (214) 665–7242, E-mail Address: Donaldson.Guy@epa.gov.

SUPPLEMENTARY INFORMATION: In proposing to approve the attainment demonstration SIP, the EPA also is proposing the following related actions:

- Approval of the following local measures relied on in the attainment demonstration: speed limit reduction, voluntary mobile emission programs (VMEP) and transportation control measures (TCM).
- Approval of the Post 1999 ROP plans for the time periods 2000–2002, 2003–2005 and 2006–2007.
- Approval of the MVEB contained in the attainment demonstration SIP and the Post 1999 ROP plans.
- Approval of the 15% ROP Plan (Conversion of conditional interim approval to a full approval).
- Approval of the State's enforceable commitment to perform a mid-course review and submit a SIP revision with recommended mid-course corrective actions, to the EPA by May 1, 2004.
- Approval of the State's enforceable commitment to revise the MVEB using the MOBILE6 on-road emissions model.
- Approval of revisions to the 1990 base year inventory.
- Approval of the HG area's SIP as meeting the reasonably available control measures (RACM) requirement.

Of the above proposed actions, the EPA is proposing to approve through parallel processing the State's enforceable commitments to adopt and submit the remaining necessary measures, the revised control strategy as impacted by recent state legislation, modifications and corrections to the ROP plans, the RACM analyses, and revisions to the projected on-road emissions from Heavy Duty Diesel engines, as submitted by the Governor in a letter dated June 15, 2001. This proposed action is based on the requirements of the Federal Clean Air Act (the Act or the CAA) related to ozone demonstrations.

If the State makes significant changes between the versions being parallel reviewed and the final adopted versions, other than those changes resulting from issues discussed in this proposed rulemaking, EPA will issue an additional proposed rulemaking prior to taking final action. If there are no significant changes to the parallel-processed versions and Texas submits the final versions by September 2001, the EPA will proceed with final rulemaking. Final full approval of the attainment demonstration SIP is contingent on final approval of the MVEBs, ROP plans, the items being parallel processed, and the rules and other measures relied upon to demonstrate attainment. Due to an existing consent decree, by October 15, 2001, EPA must propose a Federal Implementation Plan (FIP) if EPA has not fully approved the attainment demonstration SIP for the HG area.

Throughout this document ''we,'' ''us,'' and ''our'' means EPA.

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I. Proposed Action

What Actions Are We Proposing to Approve?

Through parallel processing, we are proposing to approve the one-hour ozone attainment demonstration SIP for

the HG nonattainment area. This demonstration shows through photochemical modeling and other evidence that a combination of adopted measures, recent legislation, and commitments to adopt additional measures that the HG area will attain the one hour ozone standard by November 15, 2007, the latest date provided under the CAA.

As an integral part of the attainment demonstration we are proposing approval and adequacy of the associated MVEBs only until these emission budgets have been revised pursuant to the State's commitments to use MOBILE6 and to adopt additional measures necessary for attainment and we have found the revised budgets adequate for the purposes of transportation conformity.

Before approving an attainment demonstration SIP, we must approve all of the control measures relied on in the demonstration. The majority of the control measures relied on in the attainment demonstration are being approved in other **Federal Register** documents. We are proposing to approve in today's action, certain measures relied upon in the attainment demonstration and which were submitted December 20, 2000: The Speed Limit Reductions, the VMEP ,and the TCMs. We are also proposing approval of the following SIP submissions: (1) 15% ROP Plan, (2) the Post 1999 ROP Plans and their associated contingency measures; (3) a demonstration that all RACM have been adopted for the HG nonattainment area; and (4) revisions to the 1990 Base Year Inventory. Revisions to the Post 1999 ROP plans and the RACM analysis are being parallel processed.

We cannot finalize the proposed approval of the attainment demonstration SIP and its associated attainment MVEB, unless and until, we have fully approved all of the control measures relied upon in the State's attainment demonstration SIP for the HG area. A description of all of these measures that must be finally approved by EPA before any final approval of the attainment demonstration SIP and its associated MVEBs is in section VIII.

In addition, we believe that for the HG area to be successful in attaining the one-hour ozone standard, the State must be committed to certain future actions relating to adopting additional measures and to future evaluations of the inputs to the plan. Therefore, we are proposing to approve the following State commitments:

- The State's enforceable commitment to perform a mid-course review (including evaluation of all modeling, inventory data, and other tools and assumptions used to develop this attainment demonstration) and to submit a mid-course review SIP revision, with recommended mid-course corrective actions, to the EPA by May 1, 2004.
- The State's enforceable commitment to perform new mobile source modeling for the HG area, using MOBILE6, our on-road mobile emissions factor computer model, within 24 months of the model's official release; that if a transportation conformity analysis is to be performed between 12 months and 24 months after the MOBILE6 official release, transportation conformity will not be determined until Texas submits an MVEB which is developed using MOBILE6 and which we find adequate.
- An enforceable commitment to adopt rules that achieve at least the additional 56 tons/day of NO_X emission reductions that are needed for the area to show attainment of the one-hour ozone standard and identified potential measures that could achieve the reductions without requiring additional limits on highway construction.*
- An enforceable commitment to adopt measures to achieve 25% of the 56 tons/day needed additional NO_X reductions and submit these adopted measures to EPA as a SIP revision by December 2002.*
- An enforceable commitment to adopt measures for the remaining needed additional NO_X reductions and submit these adopted measures to EPA as a SIP revision by May 1, 2004.*
- An enforceable commitment that the rules needed for the additional NO_X reductions will be adopted as expeditiously as practicable and the compliance dates will be expeditious.*
- An enforceable commitment to concurrently revise the MVEBs and submit them to EPA as a revision to the attainment SIP if additional control measures reduce on-road motor vehicle emissions.

In a letter dated June 15, 2001, the Governor of Texas submitted several items for parallel processing. These items are: The enforceable commitments noted above with asterisks; the recent legislative changes with their impacts on and revisions to the proposed control strategy for the HG area; the corrections and modifications to the Post 1999 ROP plans; a demonstration that all RACM have been adopted for the HG nonattainment area; and a modification to the attainment demonstration and MVEB to revise the emission projection for Heavy Duty Diesel vehicles. Parallel processing means that EPA proposes action on a state rule before it becomes final under state law. Under parallel processing, EPA takes final action on its proposal if the final, adopted state submission is substantially unchanged from the submission on which the proposed rulemaking was based, or if significant changes in the final submission are anticipated and adequately described in EPA's proposed rulemaking or result from needed corrections determined by the State to be necessary through review of issues described in EPA's proposed rulemaking.

In summary, we cannot finalize action on the attainment demonstration SIP and its associated MVEBs unless and until the Governor submits the items we are parallel processing, including the finally adopted enforceable commitments, the finally adopted control strategy as revised by the recent legislation, the corrections to the Post 1999 ROP Plans, the RACM demonstration and the revisions to the attainment MVEBs. The State has begun its public comment process on these items. Public hearings are scheduled for June 13, 14 and 15, and July 2, 2001. Submission is anticipated in September 2001, but not later than October 1, 2001.

If the EPA cannot fully approve all of the control measures and commitments relied upon in the attainment demonstration, and the items proposed for parallel processing, EPA cannot fully approve the attainment demonstration SIP for the HG area. Under an existing consent decree, EPA must propose a Federal Implementation Plan (FIP) by October 15, 2001, if EPA has not fully approved an attainment demonstration SIP for the HG area by that day.

II. Background

A. Why Control Ozone?

Ozone is a key component of urban smog. Inhaling even low levels of ozone can trigger a variety of health problems including chest pains, coughing, nausea, throat irritation, and congestion. It can worsen bronchitis, asthma and reduce lung capacity.

The Act requires EPA to establish national ambient air quality standards (NAAQS or standards) for certain widespread pollutants that cause or contribute to air pollution that is reasonably anticipated to endanger public health or welfare. CAA sections 108 and 109. In 1979, we promulgated the one hour (0.12 parts per million (ppm)) ground-level ozone standard to guard against the health effects discussed above. 44 FR 8202 (Feb. 8, 1979)

The ozone problem in the HG area is one of the most serious in the country.

In 2000, the one hour ozone standard was exceeded 44 times in the HG area, more than anywhere else in the country. The area's peak one hour reading in 2000 was 225 parts per billion (ppb), almost twice the one hour NAAQS. This was the highest value recorded in the country.

B. How Is Ozone Formed?

Ground-level ozone is not emitted directly from a smoke stack or tail pipe. Rather, emissions of nitrogen oxides (NO_X) and volatile organic compounds (VOC) react in the presence of sunlight to form ground-level ozone. NO_X and VOC are referred to as precursors of ozone.

VOC emissions are produced by a wide variety of sources, including stationary and mobile sources. Significant stationary sources of VOC include industrial solvent usage, various coating operations, industrial and utility combustion units, petroleum and oil storage and marketing operations, chemical manufacturing operations, personal solvent usage, etc. Significant mobile sources of VOC include on-road vehicle usage and off-road vehicle and engine usage, such as farm machinery, aircraft, locomotives, and motorized lawn care and garden implements.

NO_X emissions are produced primarily through combustion processes, including industrial and utility boiler use, process heaters and furnaces, and on-road and off-road mobile sources.

C. What Are the Relevant Clean Air Act Requirements?

The Act, as amended in 1990, required EPA to designate as nonattainment any area that was violating the one hour ozone standard, generally based on air quality monitoring data from the 1987 through 1989 period. Clean Air Act section 107(d)(4); 56 FR 56694 (November 6, 1991). The Act further classified these areas, based on the areas' ozone design values, as marginal, moderate, serious, severe, or extreme. The design value for an area, which characterizes the severity of the air quality problem, is represented by the highest design value at any individual ozone monitoring site (i.e., the highest of the fourth highest one hour daily maximum monitored ozone levels in a given three-year period with complete monitoring date). Marginal areas were suffering the least significant ozone nonattainment problems, while the areas classified as severe and extreme had the most significant ozone nonattainment problems.

The control requirements and date by which attainment is to be achieved vary with an area's classification. Marginal areas were subject to the fewest mandated control requirements and had the earliest attainment date, November 15, 1993. Severe and extreme areas are subject to more stringent planning requirements but are provided more time to attain the standard. Serious areas were required to attain the 1 hour standard by November 15, 1999, and severe areas are required to attain by November 15, 2005 or November 15, 2007, depending on the areas' ozone design values for 1987 through 1989. The HG ozone nonattainment area was classified as severe-17 (56 FR 56694, November 6, 1991). As such, it has until November 15, 2007 to attain the standard. The HG ozone nonattainment area is defined (40 CFR 81.314 and 81.326) to contain Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery and Waller Counties in Texas.

The specific requirements of the Act for severe ozone nonattainment areas are found in part D, section 182(d). Section 172 in part D provides the general requirements for nonattainment plans. Section 172(c)(6) in part D of the Act and section 110 require SIPs to include enforceable emission limitations, and such other control measures, means or techniques as well as schedules and timetables for compliance, as may be necessary to provide for attainment by the applicable attainment date. Section 172(c)(1) requires the SIP to provide for implementation of all RACM as expeditiously as practicable and for attainment of the NAAQS. Section 182(b)(1)(A) requires the State to submit for the moderate and above nonattainment areas, a 15% ROP Plan. Section 182(c)(2)(B) requires the State to submit for the serious and above nonattainment areas, a plan that will result in emissions reductions from the baseline emissions equal to at least 3 percent of the baseline emissions each year averaged over each consecutive 3-year period, from November 15, 1996, through the attainment date. Section 182(c)(2)(A) requires the State to provide for the serious and above nonattainment areas, an attainment demonstration based on photochemical modeling or any other analytical method determined by the Administrator, in the Administrator's discretion, to be at least as effective. EPA's ''General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990'' (57 FR 13498, April 16, 1992) provides the interpretive basis for EPA's rulemakings under the nonattainment plan provisions of the Act (General Preamble).

D. What Are the Components of an Acceptable Attainment Demonstration?

In general, an attainment demonstration SIP includes a photochemical modeling analysis and other evidence showing how an area will achieve the standard by its attainment date and the emission control measures necessary to achieve attainment.

In our December 16, 1999, proposed approval and proposed disapproval on one of the State's previously submitted attainment demonstrations for the HG area, we listed six elements that must be addressed for one hour ozone attainment plans to be approvable. Five of these elements apply to the HG area [1] and are listed below. For a more detailed discussion see our December 16, 1999, **Federal Register** document.

(1) CAA measures and measures relied on in the attainment demonstration. This includes adopted and submitted rules for all previously required CAA mandated measures for the specific area classification, such as the ROP plans that EPA is proposing to take action on today. This also includes measures that may not be required for the area classification but that the State relied upon to demonstrate attainment. A listing of the control measures that have been relied upon in the HG attainment demonstration upon which we are acting can be found in section IV.E. A discussion of the Act's requirements that apply to the HG area as a severe area can be found in section VIII. Finally, a list of items that must be finally approved before we can fully approve the HG attainment demonstration SIP can be found in section VIII.

(2) Motor vehicle emissions budgets. Motor vehicle emissions budgets which are consistent with attainment. A description of the MVEBs can be found at section IV.G.

(3) Tier 2/Sulfur program benefits. As part of factoring in these benefits in the attainment demonstration, the State must include an enforceable commitment to revise the attainment MVEB with MOBILE6, our on-road emissions factor model, within two years of its official release, and it is necessary for the State to include an enforceable commitment stating that if a transportation conformity analysis is to be performed between 12 months and

[1] The sixth element pertains to the NO_X SIP call which does not apply to Texas.

24 months after the official release of MOBILE6, transportation conformity will not be determined until the State submits an MVEB which is developed using MOBILE6 and which we find adequate. A discussion of the State's enforceable commitments can be found in section IV.F.

(4) Commitment to a mid-course review. Because of the uncertainty in long-term projections, EPA believes a viable attainment demonstration that relies on weight of evidence (as Texas does for the HG area) should contain provisions for periodic review of monitoring, emissions, and modeling data to assess the extent to which refinements to emission control measures are needed. A discussion of the State's enforceable commitment can be found in section IV.F.

(5) Additional measures to further reduce emissions to support the attainment test. At the time of the December 1999 proposal, EPA had proposed that several State plans including Texas's plan for the HG area, did not include sufficient control measures to achieve the necessary emission reductions to demonstrate attainment. Therefore, it was necessary for those States to commit to adopting additional measures. As discussed in section IV.F., Texas still has not found sufficient control measures to demonstrate attainment and will continue to rely on enforceable commitments for a small portion of the needed reductions.

III. Background of Texas' Attainment Demonstration Submission

A. What Are the Contents of the State's Attainment Demonstration Submittals?

The December 20, 2000, SIP revision and the State's proposed May 30, 2001, SIP revision are actually the culmination of several years of efforts to develop a comprehensive plan to attain the one hour ozone standard in the HG ozone nonattainment area.

In a March 2, 1995 policy memorandum, we provided that States could submit their attainment demonstration and ROP plans in phases. Phase I was to insure that progress was maintained while a complete plan was developed. The Phase I plan was to include a set of specific control measures to obtain major reductions in ozone precursors. For Texas, these were to include:

- Rules to insure that Reasonably Available Control Technology (RACT) was implemented on major sources of volatile organic compounds,
- A demonstration that baseline emissions would be reduced by 9% during the time period 1997–1999 (Post 1996 ROP plan),
- An enforceable commitment to submit an attainment demonstration by mid-1997, and
- A commitment to participate in a consultative process to address Regional transport of ozone and precursors.

In a letter dated January 10, 1996, Texas submitted a plan intended to demonstrate the State had met the criteria for a Phase I submission under the March 2, 1995 policy memorandum.

In August 1996, Texas submitted corrections to its Post 1996 ROP plan and 15 Percent ROP plan primarily to address changes to the inspection and maintenance program.

A December 29, 1997, EPA guidance memorandum provided for additional time for submittal of an attainment demonstration from mid-1997 until April, 1998. The December 29, 1997, memorandum explained that additional time was warranted because the consultative process to address transport, which had become known as the ozone transport assessment group (OTAG), had been delayed by 9 months; therefore, it was appropriate to delay the submittal of the attainment demonstrations accordingly. Subsequently, the State submitted a SIP revision on May 19, 1998, containing the following:

(1) Evidence that all measures and regulations required for the nonattainment area by subpart 2 of title I of the Act to control ozone and its precursors had been adopted and implemented or were on an expeditious schedule to be adopted and implemented.

(2) A list of potential control measures to meet Post 1999 ROP requirements and attain the 1 hour NAAQS.

(3) An enforceable commitment to submit a plan on or before the end of 2000 containing (a) target calculations for post 1999 ROP milestones up to the attainment date and (b) adopted regulations needed to achieve the post 1999 ROP requirements up to the attainment date and to attain the 1 hour NAAQS.

(4) An enforceable commitment and schedule to implement the control programs and regulations in a timely manner to meet ROP and achieve attainment.

(5) Evidence of a public hearing on the State submittal, and

(6) Photochemical modeling showing that between 65% and 85% NO_X emission reductions are necessary for the area to attain the standard. The State did not model a specific control strategy that had been shown to demonstrate attainment.

On November 15, 1999, Texas submitted a SIP revision intended to correct deficiencies in the May 19, 1998, SIP revision. The November 1999 SIP revision included the following:

(1) A modeled control strategy and other evidence, and

(2) An associated MVEB.

In a letter dated April 25, 2000, Texas submitted a SIP revision that included the following:

(1) An enforceable commitment to revise the MVEB based on MOBILE6 within 2 years of the release of MOBILE6. If a transportation conformity analysis is to be performed between 12–24 months after the release of MOBILE6, transportation conformity will not be determined until Texas submits an MVEB which is developed using MOBILE6 and which the EPA finds adequate.

(2) An enforceable commitment to recalculate and resubmit an MVEB that includes the effects (if any) of the measures that are ultimately adopted should any of these measures pertain to motor vehicles.

(3) An enforceable commitment to perform a mid-course review.

(4) A list of measures that could be used to achieve the EPA-identified additional emission reductions needed to demonstrate attainment, including an indication that none of these measures would restrict highway construction.

On December 20, 2000, the State submitted a SIP revision, concerning the ozone attainment demonstration, containing:

(1) A photochemical modeling demonstration and additional weight-of-evidence analyses supporting the photochemical modeling demonstration,

(2) An accompanying control strategy, comprised of:

a. Regulations and initiatives in the HG area (and their documentation); and

b. Additional regional rules and orders (and their documentation), relied upon for demonstrating attainment in the HG area.

(3) A demonstration that the plan will achieve VOC reductions from the baseline emissions equal to 3% reduction per year averaged over each 3-year time period for the time period November 15, 1999 to November 15, 2007. As allowed under the Act, NO_X reductions were substituted for VOC reductions since the modeling shows ozone reduction in the HG area is more sensitive to NO_X controls.

(4) 2007 MVEBs associated with the attainment demonstration and 2002, 2005 and 2007 MVEBs associated with the Post 1999 ROP plan.

(5) Emissions growth estimates and a 2007 forecast emissions inventory.

The December 20, 2000, submission acknowledges that the HG area needs additional controls to attain the ozone standard by November 15, 2007. In the December 2000 SIP revision, Texas identifies the tons per year of additional NO_X reductions needed to attain. The Texas Natural Resources Commission (TNRCC) has begun its rulemaking procedures, including a public comment period and hearing, proposing to adopt an enforceable commitment to adopt the additional measures needed to meet the shortfall. As part of the commitment, the State identifies the to-be-considered control measures, their estimated range of projected emissions reductions, and the dates for submission to the EPA of the adopted control measures. The reductions represented by the enforceable commitment represent only a small percentage (approximately 6%) of the total emission reductions that have been shown are needed for the area to attain. On May 30, 2001, the Commission gave TNRCC permission to take formal comment on the following items: Commitments to adopt the remaining additional measures and to submit them as SIP revisions by specified dates, impacts upon the proposed control strategy as a result of recent legislation, a RACM analysis, corrections to the Post 1999 ROP plans, and a correction to the attainment plan to revise the projection of on-road diesel emissions and associated MVEB revision. A further discussion of these items that we are parallel processing can be found in later sections.

B. What Previous Actions Has EPA Taken on the HG Attainment Demonstration Submittals?

This proposed action incorporates the preamble to EPA's December 16, 1999 action, in which we proposed conditional approval, and alternatively, disapproval of portions of the May 19, 1998, SIP revision that pertained to the attainment demonstration and the attainment MVEBs, as supplemented by the November 15, 1999, SIP revision (64 FR 70548). EPA does not plan to take final action on that proposed action since the State submitted, in December 2000, revised modeling and analyses, Post 1999 ROP plans and MVEBs, and adopted measures relied upon in the attainment demonstration. As noted above, additional revisions are currently being processed by the State and EPA through parallel processing. To the extent that comments received on the December 1999 proposed action are applicable to this proposed rulemaking, however, EPA will respond to those comments in its final rulemaking action.

IV. Evaluation of Attainment Demonstration SIP

A. Photochemical Modeling

What Modeling Approach was used in the State's Attainment Demonstration?

Model Selection: Texas used the Comprehensive Air Quality Model with Extensions (CAMx) photochemical grid model (which is based on well-established treatments of advection, diffusion, deposition, and chemistry similar to the Urban Airshed photochemical grid model (i.e., UAM)) to conduct the SIP attainment demonstration modeling for the HG ozone nonattainment area. The TNRCC's modeling activities were performed as outlined in the modeling protocols, according to EPA's ''Guideline for Regulatory Application of the Urban Airshed Model'' (Guideline). For a full description of the State's modeling analysis, see the TSD for this proposed action.

Episode Selection:

EPA's Guideline sets forth a recommended procedure for selecting ozone exceedance episodes appropriate for conducting a modeling demonstration. This procedure, in part, considers wind rose analyses based upon the four morning hours of 0700 to 1000 standard time. However, the HG area is situated along the Upper Texas Coastal Region, and during the summer months when the highest ozone exceedances occur, this region frequently experiences a unique land-sea breeze meteorological regime. This land-sea breeze meteorological regime is characterized by morning land breezes which transition into afternoon sea breezes. There appears to be a strong correlation between the land-sea breeze meteorological regime and high ozone events. Thus, to assure that the land-sea breeze meteorological regime is well-represented in the episode selection process, TNRCC modified EPA's recommended procedure by including wind rose analyses based upon the four afternoon hours of 1300 to 1600 standard time. Both morning and afternoon wind rose analyses were considered in defining the meteorological patterns associated with high ozone events. EPA proposes to accept this modified procedure for the HG nonattainment area's modeling since it more adequately addresses the unique source-receptor relationship associated with the land-sea breeze meteorological regime.

TNRCC identified a total of seven episodes with high ozone and robust data sets as candidates for modeling. Three of the seven candidate episodes occurred during the intensive data collection period (from July 18-August 28, 1993) of the Coastal Oxidants Assessment for South Texas (COAST) study. Two other of the seven episodes (September 1–2 and September 8–11, 1993) occurred after the intensive data collection period; however, some of the COAST monitors were still operational so that more robust meteorological, precursor, and ozone data were still available. To include a broader base for the episode selection, TNRCC also identified two candidate episodes that occurred in October 1992 to supplement the COAST episodes. Initially, Texas selected four episodes to model: August 18–20, 1993, September 8–11, 1993, October 24–25, 1992, and September 1–2, 1993. The September 1–2 episode was chosen primarily to examine transport into the Beaumont/Port Arthur area.

The base case modeling for both the August 18–20, 1993, and the October 24–25, 1992, episodes did not perform within EPA's recommended performance standards. See the TSD for further details on the performance of the various episodes. In addition, the September 1–2 episode, while performing well in the Beaumont/Port Arthur portion of the domain, did not perform well in the HG area. These episodes, therefore could not be used as a basis for control strategy testing. The September 8–11, 1993, episode, however, performed within EPA's recommended performance ranges and could be used for control strategy testing. The September 8–11 episode includes both calm and land sea breeze meteorological conditions which are typical for high ozone events in the HG area. We propose to accept the use of the September 8–11, 1993, episode for the attainment demonstration modeling purposes for the HG area because this episode features wind patterns representative of typical high ozone occurrences in the HG area, high monitored ambient ozone level concentrations, and is a multi-day episode.

Modeling Domain: Texas has chosen a large modeling domain (i.e., SuperCOAST) to ensure capture of the influence of inter-urban transport, the important horizontal and vertical circulation patterns as well as the movement of ozone and ozone precursors. The State combined both the HG and Beaumont/Port Arthur ozone nonattainment areas into one nested modeling domain to avoid overlapping wind fields since the two areas are generally influenced by the same meso-scale meteorology. This domain, which is larger than the minimum recommended, encompasses all the

major emission sources and all surface meteorological/air quality monitors in both areas and, therefore EPA proposes to accept the domain since it is more representative of the HG area's conditions.

What Input Data Systems and Analyses Were Used as Part of the Modeling?

The following input data systems and analyses were used by the State:

Emissions: TNRCC developed two major types of modeling emission inventories, one type representing the actual emissions that occurred during the chosen specific episode period, and another type representing the projected emissions expected to occur at the attainment date for the HG area (i.e., 2007). The episode-specific modeling emissions, termed the ''base case,'' were used to evaluate the model's reliability in replicating the ozone exceedances that occurred during the chosen episode. The 2007 projected modeling emissions, termed the ''future base case,'' were used to estimate the overall level of reductions in VOC and NO_X needed to achieve attainment. For a more complete description of how these base case and future base case inventories were developed, see the TSD.

Meteorology: TNRCC developed the meteorological inputs to CAMx using the System Application International Mesoscale Model (SAIMM), which is a prognostic mesoscale meteorological model with four dimensional data assimilation (4DDA). EPA is proposing to accept TNRCC's use of SAIMM because it replicates the land-sea breeze and inter-urban area transport features which appear to be typical of conditions associated with ozone exceedances along the Texas Gulf coast more closely than diagnostic models.

Chemistry: Atmospheric chemistry within the modeling grid system was simulated using the Carbon Bond-Version IV model developed by the EPA.

Boundary and Initial Conditions: EPA's Guidelines recommend the use of the ROM photochemical model on a regional basis for developing boundary conditions. TNRCC in collaboration with ENVIRON conducted a regional modeling application to determine boundary and initial conditions for the COAST modeling domain. This regional modeling domain covered a rather large area of the southeastern United States, extending from San Angelo, Texas on the west to the Georgia-Alabama border on the east, and from south of Brownsville, Texas on the south to the Oklahoma-Kansas border on the north. EPA considers this modeling framework used by TNRCC for the development of boundary and initial conditions to be superior to ROM, since it encompasses many improvements in model formulation over ROM. Using the ozone transport (OTAG) model performance criteria as a gauge for the technical acceptability of this Texas regional modeling, EPA proposes to accept the TNRCC/ENVIRON regional modeling application as producing more accurate results upon which to derive initial and boundary conditions for the COAST modeling episode.

Modeling Performance

How did the State Validate the Modeling Performance?

Texas performed diagnostic and sensitivity analyses, and graphical and statistical performance measures to evaluate the performance of the modeling. These performance measures are to be used in conjunction with one another.

The model performance evaluation based upon diagnostic and sensitivity analyses consisted of testing the response of modeled ozone to changes in the various model inputs (i.e., meteorology, emission inventory, and initial and boundary conditions). The model performance evaluation based upon graphical measures consisted of comparing time series of monitored and modeled ozone and ozone precursor concentrations, and comparing modeled ozone concentration contours with monitored ozone data. The model performance evaluation based upon statistical measures consisted of comparing the modeled versus monitored ozone ''Unpaired Peak Accuracy'', ''Normalized Bias'', and ''Gross Error'' with the suggested limits in the EPA Guideline.

a. Diagnostic and Sensitivity Analyses

Texas conducted the following diagnostic/sensitivity analyses for the September 8–11, 1993 episode: Zero-out Anthropogenic emissions; Zero-out Initial and Boundary Conditions; Lowered Boundary Conditions (i.e. derived from Gulf of Mexico Air Quality Study (GMAQS)); and Half Wind Speed. These diagnostic tests did not reveal any flaws in the CAMx model formulation. Both physical and chemical responses demonstrated by the model are consistent with our underlying understanding of how the atmosphere behaves.

b. Graphical Measures

The graphical measures consisted of ozone contour plots and times series analyses. The ozone contour plots generally show the model to be simulating a notable amount of ozone in both magnitude and geographical extent. With the exception of September 9, the simulated ozone contour plots depict the area of ozone greater than 124ppb to be somewhat at odds geographically with the monitors recording the higher ozone concentrations. On all four days, the simulated ozone contour plots show the magnitude of high ozone to be somewhat less than the monitored ozone concentration levels. Thus, the model under-predicts the ozone concentration levels. The fact that the model does not precisely predict the position of the cloud of ozone geographically, does not, by itself, mean the model is not acceptable for control strategy development. The graphical performance is only one factor and was considered in conjunction with other measures of model performance.

c. Statistical Measures

Table 1 shows the statistical performance of the model for this episode. As indicated, the statistical parameters are within the EPA recommended limits for all days of the episode.

TABLE 1.—CAMX BASE CASE MODEL PERFORMANCE STATISTICS FOR SEPTEMBER 8–11, 1993

Episode date	Normalized bias (+ – 5–15%)	Normalized gross error (+ – 30–35%)	Unpaired peak accuracy (+ – 15–20%)	Domain-wide peak ozone (ppb)	
				Simulated	Observed
9/8/93	1.8	22.6	– 12.7	187	214
9/9/93	2.6	29.1	– 10.4	175	195
9/10/93	– 13	26.1	6.2	172	162
9/11/93	– 2.9	20.4	– 3.9	182	189

Summary of Model Performance

Results of the statistical measures are within the EPA recommended ranges and the spatial and temporal patterns are generally representative of the observed patterns in the ambient data. It is EPA's technical position that taken together, the diagnostics, sensitivity, statistical and graphical performances of the model indicate the base case model performance is acceptable for use in this attainment demonstration.

B. Modeled Control Strategies

What Emission Control Strategies Were Included in the Modeling Demonstration?

The HG attainment demonstration SIP is directed at reductions of NO_X since the modeling shows reductions of NO_X will be most effective in bringing the area into attainment of the standard. The modeling includes Federal measures, State and local initiatives. The attainment demonstration modeling also relies on Regional measures applied in east and central Texas.

Federal Measures: The State included the following Federal Measures in the December 2000 revision's Future Year Base Case.

1. On-road mobile sources:
   —Tier 2 vehicle emission standards and federal low sulfur gasoline.
   —National Low Emitting Vehicle standards.
   —Heavy-duty diesel standards.

We believe that the projected growth rates and emissions reductions from the sources subject to the above federal measures were calculated correctly by the State.

2. Off-road mobile sources:
   —Lawn and garden equipment standards.
   —Tier II/III heavy-duty diesel standards.
   —Locomotive standards.
   —Compression ignition standards for vehicles and equipment.
   —Spark ignition standards for vehicles and equipment.
   —Recreational marine standards.

We believe that the State correctly projected the growth rates and emissions reductions for sources subject to these federal measures.

State Measures for the HG Area: The State included the following State Measures as local (HG) area controls in the Future Year control case in the December 2000 revision.

—Phase II reformulated gasoline (RFG) in the HG area.
—Electric generating and industrial point sources—HG area. The State is proposing a revision to this measure which we are parallel processing. The effects of this proposed revision upon the Future Year control case are discussed further in section IV.J. and the TSD.
—An expanded vehicle I/M program—HG area.
—Low emission diesel fuel—East Texas (including the HG area) for off-road and statewide for on-road.
—Heavy-duty diesel equipment operating restrictions—five counties. (Excludes Liberty, Chambers and Waller).

As required by the recently enacted Senate Bill 5, TNRCC will not be relying upon this measure in the final adopted control strategy, i.e., the Future Year control case. In its place, the State will substitute some of the projected emission reductions from the newly-established legislative incentive program, the Texas Emissions Reduction Program (TERP), that provides 130 million dollars/year for incentive programs to reduce emissions. We are not proposing action upon the Heavy-duty Diesel Operating Restrictions rule because a portion of the reductions from the TERP measure will be replacing it in the final control strategy. We believe that the incentive program can achieve more reductions than the projected reductions lost by the replacement of this control measure. The incentive program and its technical impacts upon the proposed control strategy are further discussed in section IV.I.

—Commercial lawn equipment operating restrictions—five counties. (Excludes Liberty, Chambers and Waller).
—Batch processes, bakeries, and offset lithographic printers—HG area.
—VMEP measures—HG area.

State's Regional measures: The State included the following Regional measures in the Future Year Base Case.

—Agreed orders with Alcoa, Inc. (formerly Aluminum Company of America) for its Milam Facility, and the Eastman Chemical Company, Texas operations, for its facility near Longview, Texas.
—Electric generating facilities in central and eastern Texas.
—Low Reid Vapor Pressure Gasoline in central and eastern Texas.
—Stage I gasoline vapor recovery at gas stations in central and eastern Texas.

We have reviewed the State's Regional and Local Measures and believe the State's projection of expected emissions reductions for these measures are correct. Further, we believe the State has correctly factored growth in emissions due to population and economic growth.

As discussed briefly above, since the model runs were performed, two measures, the Heavy-duty Diesel Equipment Operating restrictions and the rules for utilities are being changed. See sections IV.I. and IV.J. respectively for discussion of why EPA believes this will not adversely affect the modeling results.

With the exception of the VMEP measures and the Heavy-duty Diesel Equipment Operating restrictions, we have already published or shortly will be publishing actions on all of the above listed State control measures in various separate **Federal Register** documents. We are proposing action today on the acceptability of the VMEP program.

C. Modeling Results and Weight of Evidence

What Were the Modeling Results?

The future control case modeling was conducted using the projected 2007 emissions inventory coupled with emissions controls listed above. Table 2 summarizes modeled peak ozone for the future control case compared to the 1993 base case.

TABLE 2.—FUTURE CONTROL CASE PEAK MODELED OZONE IN THE HG 8–COUNTY AREA

Episode day	Peak modeled ozone (ppb)	
	1993 modeled	Final control case
September 8	187	141.0
September 9	175	128.6
September 10	172	134.7
September 11	182	130.7

There are two changes to the emission control programs that are not included in the modeling performed to achieve the results above. We do not believe these changes will affect the modeled results in a way to increase the modeled ozone. The substitution of a portion of the emission reductions from the new statutorily mandated TERP measure for the modeled heavy-duty diesel equipment operating restrictions along with the change in the NO_X point source measures, are not expected to increase the modeled ozone restrictions. A more detailed discussion of why these changes are not expected to increase modeled ozone can be found in the TSD and in sections IV.I and IV.J.

Does the Weight of Evidence Support the Attainment Demonstration?

While the 2007 post-control modeling does not demonstrate attainment of the

standard, it does project dramatic improvements in air quality. In Table 2, the reductions in peak ozone are documented. Texas has also documented dramatic improvements in hours of ozone exceedances and the area of ozone exceedances.

Texas did not conclude that the modeled control strategy demonstrated the area would attain the standard. Instead, using a weight of evidence analysis consistent with the EPA guidance entitled, ''Guidance for Improving Weight of Evidence Through Identification of Additional Emission Reductions, Not Modeled'' November, 1999), they determined the amount of additional emission reductions that would be necessary for the area to attain the standard. The State calculated that an additional 96 tons/day of NO_X emission reductions will be necessary for the HG area to attain the standard. The State used a quadratic extrapolation of model results to make this estimation. This method is an improvement over the linear extrapolation example provided in the 1999 guidance. The replacement of the Heavy-duty Diesel Equipment Operating Restriction measure by a portion of the TERP reductions and the change to the NO_X point source rule will not change the results of the calculation. The EPA proposes to accept the calculated 96 tons/day of additional NO_X emission reductions as the amount of additional emission reductions, beyond those modeled, necessary for the HG area to attain. For a full description of this calculation technique, see the TSD.

D. Additional Control Measures That Have Not Been Modeled

What Measures Have Been Adopted That Were not Included in the State's Modeling?

The following measures were adopted by the State in order to address the 96 tons/day additional NO_X emission reductions that are shown by the modeling and the weight of evidence analysis to be needed to demonstrate attainment.

—Accelerated purchase of Tier 2/3 non-road diesel equipment. As required by the recent Senate Bill 5, this control measure will not be part of the final adopted control strategy for the HG area. In addition, on June 13, 2001, the U.S. District Court for the Western District of Texas ruled that this measure is preempted by the Clean Air Act (*Engine Manufacturers Association* v. *Robert J. Huston,* NO. A 00 CA 316 SS). In its place, a portion of the projected emission reductions from the newly established legislative incentive program, the TERP, will be substituted. EPA believes the projected emission reductions from the new incentive program can achieve more than the reductions that were projected to be achieved by this replaced control measure and the Heavy-duty Diesel Equipment Operating Restrictions measure. The incentive program is further discussed in section IV.I.

—Agreed Orders for airport ground support equipment electrification with Continental Airlines, Southwest Airlines, and the City of Houston.

—Gasoline heavy equipment engines—Statewide.

—Speed Limit Reduction—HG area.

—Energy Efficiency—reductions in the HG area based on DOE standards.

—Vehicle Idling Restrictions—HG area.

—Gas-fired water heaters, small boilers, and process heaters—statewide.

—TCMs

We have proposed to approve most of the above measures in separate **Federal Register** actions. We are proposing to approve the Speed Limit Reduction and TCMs in this proposal action, and have already approved the statewide rules for water heaters, small boilers, and process heaters. We are not proposing action upon the accelerated purchase of Tier 2/3 non-road diesel equipment rule since this measure will not be relied upon in the State's final attainment demonstration. A portion of the projected reductions from the new TERP measure will be relied upon instead. See the TSD and section VIII for a complete summary of EPA actions. We will supplement the TSD as each proposed and final action are published.

E. Summary of Control Measures

What are the Projected NO_X Reductions From the Modeled and Non-modeled Control Measures?

Table 3 provides the projected NO_X reductions for the 2007 attainment year resulting from the State rules and the local initiatives that were included in the final model run and the measures that were not modeled.

TABLE 3.—NO_X REDUCTION PROJECTIONS (TONS PER DAY)

2007 projected emissions	1083.0
Modeled measures:	
Major point sources	*586.0
Inspection/Maintenance	36.2
Low emission diesel fuel	5.7
HD diesel oper. restrictn (est)	6.7
Small, Spark operating restriction (est)	4.6
VMEP measures	23.0
Total modeled measures	663.2
Measures not modeled:	
Energy Eff	3.6
Acc purchase Tier II/III	12.2
Speed Limit Reductions	12.3
Airport GSE	5.1
Heavy equipment gas engines	2.8
Vehicle Idling Restrictions	0.5
Gas-fired water heaters, etc	0.5
Stationary Diesel Engine Cont	1.0
TCMs	1.1
Total NO_X reductions not modeled	39.0
Total Equivalent NO_X from VOC reduct	1.1
Total NO_X Reductions	710.1

*This number is adjusted in the May 30, 2001 State proposal to account for the proposed changes to the rules for control of electric utility generators.

Has the State Adopted Measures That Achieve Sufficient Emission Reductions To Achieve Attainment?

No, as discussed previously, using a weight of evidence analysis, the State has calculated that an additional 96 tons/day of NO_X emission reductions are needed beyond those that were modeled to demonstrate attainment. The State had adopted additional measures that were projected to achieve 40.1 tons/day of NO_X emission reductions. The legislature, however, repealed the TNRCC's authority to implement the Heavy-duty Diesel Operating Restrictions and Accelerated Purchase of Tier 2/3 non-road diesel equipment measures. This leaves a need to adopt additional measures that will achieve an additional 68.1 tons/day of NO_X emission reductions. Texas has submitted to EPA, for parallel processing, the impact of the TERP measure upon the shortfall. A portion of the TERP measure's projected emission reductions will be substituted for the Tier 2/3 non-road diesel equipment measure. The State has calculated that reliance upon this portion of the TERP measure will achieve 12.2 tons/day. EPA is proposing to agree with this projected emission reduction. This leaves an additional 55.9 tons/day of NO_X emission reductions needed to be addressed by the State. The State has submitted, through parallel processing, proposed enforceable commitments to address this shortfall of 55.9 tons/day. This shortfall is approximately 6% of

the overall emission reductions from the 1993 baseline shown to be necessary for attainment in the HG area.

F. Enforceable Commitments

What Is an Enforceable Commitment?

An enforceable commitment is a written commitment by the State to adopt plan revisions and submit them to EPA as SIP revisions by specific timeframes. In the case of the HG area, there are two types of enforceable commitments. First, the State is committing to continue to analyze the latest technical information and to incorporate it into planned revisions. There are specific provisions for future on-road modeling to incorporate the latest mobile emissions estimation models and to insure that the mobile emissions budgets used for conformity analyses are based on the most current information. Second, the State is committing to achieve additional emission reductions needed for attainment.

To be enforceable, commitments must be part of the SIP and, therefore, the State must have given notice and taken comment on the commitment and held a public hearing. The commitments must be specific as to the state agency's future plans for adoption of specified control measures. The dates for implementation of, or compliance with, the future to-be-adopted specified control measures must be included in the commitments and be as expeditious as practicable. A commitment is enforceable because EPA can find that the State failed to implement the SIP if the State does not follow through with the commitment. Further, the public can seek enforcement of the obligations under section 304(a) of the CAA.

Why Does EPA Believe That Enforceable Commitments To Achieve Additional Reductions Are Appropriate?

Texas has not been able to identify and therefore adopt additional programs that will achieve sufficient emission reductions to achieve attainment. They have reviewed measures that have been included in other State Implementation Plans and have been unable to identify additional RACM, except for one source category—stationary diesel engines. TNRCC is proposing to adopt a rule to control this category, and EPA is acting on the proposed rule through parallel processing. EPA is proposing to agree that the State has adopted all RACM for the HG area. For a more complete discussion of the State's RACM analysis and EPA's evaluation, see section IV.H and the TSD. Although the State has adopted or will have adopted all RACM, these adopted RACM measures are not enough to show attainment, leaving 6% of the reductions identified as necessary to show attainment not being controlled. Therefore, EPA is proposing to allow the State to rely upon enforceable commitments for this small portion of the attainment demonstration.

There are innovative programs and technologies that have the potential to achieve the needed emission reductions. These programs are listed in Chapter 7 of the HG SIP, which Texas has submitted to us for parallel processing. Through parallel processing, we are proposing to approve Chapter 7 with its enforceable commitments as part of the HG attainment demonstration SIP. (We are also proposing to approve the other Chapters and Appendices of the HG SIP, and through parallel processing, the proposed revisions to these other Chapters and Appendices.) The programs listed by the State require further development of new technology or new innovative programs. EPA is agreeing that, with additional time, Texas should be able to adopt enough of the additional identified innovative programs and new technologies so that these programs and technologies will achieve the needed 55.9 tons/day (or 6%) NO_X emission reductions. Texas is committing to submit them as SIP revisions with all of the measures adopted no later than the mid-course review submission in May 2004.

What Are the State's Enforceable Commitments?

In the proposed SIP parallel reviewed for this proposal action, the Commission commits to adopt measures necessary to achieve at least 56 tons/day of NO_X emission reductions in the HG area. Potential measures are identified that could achieve the reductions without requiring additional limits on highway construction. Further, they indicate that none of the to be adopted measures require additional limits on highway construction.

Should the mid-course review conducted in 2003 show that more or fewer NO_X emissions reductions are needed for attainment by November 15, 2007, they commit to submit the revised calculation to the EPA for approval. They state that the SIP revision submitted in May 2004 (committed-to in the mid-course review enforceable commitment submitted April 2000) will account for those additional reductions above and beyond the 56 tons/day commitment if the mid-course review shows they are necessary for attainment. They further commit to submit adopted measures as a SIP revision, with any resulting revision to the MVEB, to the EPA no later than December 31, 2002, that achieve at least 25% of the 56 tons/day NO_X emission reductions. They also commit to submit adopted measures to achieve at least the 56 tons/day of NO_X emission reductions, as SIP revisions as expeditiously as practicable but no later than May 2004. They commit that the implementation dates and compliance deadlines for the adopted measures will be as expeditious as practicable. They further note that they commit to adopting any additional measures necessary to achieve the reductions determined by any EPA-approved shortfall calculation and submitting the adopted rules with an attainment demonstration SIP no later than May 1, 2004.

In addition, as discussed earlier, the State has already submitted the following commitments to insure the plan continues to be based on the latest information.

- An enforceable commitment to perform a mid-course review (including evaluation of all modeling, inventory data, and other tools and assumptions used to develop this attainment demonstration) and to submit a mid-course review SIP revision, with recommended mid-course corrective actions, to the EPA by May 1, 2004;
- An enforceable commitment to submit new mobile source modeling for the HG area, using MOBILE6, our on-road mobile emissions factor computer model, within 24 months of the model's official release; and that if a transportation conformity analysis is to be performed between 12 months and 24 months after the MOBILE6 official release, transportation conformity will not be determined until Texas submits an MVEB which is developed using MOBILE6 and which we find adequate.
- Texas has also submitted for parallel processing, a commitment to concurrently revise the MVEB and submit the revised MVEB to EPA as a revision to the attainment SIP if additional control measures reduce on-road motor vehicle emissions.

In the State's Chapter 7, the State outlines in detail its plans to conduct the mid-course review, including new modeling analyses and scientific studies. Texas plans for the modeling analyses to include new episodes from the Texas 2000 intensive ozone study. Based on these studies and modeling analyses, the State may refine in the future the control strategy being proposed for approval by EPA today. The State acknowledges in Chapter 7 that any changes to the plan or methodology will have to be submitted to EPA for review and approval. Texas intends to approach the mid-course

review in two planned phases : One phase by December 2002 and the second phase is the full mid-course review that will be submitted to EPA as a SIP revision in May 2004.

What Measures Are Being Considered To Address the Shortfall?

Texas is considering a number of measures to address the 56 ton/day NO_X shortfall. The programs listed by the State in Chapter 7 require further development of new technology or new innovative programs and are described below. The State has cited ranges of potential reductions which are included here, and which give us reasonable assurance that the State can meet its commitment to submit adopted measures filling the shortfall. We are not, however, approving the particular amount of reductions presented by Texas for any individual measure. We will review the State's projected reductions from individual measures when they are fully adopted by the State and submitted as a SIP revision. Through the rulemaking procedures, we will propose action upon the acceptability of the projected reductions. Gasoline Additives: As of January 1, 1995, all gasoline marketed in the United States must contain an EPA-approved additive package with a detergent. Detergent in gasoline is critical to keep the fuel nozzles of injectors clear of varnish, gums and other deposits that can clog them. A clogged injector will result in incomplete combustion, resulting in increased tailpipe emissions. Research and development of gasoline additives is ongoing. The State represents, based on an additive manufacturer's claims for their additive package, an emission reduction potential for gasoline detergent additives in addition to what is federally required for detergent additives. The State believes that a gasoline additive program has potential to reduce emissions by 11–20 tons/day.

Diesel Emulsion: This is an emerging fuel technology that relies on a water in fuel mixture to lower NO_X and particulate matter (PM) emissions. The water tends to lower flame temperatures thus reducing the resulting NO_X emissions. The key to a successful diesel emulsion is an effective additive to act as an emulsifying agent to suspend the water in the diesel. At least two companies are marketing a diesel emulsion technology with NO_X emission reduction claims of 20–30%. Currently both the Port of Houston and the City of Houston are testing the fuel to determine its operational feasibility. Texas has projected that a widespread use of emulsified diesel could result in 4–10 tons/day of emission reductions.

Energy Efficiency: Texas has projected a potential 4–11 tons/day of emission reductions from measures to improve energy efficiency. Senate Bill 5 establishes State-wide energy efficient building codes and also sets energy efficiency targets for State and local governments. These programs will clearly reduce growth in demand and therefore will result in NO_X emission reductions. It is not clear, however, the amount and location of the emission reductions that will occur. We will work with TNRCC to quantify the expected reductions in demand growth and the anticipated amount of emission reductions.

Economic Incentives, Fleet Controls, Incentives for cleaner vehicles and/or vehicle fleets and funding for transit programs: 17–25 tons/day. To calculate the potential range of emission reductions, Texas has primarily looked to the diesel incentive program recently established by the Texas legislature (TERP). This program can reasonably be expected to provide 40 million dollars/year to the HG area for reducing emissions from existing diesel equipment. The program is based on similar California programs and has the potential to achieve substantial reductions. Based on the California experience, we believe that emission reductions should be obtainable at an average cost on the order of $5000/ton. A preliminary estimate is that 32–40 tons/day of emission reductions could potentially be achieved in the HG area. However, a portion of the reductions attributable to this program for the HG area will be used in the final control strategy to replace the projected reductions from the Heavy-duty Diesel Equipment Operating restrictions and the accelerated purchase of Tier 2/Tier 3 non-road diesel equipment measures. These two replaced programs were projected to achieve the equivalent of 18.9 tons/day of emission reductions, therefore leaving the potential of 13–21 tons/day of emission reductions from the diesel subsidy program to be used to help address the remaining shortfall.

The legislature has also appropriated money to provide incentive for consumers to buy cars that meet the most stringent Tier II standards. The technology exists for manufacturers to produce vehicles which meet the cleaner ''incentive emissions standards,'' but EPA cannot predict at this time the availability of the cleaner vehicles produced by auto manufacturers during the 2002 to 2003 timeframe, regardless of incentives offered for individual purchase. The State believes that all of the programs, other than TERP, have potential to reduce emissions by 4 tons/day.

Diesel NO_X reduction systems: There are several diesel NO_X emission reductions technologies that are being tested by the Port of Houston and the City of Houston. These technologies are devices that can be added to on-road and off-road equipment to reduce NO_X emissions. Texas has estimated the potential of these devices to reduce emissions by 6–15 tons/day.

Additional Gasoline Sulfur Controls: Texas has estimated that reducing gasoline sulfur levels to 15ppm would result in another 1–2 tons/day of emission reduction beyond that achieved by Tier II in the HG area.

Fuel Cells: The State has projected that 1–5 tons/day of emission reductions can be achieved with increased use of fuel cells. Fuel cells are an emerging technology that have the potential to provide reliable electrical power with much less pollution and virtually no NO_X emissions. Currently, two projects are underway in the HG area to test the feasibility of fuel cells. First, electrical ground support equipment at Bush Intercontinental Airport is going to be charged using fuel cells. Second, a portion of ships' power while docked will be provided by a fuel cell. These projects will demonstrate the potential of fuel cells to provide reliable power at the point of use.

Innovative Idea measures: The following programs together are presented by Texas as having potential to achieve emission reductions of 12–33 tons/day: marine loading operations, episodic emission controls, reductions in vehicle miles traveled (VMT), pricing policies to reduce VMT, reductions at ports and airports, use of new technology and the internet to further reduce emissions.

It is worth noting that marine loading operations and episodic emissions are primarily emitters of VOC emissions. This attainment demonstration SIP for the HG area has been almost exclusively designed to reduce NO_X emissions, although 25% reduction of VOC emissions are shown to be needed for attainment. The attainment demonstration SIP has projected VOC reductions of at least 25%. Episodic high concentrations of VOC emissions, particularly in the heavily industrialized ship channel area, may contribute to the observed ''spike'' ozone peaks in the HG area. TNRCC is committed to performing further scientific analyses.

Does EPA Propose To Accept These Enforceable Commitments To Cover the Shortfall in the SIP?

The SIP submitted for parallel processing contains an enforceable commitment for the State to adopt, by May 2004, measures to achieve at least 56 tons/day of NO_X emission reductions. It identifies potential measures that could achieve the reductions without requiring additional limits on highway construction. The proposed SIP acknowledges that none of the measures could require additional limits on highway construction. They also commit to implement the adopted rules as expeditiously as practicable, but no later than the beginning of the ozone season in the HG area—January 2007. Further, the State commits to adopt, and submit to the EPA as a SIP revision, by December 2002, measures to achieve at least 25% of the 56 tons/day NO_X reductions. They commit to adopt, and submit to the EPA as a SIP revision, no later than May 2004, the remaining rules needed to obtain the rest of the shortfall. We believe these submission and implementation schedules are as expeditious as practicable. Further, we believe the State has identified sufficient innovative programs and new technologies such that it is reasonable to believe that, in the aggregate, the projected estimated emission reductions from these new programs and technologies can be achieved and will fill the shortfall. In addition, the State has made an enforceable commitment to concurrently revise the MVEB and submit the revised MVEB to EPA as a revision to the attainment SIP if additional control measures reduce on-road motor vehicle emissions. Therefore, through parallel processing, we propose approval of the State's commitments.

G. Attainment Motor Vehicle Emissions Budget

What Is a Motor Vehicle Emissions Budget (MVEB) and Why Is It Important?

The MVEB is the level of total allowable on-road emissions established by the measures in a control strategy implementation plan or maintenance plan. In this case, the MVEB establishes the maximum level of on-road emissions that can be produced in 2007, when considered with emissions from all other sources, which demonstrates attainment of the NAAQS. It is important because the MVEB is used to determine the conformity of transportation plans and programs to the SIP, as described by section 176(c)(2)(A) of the Act.

What Are the MVEBs Established by the Attainment Plan and Proposed for Approval by This Action?

The MVEBs established by this plan and that the EPA is proposing to approve through parallel processing are contained in Table 4.

TABLE 4.—2007 ATTAINMENT YEAR MOTOR VEHICLE EMISSIONS BUDGETS

[Tons per day]

Pollutant	2007
VOC	79.51
NO_X	156.60

We find the MVEBs consistent with all pertinent SIP requirements, and the MVEBs are proposed for approval as limited by the discussion below. In addition, we are taking comment in this action on the adequacy of the MVEBs for transportation conformity purposes pursuant to the criteria in 40 CFR 93.118(e)(4) as part of our proposed action on the SIP rather than using the web posting process because we are moving forward on this SIP in a quick manner as described in *Guidance on Motor Vehicle Emissions Budgets in One-Hour Ozone Attainment Demonstrations* dated November 3, 1999.

What Is the State's Commitment To Revise the Motor Vehicle Emissions Budgets With MOBILE6?

All States whose attainment demonstration includes the effects of the Tier 2/sulfur program have committed to revise and resubmit their motor vehicle emissions budgets after we release MOBILE6. The State committed in its April 2000 submission to performing new mobile source modeling for the HG area, using MOBILE6, within 24 months of the model's official release. If transportation conformity analysis is to be performed between 12 months and 24 months after the official release of MOBILE6, transportation conformity will not be determined until the State submits an MVEB which is developed using MOBILE6 and which we find adequate. Texas also commits in its Chapter 7, as proposed to be revised, that it will concurrently revise the MVEB if the adoption of any shortfall measures affects the MVEB and submit the revision to EPA as a revision to the attainment SIP.

What Is the Applicable Budget To Use for Conformity Analysis?

We propose to approve the MVEBs in Table 4, pursuant to the State's commitments relating to MOBILE6 and the shortfall measures, only until revised motor vehicle emissions budgets are submitted and we have found them adequate for transportation conformity purposes. In other words, the budgets that are part of this attainment demonstration will apply for transportation conformity purposes only until there are new, adequate budgets consistent with the State's commitments to revise the budgets. The revised budgets will apply for transportation conformity purposes as soon as we find them adequate since our approval of the current budgets will terminate at that time.

We are proposing to limit the duration of our approval in this manner because we are only proposing to approve the attainment demonstration and its budgets because the State has committed to revise them after we release MOBILE6, after the State adopts measures that affect motor vehicle emissions pursuant to their enforceable commitments, and after the State conducts its mid-course review. Therefore, once we have confirmed that the revised budgets are adequate, they will be more appropriate than the budgets we are proposing to approve for conformity purposes now.

If future changes to the budgets raise issues about the sufficiency of the attainment demonstration, we will work with the State. If the revised budgets show that motor vehicle emissions are lower than the budgets we approve, a reassessment of the attainment demonstration's analysis will be necessary.

This action does not propose any change to the existing transportation conformity rule or to the way it is normally implemented with respect to other submitted and approved SIPs, which do not contain commitments to revise the budget.

We can find the attainment MVEBs adequate for transportation conformity purposes and approvable, as limited above, because the budgets will not interfere with the area's ability to adopt additional measures to attain. Because the additional measures do not involve additional limits on highway construction, allowing new transportation investments to proceed consistent with the budgets will not prevent the area from achieving the additional reductions necessary to reach attainment.

H. Reasonably Available Control Measures

What Action Are We Proposing?

Through parallel processing, we are proposing to approve Texas'

demonstration that all Reasonably Available Control Measures have been or will be adopted in the HG area. The proposed analysis was submitted in a letter dated June 15, 2001, for us to parallel process. We believe Texas has shown that all reasonable measures that are RACM for the HG area have been or will be adopted. A full description of our evaluation of TNRCC's proposed analysis is contained in the TSD to this document. It is worth noting that through this analysis, Texas identified one measure, control of emissions from diesel fired generators, as being an additional RACM for the HG area. TNRCC has proposed a rule to control this source category and requested parallel processing. EPA will parallel process action on this rule in a separate rulemaking. If EPA cannot fully approve this diesel generator rule, we cannot fully approve the HG attainment demonstration SIP because it would not show that all RACM was being implemented in the area.

What Is the Reasonably Available Control Measure Requirement?

Section 172(c)(1) of the Act requires SIPs to provide for the implementation of all reasonably available control measures (RACM) as expeditiously as practicable and for attainment of the standard. We have previously provided guidance interpreting the RACM requirements of 172(c)(1) in the General Preamble. See 57 FR 13498, 13560 (April 16, 1992). In the General Preamble, we indicated our interpretation of section 172(c)(1), under the 1990 amendments, as imposing a duty on States to consider all available control measures and to adopt and implement such measures as are reasonably available for implementation in the particular nonattainment area. We also retained our pre-1990 interpretation of the RACM provisions that where measures that might in fact be available for implementation in the nonattainment area could not be implemented on a schedule that would advance the date for attainment in the area, we would not consider it reasonable to require implementation of such measures. We indicated that States could reject certain RACM measures as not reasonably available for various reasons related to local conditions. A State could include area-specific reasons for rejecting a measure as RACM, such as the rejected measure would not advance the attainment date, or technological and economic feasibility in the area.

We also issued a recent memorandum reaffirming our position on this topic, ''Guidance on the Reasonably Available Control Measures (RACM) Requirement and Attainment Demonstration Submissions for Ozone Nonattainment Areas,'' John S. Seitz, Director, Office of Air Quality Planning and Standards, dated November 30, 1999. A copy can be obtained from *www.epa.gov/ttn/oarpg/t1pgm.html.* In this memorandum, we state that in order to determine whether a state has adopted all RACM necessary for attainment and as expeditiously as practicable, the state will need to provide a justification as to why measures within the arena of potential reasonable measures have not been adopted. The justification would need to support that a measure was not reasonably available for that area and could be based on technological or economic grounds.

How Did Texas Perform Its RACM Analysis?

Texas has based its analysis primarily on EPA's document ''Control Measures for Serious and Severe Ozone Nonattainment Areas'' issued November 1999. This document has a summary of the control measures that have been adopted in other areas of the country. Using this document as a guide, Texas was able to determine that measures as stringent or more stringent than other areas of the country are being implemented in the HG area for NO_X control. Texas used a modeling analysis in conjunction with the list of control measures in the EPA document to determine that additional VOC controls are not cost-effective in reducing ozone in the specific HG area because of the large number of small sources, difficulties in enforcement, and the large amount of VOC reductions needed to achieve a change in ozone concentrations. They also would not advance the attainment deadline.

I. Impacts of Texas Legislative Action

Numerous legislative changes occurred during Texas' 77th legislative session that impact the SIP that will be submitted by the State. As discussed earlier, Texas Senate Bill 5 creates an incentive program for purchase of low emission vehicles and establishes an energy efficiency program. The bill requires TNRCC to withdraw the control measures for the Heavy-duty Diesel Operating restrictions and the accelerated purchase of Tier ⅔ non-road diesel equipment,[2] and replace these with the incentive program (TERP). The TSD documents in detail the potential emission reductions of the incentive program. Based on the experience with similar programs in California, EPA is proposing that this new Texas program can achieve sufficient reductions to replace the two measures and also contribute to reducing the shortfall. Further, model sensitivity runs indicate that use of an incentive program, rather than the heavy duty diesel operating restrictions, will not increase the modeled shortfall. In fact, it may have positive impact.

House Bill 2912 also requires changes to the SIP. This bill limits TNRCC's authority to control fuel content. In anticipation of this legislation, the State proposed amendments to the low emission diesel rule on May 10, 2001. They have submitted this proposal, along with a request for parallel processing to EPA, for inclusion in the attainment demonstration. We have proposed to approve the rule and amendments in a separate action. These changes will not have an impact on the projected emission reductions from this measure nor on the peak modeled ozone concentrations and the gap methodology and the calculated 56 tons/day of NO_X emission reductions needed to show attainment because Texas had not previously included the benefits of requiring this rule in the western portion of the State in its modeling analysis.

House Bill 2912 also includes permit requirements for sources not previously required to obtain permits. The projected emission reductions from this measure are being used to replace the revised emission reductions projected from the NO_X point source measure. EPA discusses in the TSD how the emission reductions are projected and why, combined with the revised NO_X point source measure, there is no expected impact on the peak modeled ozone concentrations, the gap methodology and the calculated 56 tons/day of NO_X emission reductions needed to show attainment.

Texas House Bill 2134 creates the Texas Low-income Vehicle Repair Assistance, Retrofit, and Accelerated Vehicle Retirement Program. This program establishes a method for repair of high emitting vehicles or the retirement and replacement of those vehicles. It is anticipated that this legislation will have a neutral or slightly beneficial impact toward emission reductions. When the State implements the legislation, they will have to fully document the effects of the legislation. If the reductions are less than those currently relied upon from the scrappage program (included as a

[2] As also stated previously, the District Court for the Western District of Texas recently ruled that these two rules are preempted by the Clean Air Act. This ruling has no impact on the attainment demonstration because of the provisions of Senate Bill 5.

voluntary measure in the attainment demonstration), an additional measure will need to be submitted to account for the difference.

Further discussion of the projected emission reductions from the recent legislation and the effects upon the modeling and the shortfall methodology are discussed in the TSD.

J. Impacts of Recent State Settlement of Litigation

What Is the Basis for the Settlement of the Lawsuit?

A group of refinery, petrochemical and utility companies challenged a number of the State rules being relied on in the attainment demonstration in State court. In particular, they challenged the rules for control of industrial NO_X emissions. The TNRCC and EPA recognize that there are several factors contributing to the severity of the HG area's ozone problem. One is routine ozone formation such as that seen in other cities. Another is the HG area's unique land/sea breeze interaction. A characteristic of the HG area is ''spike'' ozone events where ozone rapidly builds up in the atmosphere. Meteorology, particularly the area's land/sea breeze interaction, may play a role in producing ''spike'' events.

The litigants, however, expressed their belief that this ''spike'' phenomenon is caused by episodic releases of highly reactive VOCs and that this phenomenon might play a role in determining ozone design values and control strategies. TNRCC in its Chapter 7 says that the sudden introduction of significant quantities of reactive hydrocarbons (or chlorine) could theoretically trigger dramatic increases in ozone concentrations. Thus, the TNRCC agreed in a settlement to perform a scientific study within one year. The study, as discussed in Chapter 7, would (1) develop a robust statistical definition of ozone ''spikes''; (2) evaluate ''spike'' events from the 1998–2000 design value period; and (3) analyze ''spike'' events to determine their probable causes and locations within the modeling domain. The Commission states in Chapter 7 that they will perform analyses to see if ''spikes'' were at all influenced by upset releases. They will also review the inventory to see if it reflects or can be revised to reflect the varying temporal characteristics of many sources. Modeling of an August–September 2000 episode will be conducted as well. Planned enhancements to this modeling would be the incorporation of an upgrade to the model's chemical mechanism to account for chlorine chemistry, the TNRCC's determination of the role of chlorine in ozone formation, the role of ''spikes'', and possibly the use of very high resolution sub-domains. In Chapter 7 of the HG SIP, as proposed to be revised, the Commission commits to developing an enforceable plan to minimize releases of reactive hydrocarbon emissions and the emissions of chlorine. They further state that to the extent that the science (the study and modeling discussed above) confirms the benefit from this strategy, then it is the intent of the Commission to implement such a VOC-control strategy which will first offset NO_X reductions required for industrial sources from the existing strategy's required 90 percent to the 80 percent level. They also state that they would implement such a revised VOC-control program through a SIP revision. The Commission further states that in its discretion, it may allocate any additional benefit beyond 80 percent to other existing SIP strategies and/or to the point source NO_X control strategy. Any scientific determinations, supporting technical information, revised rules, revised control strategy, and revised attainment demonstration must be submitted to the EPA for approval as an attainment demonstration SIP revision.

Another element of the agreement is for the TNRCC to revise the reduction requirement for utility generators in the HG area from 93% to 90%. Relaxing this requirement is compensated by the NO_X reductions that will be achieved by the recent legislation requiring permitting of grandfathered sources. (The sources primarily affected by the revised measure are pump and compressor station engines.) Texas in Chapter 7, as proposed to be revised, states that it will perform a refined analysis modeling both the new emission reductions and the increases in NO_X from the power plant emissions in its planned first phase of the mid-course review (that planned modeling would also include the other enhancements discussed above). By June 2002, the Commission will assess the results of the modeling conducted. Depending upon the assessment, the Commission plans to begin rulemaking activities, if indicated, by June 2002 and finish in November 2002. We are proposing to agree with Texas that the effect of the reduced amount of NO_X reductions from power plants should be small and will be offset by the reductions at the currently un-permitted facilities. Further discussion of the projected emission reductions from the proposed revisions for electric utility generators and the effects upon the modeling and the shortfall methodology are discussed in the TSD.

V. Local Measures

What Are the Local Initiatives and Are They Approvable?

The State submitted in the December 2000 SIP revision, three local initiatives; speed limit reductions, a voluntary mobile emissions program in the eight county area, and transportation control measures.

A. Speed Limit Reductions

The Texas Department of Transportation (TxDOT) revised regulations relating to speed limits to allow TNRCC to submit a request to change speed limits for environmental reasons when justified. Please see adopted rules, 25 TexReg 5686, June 9, 2000. TxDOT, using this authority, will lower posted speed limits currently above 55 mph to 55 mph in the eight county area beginning May 1, 2002. The reduced speed limits will apply year-round beginning May 2002. Traveling at slower speeds will reduce the emissions of NO_X and improve air quality. In estimating the benefits of this measure, TNRCC did not assume that all cars would comply with the new speed limits but instead assumed a similar level of noncompliance would continue at the lower speed limits as occurs presently. The State estimates a reduction of 12.33 tons/day of NO_X emissions and 1.76 tons/day of VOC emissions from this measure. We propose approval of the speed limit reductions control measure and associated emission reductions.

B. Voluntary Mobile Emissions Program (VMEP)

What Is EPA's VMEP?

Voluntary mobile source strategies that attempt to complement existing regulatory programs through voluntary, non-regulatory changes in local transportation activities or changes in in-use vehicle and engine composition constitute the VMEP. EPA believes that the Act allows SIP credit for new approaches to reducing mobile source emissions, where supported by enforceable commitments to monitor and assess implementation and backfill any emissions reductions shortfall in a timely fashion. This flexible approach is consistent with the Clean Air Act section 110. Economic incentive provisions are also available in sections 182 and 108 of the Act. Credits generated through VMEP can be counted toward attainment and maintenance of the NAAQS. Due to the innovative nature of this program, up to

3% of the total future year emissions reductions required to attain the appropriate NAAQS, may be claimed under the VMEP policy.

What Qualifies for SIP Credit?

The basic framework for ensuring SIP credit for VMEPs is spelled out in guidance that came out under a memorandum from Richard D. Wilson, Acting Assistant Administrator for Air and Radiation, dated October 24, 1997, entitled ''Guidance on Incorporating Voluntary Mobile Source Emission Reduction Programs in State Implementation Plans (SIPs).'' Generally, to obtain credit for a VMEP, a State submits a SIP that:

(1) Identifies and describes a VMEP;

(2) Contains projections of emission reductions attributable to the program, along with any relevant technical support documentation;

(3) Commits to evaluation and reporting on program implementation and results; and

(4) Commits to the timely remedy of any credit shortfall should the VMEP not achieve the anticipated emission reductions.

More specifically, the guidance suggests the following key points be considered for approval of credits. The credits should be quantifiable, surplus, enforceable, permanent, and adequately supported. In addition, VMEPs must be consistent with attainment of the standard and with the ROP requirements and not interfere with other Clean Air Act requirements.

What Did the State Submit?

The State submitted program descriptions that projected emission reductions attributable to each specific program as part of the HG attainment demonstration submitted December 20, 2000. The State commits to evaluating each program to validate estimated credits. Table 5 lists the programs and projected credits.

TABLE 5.—VOLUNTARY MOBILE EMISSION REDUCTION PROGRAMS AND CREDITS CLAIMED

Program type	NO_X benefits (tons per day)
Scrappage Program	0.39
Smoking Vehicle Program	0.04
Public Fleet Measures	1.02
Highway Demonstration Projects	0.84
Private Fleet Measures	3.21
Non-road Demonstration	2.5
Locomotive Controls	2.0
Marine Measures	4.8
Commute Solutions	1.8
Transtar Expansion	0.0
Clean Air Action/Cool Cities/ Other	0.03
Signal Light Timing	0–0.5
Smart Growth	0.3
Local County Emission Reduction Plan	1.5
AERCO Pilot Project	6.0
Total Benefits (tpd)	23

The State's goal is 23 tons/day of NO_X benefit from the VMEP program. Since overall, the HG area needs to reduce emissions by 768 tons/day from uncontrolled 2007 levels, this is within the 3% criteria in our guidance. The State has committed to evaluating and reporting on the program implementation and results and to timely remedy any credit shortfall.

Do the VMEPs Meet the Requirements for Approval?

A detailed analysis of all the VMEP measures can be found in the TSD for this document. For each creditable VMEP, the measure was found to be quantifiable. The reductions are surplus by not being substitutes for mandatory, required emission reductions. The commitment to monitor, assess and timely remedy any shortfall from implementation of the measures will be enforceable against the State. The reductions will continue at least for as long as the time period in which they are used by this SIP demonstration, so they are considered permanent. Each measure is adequately supported by personnel and program resources for implementation.

What Action Is EPA Taking on the VMEP?

The HG area's ozone SIP VMEP meets the criteria for credit in the SIP. The State has shown that the credits are quantifiable, surplus, enforceable, permanent, adequately supported, and consistent with the SIP and the Act. We propose to approve the VMEP portion of the Texas SIP.

C. Transportation Control Measures (TCMs)

The State has included a variety of TCMs in the December 2000 SIP as a control strategy for attainment of the ozone NAAQS. The specific TCMs have been described in detail in appendix I of the SIP, and they will be incorporated by reference in the Code of Federal Regulations in the final approval action. Detailed information is necessary for those TCMs used as emissions reduction measures in the SIP to ensure that they are specific and enforceable as required by the Act and reflected in our policy. The TCMs' description in the SIP includes identification of each project, location, length of each project (if applicable), a brief project description, implementation date, and emissions reductions for both VOC and NO_X.

The TCMs identified through this process and included in the SIP are contained and funded in the metropolitan transportation plan (MTP) and transportation improvement program (TIP) to ensure funding for implementation.

We propose approval of the TCMs.

VI. Post 1999 Rate Of Progress Plan

A. Proposed Action

What Action Are We Proposing To Take?

We are proposing approval of the Post 1999 ROP plans, submitted by the Governor on December 20, 2000. These plans were supplemented with proposed revisions to the SIP submitted for parallel processing in a letter dated June 15, 2001. We are proposing to parallel process approval of these revisions to the plans.

These plans demonstrate that ozone forming emissions will be reduced from the baseline emissions by 9% in each of the periods 2000–2002 and 2003–2005 and by 6% during the time period of 2006–2007. We are also proposing to approve the MVEBs associated with these plans and revisions thereto by parallel process approval. We are also proposing to approve the changes to the 1990 base year emissions inventory for the HG nonattainment area.

These Post 1999 ROP plans build upon the 15% ROP plan that was to cover the time period 1990–1996 and the Post 1996 ROP Plan that covered the time period 1997–1999. The 15% ROP plan was given conditional interim approval November 10, 1998, 63 FR 62943. In this action, the 15% plan is being proposed for full approval (see section VII.). The Post 1996 ROP plan was approved on April 25, 2001, 66 FR 20778.

B. Calculation of Required Reductions and Summary of Plans

What Are the Changes to the 1990 Base Year Inventory?

The 1990 base year inventory was originally approved November 8, 1994 (59 FR 55586). The State revised the VOC inventory on August 8, 1996.

These changes were approved November 10, 1998 (63 FR 62943). The State revised the 1990 base year VOC inventory again in the December 20, 2000 SIP revision. The December 20, 2000, SIP revision also contains the State's first revisions to the 1990 base year NO_X emissions inventory. The changes resulted from data gathered for the 1993 and 1996 periodic inventories. Analysis of the changes in the periodic inventories was backcast to the 1990 inventory for consistency since the 1990 inventory remains the ROP beginning point. We have reviewed the inventory revisions and they have been developed in accordance with our guidance on emission inventory preparation. Thus, we are proposing approval of the December 20, 2000, revisions to the 1990 base year inventory.

How Do We Calculate the Needed VOC and NO_X Emissions Reductions?

Calculating the needed emission reductions is a multi-step process that is described in detail in the TSD for this proposed action. In summary, the State (1) estimates the baseline emissions in 1990; (2) adjusts the baseline emissions to factor out emission reductions from pre-1990 federal motor vehicle control programs and Reid vapor pressure controls because the Act does not allow States to take credit for these reductions; (3) estimates the target level of emissions in the milestone years; and (4) estimates the anticipated growth in emissions during each period and calculates the needed emission reductions.

How Do the Plans Achieve the Required Reductions?

Tables 6 and 7 summarize the ROP plans submitted by Texas.

TABLE 6.—VOC RATE OF PROGRESS

Milestone Year	2002	2005	2007
Target Level	696.25	694.81	693.84
Projected emissions after controls	670.99	644.93	629.68
Measures	Pulp and Paper I/M Small engine Tier I RFG NLEV HDDV.	Small Engine Tier I I/M Tier I/II NLEV HDDV.	Small Engine Marine Engine Tier I/II NLEV HDDV

TABLE 7.—NO_X RATE OF PROGRESS

Milestone Year	2002	2005	2007
Target Level	1127.08	1011.33	935.67
Projected emission after controls	1116.06	695.05	542.0
Measures	Tier I NLEV RFG I/M Small Engine. HDDV Standards.	Tier I/II I/M HDDV Standards NO_X Point source controls.	Tier I/II HDDV Standards NO_X Point source controls

Do the Plans Achieve the Rate of Progress Goals?

Tables 6 and 7 show that the projected emissions after controls are less than the target level in each of the milestone years. In the 2002 ROP milestone year, Texas is able to meet the ROP requirement by a small margin through the documentation of progress made by Federal Measures. In 2005, the plan meets the ROP milestone by a wide margin since the bulk of the State's NO_X point source are required to be implemented in 2003 and 2005. It should be noted that TNRCC's ROP proposal does not reflect the changes proposed May 30, 2001 to the NO_X point source rules in response to the settlement of the industry legal challenge. These proposed changes delay some of the reductions planned for 2005 and reduce slightly the amount of total emission reductions that will occur in 2007 due to the relaxation of the electric utility generation rules. EPA has estimated the amount of emission reductions that it believes will occur in 2005 and 2007 as a result of the proposed changes to the rules and reflected these estimates in the Tables. Also, because of the wide margin, TNRCC did not include in the ROP plans a significant portion of the emission reductions included in the attainment plan, such as the Voluntary Measures program, Low emission diesel and speed limit reductions.

C. Post 1999 ROP MVEBs

What Are the MVEBs Established by These Plans and Proposed for Approval?

The MVEBs established by these plans and that we are proposing to approve are contained in Table 8. We find the MVEBs consistent with all ROP SIP requirements. In addition, we are taking comment in this action on the adequacy of the MVEBs for transportation conformity purposes pursuant to the criteria in 40 CFR 93.118(e)(4) as part of our proposed action on the SIP rather than using the web posting process because we are moving forward on this SIP in a quick manner as described in *Guidance on Motor Vehicle Emissions Budgets in One-Hour Ozone Attainment Demonstrations* dated November 3, 1999.

TABLE 8.—ROP SIP MOTOR VEHICLE EMISSIONS BUDGETS

[Tons per day]

Pollutant	2002	2005	2007
VOC	100.07	68.52	79.51
NO_X	260.85	185.48	156.6

The 2005 and 2007 ROP budgets are being proposed for revision in the June 15, 2001 submission being parallel processed. The new 2007 budgets are being proposed by Texas pursuant to a settlement agreement and are taken from the attainment demonstration modeling rather than directly from the ROP calculations. Emissions estimates used to demonstrate transportation

conformity will be derived using the assumptions used to develop these emissions budgets for the 2007 attainment SIP MVEBs, pursuant to 40 CFR 93.122(a)(6). We find such MVEBs consistent with ROP.

VII. 15% Rate Of Progress Plan

Proposed Action

What Action Are We Proposing To Take?

We are proposing full approval of the 15% plan submitted on August 8, 1996, contingent upon us finalizing full approval of the State's I/M program for the HG nonattainment area, which is included in the 15% plan. The 15% plan was given conditional, interim approval on November 10, 1998, pending corrections to the I/M program. This ROP plan was given conditional, interim approval because it relied on emissions reductions from the I/M program that received conditional, interim approval. For further information on the I/M conditional, interim approval, see 62 FR 37138, July 11, 1997. We found that the State had met the conditions of the conditional approval, and on April 23, 1999, we removed the conditions and granted Texas a final interim approval of the I/M SIP under the National Highway System Designation Act of 1995, Public Law 104–59, section 348(c)(1). See, 64 FR 19910. The interim approval expired on February 11, 1999. Texas has submitted significant revisions to the I/M program for the HG area. The revisions expand the program from Harris county to seven additional counties in the nonattainment area. We are taking a separate action on these I/M revisions (proposed approval 66 FR 31199, June 11, 2001). Because the revisions appear to have eliminated the last impediment to full approval of the I/M program for the HG area, we are proposing full approval of the HG area's 15% plan. This proposed full approval of the 15% plan will not be finalized unless and until action finalizing full approval of the I/M program is signed. If the I/M program is disapproved, we will disapprove the 15% plan. If we disapprove the 15% plan, we cannot finalize a full approval of the HG attainment demonstration SIP. See 63 FR 62943 and the 15% plan TSD for additional information on the HG area's 15% plan.

How Did the Inspection/Maintenance Program Submitted With the Attainment Demonstration Purport To Cure the Previous Deficiencies?

As stated previously, a conditional interim approval for the Motorist Choice I/M Program was proposed on October 3, 1996 (61 FR 51651). Conditional interim approval was published on July 11, 1997 (62 FR 37138). The conditions were removed from the interim approval on April 23, 1999 (64 FR 19910). The interim approval status of this program lapsed on February 11, 1999.

The State submitted an approvable 18-month demonstration on February 8, 1999, as required by the National Highway System Designation Act of 1995, Public Law 104–59, section 348(c)(1). The program was not fully approved at that time because one provision of the interim approval remained: that the State provide evidence that the remote sensing program was effective in identifying the shortfall in number of vehicles needed to make up for the lack of a tailpipe testing program in all the nonattainment counties.

Modeling has since shown that NO_X reductions are essential to reaching attainment in the HG area. As a result, the Texas Motorist Choice I/M program has been revised to include measurement for NO_X emissions and to provide additional NO_X emission reductions by expanding coverage of the program to all eight counties within the HG nonattainment area. By revising the program to expand area coverage for NO_X SIP credits, the deficiency that prohibited full approval in the HG nonattainment area appears to be cured. All counties within the HG designated ozone nonattainment area will be participating in the full program. As indicated above, we have not yet taken a final action on the I/M submittal and cannot take final action on the ROP Plan and attainment demonstration SIP which rely upon reductions from the I/M plan, until the I/M revision is finally approved.

VIII. Summary of Related Measures EPA Must Approve Before EPA can Fully Approve the HG Attainment Demonstration

What Clean Air Act Requirements Apply to the HG Severe Area?

The following table presents a summary of the CAA requirements that are required for each severe nonattainment area for the 1-hour ozone NAAQS. These requirements are specified in section 182 of the CAA.

CAA REQUIREMENTS FOR SEVERE AREAS

—NSR, including an offset ratio of 1.3:1 and a major VOC and NO_X source cutoff of 25 tons per year (tpy).
—Reasonably Available Control Technology (RACT) for VOC and NO_X.
—15 percent Rate-Of-Progress (ROP) plan for VOC through 1996.
—9 percent Rate-Of-Progress (ROP) plan for VOC through 1999.
—1990 baseline emissions inventory for VOC and NO_X.
—Periodic emissions inventory and source emission statement regulations.
—Enhanced Vehicle inspection and maintenance (I/M) program.
—Clean fuel vehicle program.
—Enhanced monitoring program.
—Reformulated gasoline.
—3%/yr ROP plan(Post 1999).
—Measures to offset VMT growth.
—Requirement for fees for major sources for failure to attain.

** Areas that are currently attaining the standard or can demonstrate that NO_X controls are not needed can request a NO_X waiver under section 182(f). The HG area is not such an area.

A listing of applicable requirements and the effective dates of their EPA approvals for the HG area is contained in the TSD for this rulemaking.

What Measures Must Be Finally Approved Before We Can Finalize the Approval of the Attainment SIP?

We cannot finalize approval of the attainment demonstration SIP and its associated MVEBs unless and until we have finalized action on the following rules since they are relied upon in the attainment demonstration:

1. Vehicle I/M program (30 TAC 114). Recent legislation and the rule allow Liberty, Chambers and Waller counties to submit an alternative air control strategy by May 1, 2002 (the I/M program does not apply in those counties until May 1, 2004). The alternative strategy must be approved by TNRCC and EPA (in the form of a SIP revision) and must provide modeled reductions in NO_X and VOC equivalent to the reductions modeled for these counties from the I/M program. This flexibility is an acceptable approach as long as the implemented I/M program covers the urbanized area within the HG Metropolitan statistical Area and does not rely on the remote sensing program for vehicle coverage.[3] For further discussion, please see the proposed approval (66 FR at 31200) and accompanying TSD as well as 30 TAC section 114.50(a)(4)(G). It should be noted that unless the equivalent emission reductions are from mobile

[3] It should be noted that these three counties are not part of the urbanized area and, therefore, not required to be part of the I/M program. See, 40 CFR 51.350(a)(2).

sources, the MVEBs will be impacted by these areas opting out of I/M.

2. Revised emission specifications in the HG area for NO_X Point Sources (30 TAC 117). Note certain portions of this rule submitted December 20, 2000 have been proposed for revision. Texas has submitted these revisions for parallel processing.

3. NO_X Cap and Trading program (30 TAC 101). Note certain portions of this rule submitted December 20, 2000 has been proposed for revision. Texas has submitted these revisions for parallel processing.

4. Low emission diesel fuel (30 TAC 114). Texas has proposed a revision to the rule that was submitted by the Governor in December 2000. Further revisions that were approved for public comment by TNRCC on May 10, 2001, include a change to the area of coverage, a later implementation deadline, and allowing alternate diesel formulations (if approved by EPA) as a means of compliance. These revisions correspond to changes in the statutory authority of TNRCC to regulate fuels. These changes are in Texas House Bill 2912. This bill establishes certain guidelines for fuel regulations that are more stringent than federal requirements. In a letter dated June 15, 2001, a SIP revision was submitted, along with a request for parallel processing.

5. Non-Road Large Spark-Ignition (LSI) Engines (30 TAC Chapter 114, Subchapter I, Division 3). This rule requires that non-road large spark-ignition engines of 25 horsepower (hp) or larger conform to Title 13 of the California Code of Regulations, Chapter 9. Section 209(e)(2)(B) of the Act allows another state to adopt requirements for non-road engines if such regulations are identical to California's requirements. EPA has promulgated regulations, codified at 40 CFR 85.1606, setting forth the criteria for adoption of California regulations regarding non-road vehicles and non-road engines. We are addressing this measure in a separate action.

6. Agreed Orders with Continental and Southwest Airlines and the City of Houston. The Agreed Orders make enforceable specific local emission reductions of NO_X from sources under the airlines' control. The agreement with the City of Houston is to bring about additional reductions from operations in the Houston Airport System. We will address the agreed orders in a separate action.

7. Reasonably Available Control Technology (RACT) rules regulating VOCs from Batch Processes (30 TAC 115) and Offset Lithographers (30 TAC 115). These rules submitted December 20, 2000 ensure that RACT is in place on major sources of VOCs in these categories in the HG area. We will address these rules in a separate action.

8. A determination that the HG SIP includes all Reasonably Available Control Measures. See section IV.H.

9. The 15% ROP Plan. See section VII.

10. The Post 1999 ROP Plans and contingency measures. See section VI.

11. The revisions to the 1990 base year inventory. See Section VI.

12. The speed limit reductions, the VMEP and the TCMs. See section V.

13. Lawn service equipment operating restrictions (30 TAC 114.452–459). This is a rule that would implement an operating-use restriction program requiring that the handheld and non-handheld spark-ignition engines, rated at 25 hp and below, be restricted from use by commercial operators between the hours of 6:00 a.m. and noon, April 1 through October 31, in Brazoria, Fort Bend, Galveston, Harris, and Montgomery counties. For more information on this measure, see our proposed approval at 66 FR 31197 (June 11, 2001).

14. Vehicle Miles Traveled (VMT) Offset Plan.

15. Motor Vehicle Idling Limitations (30 TAC 114.500–509). This rule establishes idling limits for gasoline and diesel-powered engines in heavy-duty motor vehicles in the HG area. For more information on this measure, see our proposed approval at 66 FR 31197 (June 11, 2001).

16. Stationary Diesel Generator rule (30 TAC 117.206). This rule was submitted for parallel processing in a letter dated June 15, 2001, as part of other proposed revisions to the NO_X point source rules. Its approval is necessary to insure that all RACM have been adopted in the HG area.

17. The Post 1996 ROP Plan and contingency measures. See Section VI.

IX. EPA Guidance

What EPA Guidelines Apply To the Attainment Demonstration Submittals?

The following documents, among others, contain EPA's guidelines affecting the content and review of ozone attainment demonstration submittals:

1. *Guideline for Regulatory Application of the Urban Airshed Model,* EPA–450/4–91–013, July 1991. Web site: *http://www.epa.gov/ttn/scram/* (file name: ''UAMREG'').

2. Procedures for Emission Inventory Preparation, Volume IV: Mobile Sources (Revised) (1992).

3. *Guidance on Urban Airshed Model (UAM) Reporting Requirements for Attainment Demonstrations*, EPA–454/R–93–056, March 1994. Web site: *http://www.epa.gov/ttn/scram/* (file name: ''UAMRPTRQ'').

4. User's Guide to MOBILE5 (Mobile Source Emission Factor Model), May 1994.

5. Memorandum, ''Ozone Attainment Demonstrations,'' from Mary D. Nichols, Assistant Administrator for Air and Radiation, March 2, 1995. Web site: *http://www.epa.gov/ttn/oarpg/t1pgm.html.*

6. *Guidance on the Use of Modeled Results to Demonstrate Attainment of the Ozone NAAQS*, EPA–454/B–95–007, June 1996. Web site: *http://www.epa.gov/ttn/scram/* (file name: ''O3TEST'').

7. Memorandum, ''Guidance for Implementing the 1-Hour Ozone and Pre-Existing PM10 NAAQS,'' from Richard Wilson, Office of Air and Radiation, December 29, 1997. Web site: *http://www.epa.gov/ttn/oarpg/t1pgm.html* .

8. Memorandum, ''Use of Models and Other Analyses in Attainment Demonstrations for the 8-Hour Ozone NAAQS (Draft),'' 1998.

9. Memorandum, ''Guidance on Motor Vehicle Emissions Budgets in One-Hour Ozone Attainment Demonstrations,'' from Merrylin Zaw-Mon, Acting Director of the Regional and State Programs Division, November 3, 1999. Web site: *www.epa.gov/oms/transp/conform/nov3guid.pdf*

10. Memorandum, ''Guidance on the Reasonably Available Control Measures (RACM) Requirement and Attainment Demonstration Submissions for Ozone Nonattainment Areas,'' from John S. Seitz, Director of Office of Air Quality Planning and Standards, November 30, 1999.

11. Draft Memorandum, ''1-Hour Ozone NAAQS—Mid-Course Review Guidance,'' from John Seitz, Director, Office of Air Quality Planning and Standards.

12. Memorandum ''Guidance for Improving Weight of Evidence Through Identification of Additional Emission Reductions, Not Modeled'' November, 1999.

VIII. Administrative Requirements

Under Executive Order 12866 (58 FR 51735, October 4, 1993), this proposed action is not a ''significant regulatory action'' and therefore is not subject to review by the Office of Management and Budget. For this reason, this action is also not subject to Executive Order 13211, ''Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use'' (66 FR 28355, May 22, 2001). This proposed action merely

proposes to approve state law as meeting federal requirements and imposes no additional requirements beyond those imposed by state law. Accordingly, the Administrator certifies that this proposed rule will not have a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*). Because this rule proposes to approve pre-existing requirements under state law and does not impose any additional enforceable duty beyond that required by state law, it does not contain any unfunded mandate or significantly or uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (Public Law 104–4). This proposed rule also does not have a substantial direct effect on one or more Indian tribes, on the relationship between the Federal Government and Indian tribes, or on the distribution of power and responsibilities between the Federal Government and Indian tribes, as specified by Executive Order 13175 (65 FR 67249, November 9, 2000), nor will it have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132 (64 FR 43255, August 10, 1999), because it merely proposes to approve a state rule implementing a federal standard, and does not alter the relationship or the distribution of power and responsibilities established in the Clean Air Act. This proposed rule also is not subject to Executive Order 13045 (62 FR 19885, April 23, 1997), because it is not economically significant.

In reviewing SIP submissions, EPA's role is to approve state choices, provided that they meet the criteria of the Clean Air Act. In this context, in the absence of a prior existing requirement for the State to use voluntary consensus standards (VCS), EPA has no authority to disapprove a SIP submission for failure to use VCS. It would thus be inconsistent with applicable law for EPA, when it reviews a SIP submission, to use VCS in place of a SIP submission that otherwise satisfies the provisions of the Clean Air Act. Thus, the requirements of section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) do not apply. As required by section 3 of Executive Order 12988 (61 FR 4729, February 7, 1996), in issuing this proposed rule, EPA has taken the necessary steps to eliminate drafting errors and ambiguity, minimize potential litigation, and provide a clear legal standard for affected conduct. EPA has complied with Executive Order 12630 (53 FR 8859, March 15, 1988) by examining the takings implications of the rule in accordance with the ''Attorney General's Supplemental Guidelines for the Evaluation of Risk and Avoidance of Unanticipated Takings' issued under the executive order. This proposed rule does not impose an information collection burden under the provisions of the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 *et seq.*).

List of Subjects in 40 CFR Part 52

Environmental protection, Air pollution control, Attainment, Hydrocarbons, Nitrogen oxides, Ozone, Reporting and recordkeeping requirements.

Authority: 42 U.S.C. 7401 *et seq.*

Dated: July 2, 2001.

Gregg A. Cooke,

Regional Administrator, Region 6.

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