

ENVIRONMENTAL PROTECTION AGENCY**40 CFR Part 52**

[TX-126-1-7477; FRL-7092-2]

Approval and Promulgation of Implementation Plans; Texas; Houston/Galveston Nonattainment Area; Ozone**AGENCY:** Environmental Protection Agency (EPA).**ACTION:** Final rule.

SUMMARY: The EPA is fully approving the Texas one-hour ozone attainment demonstration State Implementation Plan (SIP) for the Houston/Galveston (HG) severe nonattainment area with an attainment date of November 15, 2007. Also, being published in today's **Federal Register** are seven additional actions, approving various measures that support the attainment demonstration.

In this action, the EPA is approving the following related SIP elements: The following local measures relied on in the attainment demonstration: speed limit reduction, voluntary mobile emission programs (VMEP) and transportation control measures (TCM); the Post 1999 Rate of Progress (ROP) plans for the time periods November 15, 1999 to November 15, 2002, November 15, 2002 to November 15, 2005 and November 15, 2005 to November 15, 2007; the Motor Vehicle Emissions Budget (MVEB) contained in the attainment demonstration SIP and the Post 1999 ROP plans; the 15% ROP Plan (Conversion of conditional interim approval to a full approval); certain enforceable commitments to adopt additional measures and perform additional analyses; revisions to the 1990 base year inventory; and the HG area's SIP as meeting the reasonably available control measures (RACM) requirement.

DATES: This final rule is effective on December 14, 2001.

ADDRESSES: Copies of documents relevant to this action are available for public inspection during normal business hours at the Environmental Protection Agency, Region 6, Air Planning Section (6PD-L), 1445 Ross Avenue, Dallas, Texas 75202-2733; and, the Texas Natural Resource Conservation Commission, Office of Air Quality, 12124 Park 35 Circle, Austin, Texas 78753.

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SUPPLEMENTARY INFORMATION:

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

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I. Final Action**A. What Elements of the Texas SIP Are We Approving?**

We are fully approving the one-hour ozone attainment demonstration SIP for the HG nonattainment area as meeting the attainment demonstration requirements of 182(c)(2) and (d) of the Clean Air Act (the Act). We proposed this action on July 12, 2001 (66 FR 36655). This demonstration shows, through photochemical modeling and other evidence, that through a

combination of adopted measures, recent legislation, and commitments to adopt additional measures the HG area will attain the one-hour ozone standard by November 15, 2007.

As an integral part of the attainment demonstration, we are approving and finding adequate the associated MVEBs only until these emission budgets have been revised pursuant to the State's enforceable 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 have been approved in other **Federal Register** notices. (See Section II for a listing of related **Federal Register** notices.) We are approving 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 approving the following related SIP elements:

- 15% ROP Plan,
- The Post 1999 ROP Plans and their associated contingency measures;
- A demonstration that all RACM have been adopted for the HG nonattainment area; and
- Revisions to the 1990 Base Year Inventory.

The revisions to the Post 1999 ROP plans and the RACM analysis that we are approving today were parallel processed. (See Section I.E. for a discussion of parallel processing.)

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. To that end, Texas has included the following enforceable commitments in their State Implementation Plan which we are approving:

- 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 any 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 as supported by identified measures that could potentially be adopted and could achieve the reductions without requiring additional limits on highway construction.

- An enforceable commitment to adopt and submit the EPA by December 1, 2002 measures to achieve 25% of the 56 tons/day.

- An enforceable commitment to adopt and submit to EPA by May 1, 2004 measures for the remaining needed additional NO_x reductions.

- 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 the motor vehicle emissions budget (MVEB).

This action also satisfies the last two elements of section 182(d)(1)(A) of the Act to adopt TCMs as necessary to comply with the reasonable further progress and attainment demonstration requirements of the Act. The first requirement to offset growth in emissions from growth in vehicle miles traveled (VMT) or number of vehicle trips is addressed in a corresponding action published separately in today's **Federal Register**. Please see Section III.C.3 for additional discussion regarding the second and third elements. For additional discussion regarding the first element, see the corresponding separate action in today's **Federal Register** regarding the VMT Offset Plan.

For more discussion on the rationale for the actions being approved here, see the proposed approvals with their associated Technical Support Documents (TSD) and our response to comments found in Section II.

B. What Are the Motor Vehicle Emissions Budgets Being Approved in This Action?

Rate of Progress Budgets

The MVEBs established by the Post 1999 Rate of Progress plans and that we are approving today are contained in Table 1. We find the MVEBs consistent with all ROP SIP requirements. In addition, we are finding these budgets adequate for transportation conformity purposes pursuant to the criteria in 40 CFR 93.118(e)(4) as part of our action on the SIP rather than using the web posting process because we have moved 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 1.—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 new 2007 budgets 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.

Attainment Budgets

Table 2 contains the MVEBs established by the attainment plan. We are approving these budgets today and finding them adequate for transportation conformity purposes pursuant to the criteria in 40 CFR 93.118(e)(4) as limited below.

TABLE 2.—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, as described in our proposals, the MVEBs are approved and adequate for conformity purposes only until these emission budgets have been revised pursuant to the State's enforceable 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.

All States whose attainment demonstration includes the effects of EPA's Tier II/Low Sulfur program have committed to revise and resubmit their budgets after EPA releases MOBILE6. (MOBILE6 is the latest version of the EPA model for estimating mobile emissions. Its official release is expected in the near future.) The State committed in its April 2000 submission to perform 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 and 24 months of the official release of MOBILE6, transportation conformity will not be determined until the State submits a new budget which is developed using MOBILE6 and which we find adequate. The State has informed the transportation agencies of this commitment. Texas also commits to concurrently revise the MVEB if adoption of any shortfall measure affects the MVEB and submit the revision to EPA as a revision to the attainment SIP.

We are limiting the duration of our approval as described above because we are only approving the attainment demonstrations and MVEBs because the States have committed to revise them. Therefore, once we have confirmed that revised budgets are adequate, they will be more appropriate than the budgets we are approving today.

C. What Are the Key SIP Submissions Being Approved in This Action?

There have been a number of State submissions in response to the attainment demonstration requirements of the Act. In this notice, the key State submissions being considered were provided by the Governor in letters dated December 20, 2000, and October 4, 2001. The items in the October 4, 2001 submission have been parallel processed. Parallel processing means that EPA proposes action on a state rule before it becomes final under state law. Our July 12, 2001 proposal details the history of State and EPA actions that preceded these submissions (66 FR 36655).

D. What Previous Actions Has EPA Taken?

There are three proposals related to this action. First, on December 16, 1999 (64 FR 70548), we issued a proposed approval/proposed disapproval of the HG ozone attainment demonstration plan (the 1998 plan). This action outlined the actions we believed were

necessary for the State to develop a fully approvable plan. Second, on July 28, 2000 (65 FR 46383), we issued a notice of proposed rulemaking regarding how the adequacy of attainment MVEBs would be handled for the one-hour ozone nonattainment areas. Finally, on July 12, 2001 (66 FR 36655), we proposed approval of the HG ozone attainment demonstration plan (the December 2000 plan as proposed to be revised by the State and finally adopted and submitted in a letter dated October 4, 2001) and several related actions. In today's notice, we have addressed all of the comments received on the three proposals.

E. What Changes Have Been Made in Response to Comment on EPA and TNRCC Parallel Proposals?

In a letter dated June 15, 2001, the Governor of Texas submitted several items for parallel processing. These items were: certain commitments; 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.

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. Several minor changes were made by the State in response to comment.

Enforceable Commitments

Texas made the following changes to the language of their enforceable commitments. Italicized text has been added.

The commission commits to adopt measures necessary to achieve at least 56 tpd of NO_x emission reductions in the HGA area *above and beyond those reductions already identified by the control measures listed in Chapter 6, Table 6.1-2.*

To demonstrate progress towards *the 56 tpd* that commitment, the commission intends to evaluate the

following measures and to adopt, by November 2002, sufficient measures in order to achieve at least 25% of the estimated 56 tpd needed.

TNRCC also in response to comments now lists all of the enforceable commitments for the HG area in a single location in Chapter 7.

We agree that these changes are not significant in that they clarify the intent of the enforceable commitments and therefore, remain approvable. No further notice is necessary since these changes do not substantively change the State's proposal.

Changes to the Rate of Progress Plan

TNRCC also revised the tables in the Post 1999 Rate of Progress Plans in response to EPA comments that the Tables did not reflect the revised implementation schedules for the point source NO_x rules. This issue was discussed in our proposed approval which was based on conservative estimates of the emission reductions. The revised tables in the October 4, 2001 SIP reflect the new implementation schedule. No further notice is required since the State made changes as discussed by EPA in the proposal notice. The following summary table is based on the revised estimates.

TABLE 1.—NO_x RATE OF PROGRESS

Milestone Year	2002	2005	2007.
Target Level	1127.08	1011.33	935.67.
Projected emissions after controls	1115.76	630.05	444.04.
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.

II. What SIP Elements Did We Need To Take Final Action on Before We Could Approve the Attainment Demonstration?

In our proposed action on July 13, 2001, we explained that we could not finalize approval of the attainment demonstration for the HG area until we finalize approval of several related actions. These actions are listed below along with the status of their final approval.

1. Vehicle I/M program (30 TAC 114). Final approval published separately in this issue of the **Federal Register**.

2. Revised emission specifications in the HG area for NO_x Point Sources (30 TAC 117). Final approval published separately in this issue of the **Federal Register**.

3. NO_x Cap and Trade program (30 TAC 101). Final approval published separately in this issue of the **Federal Register**.

4. Low emission diesel fuel (30 TAC 114). Final approval published separately in this issue of the **Federal Register**.

5. Non-Road Large Spark-Ignition (LSI) Engines (30 TAC Chapter 114). Final approval published separately in this issue of the **Federal Register**.

6. Agreed Orders with Continental and Southwest Airlines and the City of Houston. Final approval published separately in this issue of the **Federal Register**.

7. Reasonably Available Control Technology (RACT) rules regulating VOCs from Batch Processes (30 TAC 115) and Offset Lithographers (30 TAC 115). Direct final action was published July 16, 2001 (66 FR 36913). No comments were received and this action became effective September 14, 2001.

8. A determination that the HG SIP includes all Reasonably Available Control Measures. Final approval in this action.

9. The 15% ROP Plan. Final approval in this action.

10. The Post 1999 ROP Plans and contingency measures. Final approval in this action.

11. The revisions to the 1990 base year inventory. Final approval in this action.

12. The speed limit reductions, the VMEP and the TCMs. Final approval in this action.

13. Lawn service equipment operating restrictions (30 TAC 114.452-459). Final approval published separately in this issue of the **Federal Register**.

14. Vehicle Miles Traveled (VMT) Offset Plan submitted August 25, 1997 and with minor, non-substantive revisions submitted on May 17, 2001. Final approval published separately in this issue of the **Federal Register** for the first element of 182(d)(1)(A). The last two elements of 182(d)(1)(A) are satisfied by this action.

15. Motor Vehicle Idling Limitations (30 TAC 114.500-509). Final approval

published separately in this issue of the **Federal Register**.

16. Stationary Diesel Generator rule (30 TAC 117.206). Final approval published separately in this issue of the **Federal Register**.

17. The Post 1996 ROP Plan and contingency measures. Direct final action was published April 25, 2000, 66 FR 20746. No comments were received and this rule became effective June 26, 2000.

III. Comments

A. What Comments Were Received?

i. What Comments Were Received on the December 1999 Proposed Approval/Proposed Disapproval?

The following comment letters were received on the December 1999 proposal:

(1) February 14, 2000 letter from Robert E. Yuhnke, Attorney for Environmental Defense.

(2) February 14, 2000 letter from Jeffrey Saitas, Executive Director TNRCC.

(3) July 31, 2000 letter from James O. Bartholomew, ELM Packaging.

ii. What Comments Were Received on the July 28, 2000 Supplemental Proposal Concerning MVEBs?

The following comment letter was received on this supplemental proposal.

(1) August 28, 2000 letter from Environmental Defense.

iii. What Comments Were Received on the July 12, 2001 Proposal?

We received the following 13 comment letters on the July 12, 2001 proposal.

(1) Letter from D. Marrach, M.D. dated July 2, 2001.

(2) August 10, 2001 letter from Patrick Gallagher, Sierra Club.

(3) August 13, 2001 letter from John Wilson and Frank Blake, the Galveston-Houston Association of Smog Prevention (GHASP).

(4) August 13, 2001 letter from B.C. Carmine, Reliant Energy.

(5) August 13, 2001 letter from Ramon Alvarez, PhD, Environmental Defense.

(6) August 8, 2001 letter from Jack Steele, Houston Galveston Area Council.

(7) August 13, 2001 letter from Nelly Rocha, Baker and Botts for the Business Coalition for Clean Air Appeal Group.

(8) August 10, 2001 letter from Albert Axe, Jr., Jenkins & Gilcrest for TXI Operations.

(9) August 13, 2001 letter from John R. Evans, Lyondell.

(10) August 13, 2001 letter from T. Hefgott, Enterprise Products.

(11) August 3, 2001 letter from Howard Runser, private citizen.

(12) August 8, 2001 letter from Brant Mannchen, Houston Regional Group of the Sierra Club.

(13) August 13, 2001 letter from John D. Walke, Senior Attorney, NRDC.

No comments were received on the proposed approval of the 15% ROP plan or the proposed approval of revisions to the 1990 Base Year Inventory. These actions are being approved with out further discussion.

B. Response to Comments on Attainment Demonstration

1. General Comments

Comment: Several commenters urged EPA to disapprove the attainment plan because they believe the plan does not include complete modeling, enforceable versions of all Reasonably Available Control Measures (RACM) and a control strategy sufficient to achieve attainment. One commenter went on to say because they believe the plan should be disapproved and, under the consent decree in *NRDC v. Browner*, Civ. No. 99-2976, EPA must commence promulgation of a Federal Implementation Plan (FIP). One commenter supported the proposed approval.

Response: In the following responses, we address the specific concerns raised by the commenters in more detail. We believe the plan provided by the State of Texas is fully approvable under the Act and will provide for attainment as expeditiously as practicable which is by November 15, 2007 and the plan includes all reasonably available control measures. Therefore, we are finalizing our approval in this action.

Furthermore, because we are fully approving the plan as meeting the requirements of 182(c)(2) and (d) of the Act, it is unnecessary to commence development of a FIP.

Comment: TNRCC has not provided modeling that shows attainment in 2007. (Really 2005 since 4 exceedences in that year ensures failure to meet the three-year standard.) A commenter also states that there is no demonstration of maintenance of the ozone standard below the 0.12 ppm one-hour standard beyond 2007.

Response: EPA has taken the position that for nonattainment areas subject to the requirements of subpart 2 of part D of the Act, that the area needs to demonstrate that in the attainment year, the area will have air quality such that the area could be eligible for the two one-year extensions provided under section 181(a)(5) of the Act. Under section 181(a)(5), an area that does not have three-years of data demonstrating attainment of the ozone NAAQS, but

has complied with all of the statutory requirements and that has no more than one exceedance of the NAAQS in the attainment year, may receive a one-year extension of its attainment date.

Assuming those conditions are met the following year, the area may receive an additional one-year extension. If the area has no more than one exceedance in this final extension year, then it will have three-years of data indicating that it has attained the ozone NAAQS.

This position is consistent both with EPA's modeling guidance and with the structure of subpart 2 of the Act. Under EPA's modeling guidance, states model air quality for the attainment year—they do not model air quality for the three-year period preceding the attainment year. This is largely a function of how the model operates that the data produced only predicts the air quality for one year. EPA's modeling guidance has existed for many years and has been relied on by numerous areas for demonstrating attainment of the ozone standard.

Moreover, EPA believes this approach is consistent with the statutory structure of subpart 2. Under subpart 2, many of the planning obligations for areas were not required to be implemented until the attainment year. Thus, Congress did not assume that all measures needed to attain the standard would be implemented three years prior to the area's attainment date. For example, areas classified as marginal—which had an attainment date of three years following enactment of the 1990 Clean Air Act amendments were required to adopt and implement RACT and I/M "fix-ups" that clearly could not be implemented three years prior to their attainment date. Similarly, moderate areas were required to implement RACT by May 1995, only 18 months prior to their attainment date of November 1996. Also, the ROP requirement for moderate and above areas, including the 15% plan for reductions by November 1996, applies through the attainment year. Thus, EPA believes that Congress did not intend that these additional mandatory reductions be in excess of what is needed to achieve three-years of "clean data." For these reasons, EPA does not agree with the commenter that the State's attainment demonstration needs to demonstrate that the area will have three years of data showing attainment in the attainment year. However, EPA does believe that the Act requires and that it is prudent for States to implement control as expeditiously as practicable. EPA also believes that for the HG area, all measures are being implemented as expeditiously as practicable and that the area has

demonstrated attainment consistent with EPA's modeling guidance.

A plan for maintenance of the Standard is not necessary for the attainment demonstration to be approved. A State is not required by the Act to provide a maintenance plan until the State petitions for an area to be redesignated to attainment which will not occur until the HG area has three years of data showing compliance with the Standard.

While it is not necessary for the State to provide for maintenance of the standard at this time, we do believe emissions in the HG area will continue to decrease after 2007 due to on and off road vehicle emission control programs that will continue to provide additional reductions as the fleet continues to turnover after 2007. So there is reason to believe that air quality will continue to improve after the attainment date.

Comment: Two commenters suggested the plan should address other air pollution concerns in addition to attainment of the one-hour standard. One commenter suggested the plan should provide as much progress as possible toward implementing the 8-hour standard as the requirements of the Act and EPA's implementing regulations allow. Another commenter said that ozone reduction should be used as a spur in reducing toxic emissions and particulate matter as well.

Response: As an initial matter, these comments are outside the scope of this rulemaking. EPA's review here is focused on whether the submitted plan meets the statutory requirements for attainment of the one-hour ozone standard. Nevertheless, EPA believes the reductions in ozone precursors in this plan will provide reductions both toward attainment of the one-hour standard and substantial progress toward the 8-hour standard. Furthermore, NO_x emissions are a precursor to particulate matter formation. So the large NO_x emissions reductions in the plan should provide improvements in particulate matter levels. In addition, while the focus of the plan is on reducing NO_x emissions, VOC emissions will also be reduced by approximately 40% from 1993 levels. Some of these VOCs are also air toxics. Again, while EPA believes these additional air quality benefits will result from the implementation of this plan, the approval of the plan depends, as a legal matter, only on whether the plan will result in attainment of the one-hour ozone standard.

2. Comments on the Photochemical Modeling

a. Model Performance

Comment: The photochemical modeling is fundamentally flawed and should not be used as proposed. The ozone plots prepared by TNRCC as part of its graphical performance analysis show significant subregional biases in the model with systematic under predictions and over predictions. The commenter states that the graphical analysis provides far more insight into the performance of the model than any other type of performance measure. The statistical measures distort the appearance of model performance by averaging out the subregional biases.

Response: EPA does not agree that the graphical analysis provides more insight into model performance than any other performance measures. EPA believes all model performance measures should be considered. There is no rigid criterion for model acceptance or rejection in assessing model simulation results for the performance evaluation. As recommended by EPA, the State's model performance evaluations for the selected episode included diagnostic and sensitivity analyses, and graphical and statistical performance measures. TNRCC used these performance measures in conjunction with one another to evaluate the performance of the model. 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 & boundary conditions). The model performance evaluation was based upon graphical measures consisting 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 was also based upon statistical measures consisting of comparing the modeled versus monitored ozone. The "Unpaired Peak Accuracy," "Normalized Bias," and "Gross Error" were all within the suggested limits in the EPA Guideline.

EPA did not dismiss any measures or analyses used by TNRCC for their model performance evaluation, nor should EPA weigh the graphical performance more heavily than the other performance measures. As indicated in the State's modeling results for the selected episode, the model responded generally as expected to the diagnostic/sensitivity analyses for the primary episode day (9/8/93). Overall, these analyses did not reveal any flaws in the

CAMx model formulation. In addition, the statistical performance of the model for the primary episode indicated the model performed well. For all days modeled, the graphical performance for the majority of the monitor sites was very good. For instance, the time-series plots developed for each monitoring station in the HG area indicated no significant bias within the diurnal cycle as well as good agreement between the timing of the predicted and observed ozone maxima.

EPA has recognized, however, the graphical model performance for the primary episode day of 9/8/93 indicates the model at some locations underestimated ozone and at other areas the ozone was overestimated. Also, at some locations, there are no ozone monitors to substantiate the model's performance. The ozone plume peaks were simulated in different locations than occurred with the monitored results. EPA believes that most of the error can be best explained by the meteorological model having some difficulty in replicating the wind speed and direction. Discrepancies in wind speed and direction not surprisingly result in the model not predicting the maximum ozone concentration in precisely the right location, a possibility noted by the commenter.

TNRCC has spent considerable effort to better understand the land/sea breeze phenomenon which has added a level of complexity to the HG analysis not seen anywhere else in the country (with the exception of some lake breeze effects in the Lake Michigan area). Emissions in the HG area are emitted into the local atmosphere where ozone formation begins, later emissions and ozone formed are transported out over the warm air over the Gulf of Mexico where the warmer temperatures further activate the chemistry to form more ozone which is then transported back inland over the area. Current meteorological models have had difficulty in simulating this process. We believe our understanding of the process is sufficient, however, to interpret the photochemical model results.

TNRCC and EPA intend to continue evaluating how to more accurately simulate the HG area's meteorological conditions in the available models. The need for further studies does not mean, however, that the modeling relied upon today was unable to estimate the amount and type of emission reductions needed for attainment. EPA believes because the diagnostic/sensitivity tests reveal no flaws in model formulations and the model generally predicts the right magnitude of the peak which is confirmed by the statistical measures,

that the model does provide an acceptable tool for estimating the amount of emissions reduction. It is EPA's technical opinion that based on the weight-of-evidence and the modeling, the State's control strategy should provide for attainment by November 15, 2007.

Any new information derived from the further studies and evaluation will be incorporated by Texas into the SIP revision modeling to be submitted to EPA by May 1, 2004.

Comment: EPA previously expressed its persistent concern about the model's poor graphical performance. Now, EPA has simply ignored the concern. The commenter quoted a previous EPA comment letter sent to the TNRCC during the State's August 1999 public comment period for its proposed SIP revision. EPA's comment letter stated that "due to the model's poor graphical performance caution is warranted in assessing the model's projected ozone reduction due to NO_x control strategies."

Response: EPA disagrees that the discrepancies in graphical performance have been ignored. Texas made numerous enhancements to its August 1999 proposed SIP attainment demonstration modeling, based upon EPA's comments. TNRCC has used a new version of CAMx (i.e., version 2.03), which offers several enhancements over the original version, for the current modeling relied upon in the submitted attainment demonstration SIP revision. Also, major improvements have been made to the base year emission inventory. For instance, biogenic emissions and the emissions for diesel-powered construction equipment, commercial marine vessel emissions, airport ground support equipment emissions, and industrial equipment emissions have been updated with more accurate information. As a result, for all days modeled, the graphical performance, has been improved. For instance, the time-series plots indicate the model performance improved at a number of monitoring stations in the HG area (i.e., Galveston site, HRM sites 3 and 4, Texas City site and Clinton site). In addition, the statistical model performance for the current modeling which was similar to that for the past modeling base case indicated the model performed well. All of the statistical parameters are within the EPA suggested limits for the primary episode day. EPA continues to believe, taken together, the diagnostics, sensitivity, statistical and graphical performances of the model indicate the base case model performance is

acceptable for assessing control strategy effectiveness.

Further, in EPA's letter where we said that caution is warranted in assessing the projected ozone reduction to NO_x control strategies, EPA was cautioning TNRCC that sufficient NO_x reductions should be provided to account for this uncertainty in the model. We were not saying that the graphical performance meant the model was unacceptable for assessing control strategy effectiveness. Rather, we were advising the State to take into account the graphical performance, i.e., by ensuring the control strategy took a more conservative approach and erred on the side of caution, in the amount of required NO_x reductions.

Comment: One commenter believes that the modeling fails to account for ozone spikes. The TNRCC's failure to account for these spikes necessarily means that the control strategy will not attain the standard. Further, this results in significant over estimates of NO_x emission reductions needed for attainment. The commenter asserts that the spikes are caused by highly reactive VOCs, a theory it believes to be supported by preliminary data and findings of the Texas 2000 Air Quality Study.

Response: Monitors measure concentration at a point in space, and in reality, these concentrations can vary significantly over a grid cell or an area. This is true especially for ozone if it is contained in a narrow plume. Inevitably, a grid type model will smooth some natural phenomena because natural conditions are averaged over the volume of each grid cell. For instance, model output represents a volume average, typically 4km x 4km by 50 meter column. As a result, reasonable comparisons between model predictions and monitor observations are not expected to match exactly. With reasonable performance, time series typically show similar diurnal cycles but not exact concentration levels. As a result, it is very difficult to obtain a precise equality between modeled concentration and monitored concentration. This is to be expected and does not necessarily call into question the model's utility as a tool to predict the level of emission reductions needed to reach attainment. As stated in previous comments, EPA believes the model provides reasonable predictions of ozone levels as confirmed by comparisons with monitoring data and therefore can provide an acceptable estimate of the amount of emissions needed for attainment. Certainly, any difficulty the model has in replicating rapid increases in ozone, does not

indicate that the model is calling for an "overestimate" of the amount of NO_x emission reductions needed for attainment. Furthermore, even if the model is shown during the mid-course review to be overestimating the amount of NO_x emission reductions needed for attainment, a State is always free to adopt a control strategy that is more stringent. See *Union Electric v. EPA*, 427 U.S. 246 (1976); *Train v. NRDC*, 421 U.S. 60 (1975).

EPA is following with interest the findings being presented from the Texas 2000 Air Quality Study, particularly the information on concentrations of highly reactive VOCs found in the ambient air in the HG area. We understand Texas intends to incorporate, as much as possible, the findings of this study into its next modeling effort, which is currently underway and they expect to submit by the end of 2002. This study may improve our present understanding of ozone formation in the HG area and result in an improved effectiveness of the control strategy being implemented by the TNRCC. Nevertheless, based upon all available evidence, the State's control strategy shows attainment for the HG area by the statutory deadline and that the NO_x emission reductions are needed for attainment.

Comment: The 2007 post-control strategy peak concentration is 141 ppb at a monitoring site where the model underestimated the monitored peak by 27 ppb during the validation run. Thus, if the control strategy had been in effect during the episode used for validating the model, the actual ozone concentration would likely have been higher than 141 ppb.

Response: EPA disagrees. As is always the case in a photochemical modeling exercise, there are areas within the simulation that do not correspond exactly with observations. As discussed in other comments, in this case, the modeled wind fields tended to move the ozone plumes formed on all four days away from the areas where the highest concentrations were observed. Although the modeled peak on the primary episode day (i.e., September 8, 1993) was pushed west of the observed peak, the results of the State's model performance evaluation analyses for that day indicate overall the model performed well for the majority of the monitoring sites. Misplacing the peak does not necessarily mean the model is providing inaccurate results or predicting less ozone on that day. In addition, this tendency does not, by itself, mean that the model is not useful for developing control strategies. Therefore, again, we feel the model provides a reasonable estimate of the

emission reductions needed for attainment.

Comment: A commenter criticized the State model's inability to replicate ozone levels on September 8, 1993 and recommends that TNRCC estimate the magnitude of emission reductions needed for attainment from the modeling results of September 10 and 11, 1993. One commenter believes the best way to manage the risks of making the wrong decision on the magnitude of the needed controls is to base HG's control strategy on the modeling simulations that have the least uncertainty. Though all four days of the September 8–11, 1993 base case simulation are characterized by poor graphical performance, the greatest uncertainties by far exist for September 8 and 9, 1993. Therefore, the commenter believes that the control strategy should be based on modeling results from September 10 or 11, 1993.

Response: EPA disagrees. As discussed in previous comments, we believe the model performance is acceptable on all four days. Furthermore, EPA guidance recommends that a minimum of three episode days representing different meteorological regimes be modeled (Guideline for the Regulatory Application of the Urban Airshed Model, July 1991). With only four days (i.e., Sept. 8–11), the number of episode days being used by TNRCC for control strategy development is only marginally above the recommendation. Removing days would not provide an appropriate number of modeling days. EPA believes that the September 8, 1993 episode day chosen by TNRCC presents a reliable and accurate modeling scenario for ozone attainment demonstration in the HG area. September 8, 1993 is the controlling day because the meteorological conditions experienced that day require the most control to reach attainment. September 8, 1993 also had the highest observed ozone during the 4 day episode. Though observed and predicted concentrations do not match exactly, plausible inputs resulted in plausible predictions. The overall model performance for the September 8, 1993 episode day meets EPA criteria. Model performance on September 11, 1993 was similar to that observed on September 8, 1993, but is not suitable to design control strategies, since it was a Saturday. Controls based on that day would still need to be shown to be effective in controlling ozone on a weekday, since the Saturday emissions from mobile and area sources differ considerably from their weekday counterparts.

In addition, during episode selection, TNRCC used a modification of the Predominant Wind Direction (PWD) method to analyze each potential episode day. The wind analysis is based on morning winds and afternoon winds. The largest category was calm/calm with 10 of 71 cases where most frequent wind pattern for high ozone days occurred in the HG region. The second was calm/SSE with 9 cases. September 11, 1993 is in this category. The third category was calm/ESE with 8 cases. September 8, 1993 is in this category. The PWD for September 10, 1993 is NNW/ESE, which had one case. Meanwhile, the PWD for September 9, 1993 is NNW/NNW, which had none. Therefore, each of these episode days covers different meteorological conditions that are correlated with high ozone levels in the HG area. To remove one or more of the four episode days would remove conditions that should be evaluated to provide assurance that the controls adopted in the SIP would be expected to show attainment of the NAAQS for potential meteorological conditions conducive to ozone formation in the HG area. In addition, September 10, 1993 had an observed peak value that was significantly lower than the design value. Control strategies based on absolute model predictions on this day may not be sufficient to bring the area into attainment. Therefore, no days should be dropped from the State's attainment demonstration.

Comment: Evaluating the equations used to estimate the shortfall for September 10 and 11, 1993, results in gaps of 21 tpd and 37 tpd, respectively, for which could be filled (with surplus) from the list of gap measures given in Table 6.1–2 of the proposal.

Response: As stated in previous responses, September 8, 1993 must be considered in the control strategy to have confidence that the HG area will attain under a commonly observed meteorological condition. In any case, after revisions to the inventory, modeling now indicates that the additional reductions estimated for attainment on September 8, 1993 and September 10, 1993 is 90.9 tpd and 93.7 tpd NO_x, respectively; thus even on September 10, 1993 the State has a shortfall because Texas has only been able to adopt measures to achieve 38 tons/day of additional measures.

Comment: TNRCC has presented no evidence that the model is accurately simulating NO_x or VOC levels, or other intermediate chemical species in the vicinity of the modeled peaks.

Response: EPA disagrees. There is no monitoring data in the area where the modeled peak occurred to indicate one

way or the other how well the model compared to measurements of NO_x, VOC and intermediate species. As a part of the 1993 COAST study, VOC concentrations were measured at two locations in the HG nonattainment area, and comparisons have been made between modeled and monitored concentrations. Similarly, for each of the locations where NO_x was monitored, comparisons have been made between modeled and monitored concentrations. All of these comparisons are included and discussed in the '98 and '99 SIPs submitted to EPA. Therefore, the attainment demonstration we are approving relies upon evidence that the model provided results in a reasonable agreement with the measurements considering that the comparison is between a point measurement and a simulated volumetric average.

Monitors measure the concentration at a point in space, and in practice, these concentrations can vary significantly from a volume average that is 4km square and up to 50 meter high. This is true for VOC and NO_x precursors, and is especially true for precursors emitted by point sources. The comparisons that have been made indicate reasonable agreement between monitored and modeled concentrations given the considerations cited above (see Appendix B entitled "Time Series Plots of Observed, CAMx and UAM–V Ozone Precursors Over the H/G Modeling Domain for The Base Case Simulation") of the Appendix B (entitled "Modeling the Houston/Galveston Ozone Attainment Demonstration") of the December 2000 SIP revision. Besides, the CAMx photochemical model, which is an ozone model, was developed and optimized for that purpose. As expected, some other chemical species will not compare as well with ambient data as does ozone. As mentioned above, there are no monitoring data for intermediate species, which have not been recommended for use in validating model results since they are not reliable. Instead, these are often used to validate model inputs (i.e., emission inventory), if they become available.

Comment: Because of doubts regarding the accuracy of the model predictions, commenters recommend that new emission controls be based on proven cost-effective technology and that stakeholders be given as much time to implement controls as the Act allows. The model simulations and basic science that are the foundations of the commission's control strategy are currently not strong enough to support the unproven, technically infeasible, or

economically challenging measures in the State's adopted control strategy.

Response: As described in previous comments, we believe that the model performance is acceptable and provides an appropriate assessment of the amount of emission reductions needed for the HG area to attain. TNRCC and its contractors have used state-of-the-science approaches to support the adopted control strategy. All appropriate and pertinent data submitted during the State's comment periods to improve the model were incorporated or addressed by the State. As discussed in our RACM and the shortfall enforceable commitment responses, it is EPA's position that the control measures in the HG control strategy are feasible. Therefore, it is our position that the controls that have been adopted by Texas have been shown to be needed for the HG area to attain by the statutory deadline. These controls are being implemented as expeditiously as practicable as required by the Act.

Comment: A commenter believes that the TNRCC must address the risk that the modeling uncertainties may have led the commission to a wrong estimate of the magnitude of emission reductions needed to attain the ozone NAAQS.

Response: In the earlier submitted SIPs, the effect of the uncertainty of the emissions relative to the reductions needed to attain the NAAQS was addressed. This involved developing an alternate emissions inventory that reflected uncertainties, evaluating base case model performance, and the effect on the reductions needed to attain the NAAQS with the future 2007 emissions. This modeling showed that the control path needed to attain the NAAQS did not change (a NO_x rather than VOC-directed control strategy), and that the order of magnitude of the required reductions did not change much. This reinforced the necessity of obtaining the level of NO_x and VOC reductions contained in this SIP revision.

The current approach does not show attainment of the NAAQS at all locations on all days that were modeled, but uses modeling in combination with weight of evidence to show that this level of NO_x and VOC reductions are adequate to attain the standard. Furthermore, the mid-course evaluation can be used by Texas to reassess the level of controls needed to attain the NAAQS and ensure that timely progress is being made toward attainment of the standard.

Comment: One commenter supports the recent contract commissioned by Harris County with Environ. This work will re-run the model with an alternate meteorological simulation model in a

further attempt to address the non-performance of the grid cells in question.

Response: EPA understands that TNRCC has worked with Harris County and Environ on the alternate meteorological simulation of the episode modeled by the commission. It takes substantial time and effort to develop meteorological data to be run in the photochemical model. After the data are developed, the model results must be evaluated for adequate meteorological model performance. Then the data must be used in the photochemical model to evaluate base-case model performance with the new data set. If the revised base case modeling meets the performance requirements, then the model will be applied to the future 2007 emissions, and various control scenarios modeled. If these efforts provide a better representation of meteorological conditions in the HG area, then Texas would address them in the mid-course review.

Comment: Because of the model's performance one commenter disagrees with the following proposals:

(1) The model activities were performed as outlined in the Protocols.

(2) The model activities were performed according to the Guideline For Regulatory Application of UAM.

(3) That the model performed within EPA's recommended ranges.

(4) That the base case model is suitable for control strategy testing.

(5) The proposal to accept the base case model as a basis for attainment demonstration modeling.

(6) The implicit finding that the TNRCC validated the performance of the base case modeling.

(7) That the simulated ozone contour plots from the base case model depict the area of ozone to be only "somewhat at odds geographically" with the monitors.

(8) The implicit finding that the base case model fails only to "precisely predict" the position of the cloud of ozone geographically.

(9) That the base case model's predicted position of the cloud of ozone does not by itself, mean that the base case model is not acceptable for control strategy development.

(10) That the statistical measures from the base case model are within EPA recommended limits for all days of September 8–11, 1993.

(11) That the results of the statistical measures are within EPA recommended ranges.

(12) That the spatial and temporal patterns of ozone generated by the base

case model indicate it is acceptable for use in the Attainment Demonstration.

(13) The diagnostic, sensitivity, statistical and graphical performance of the base case model indicate it is acceptable for use in the Attainment Demonstration.

(14) That reductions of NO_x will be most effective in bringing HGA into attainment.

(15) That the quadratic equation used by the TNRCC to determine the additional amount of additional emission reductions is consistent with the 1999 guidance.

(16) That the quadratic equation is an improvement over the 1999 guidance.

(17) That an additional 96 tons/day of NO_x emission reduction are necessary to bring the HG area into attainment.

Response: As discussed in previous comments, we believe the model performed acceptably for use in control strategy development. Therefore, we disagree with the commenter and continue to support the findings in the conclusions from our proposed approval that are cited above.

b. Model Inputs

Comment: Off-road shipping emissions may be underestimated based on preliminary results from the Texas Air Quality 2000 Study.

Response: The State conducted a study of actual shipping activity in the HG area and applied EPA emission factors to the activity to calculate the shipping emissions. This site-specific methodology is approved by EPA and provides the best estimate of emissions at this time. The results from the Texas Air Quality Study 2000 are just now being made available for analysis. The results were not available to the State at the time the SIP was prepared, and the State needs additional time to evaluate the data. It is hoped that the data can be used by Texas for its mid-course review. However, there is no evidence presently before EPA showing that off-road shipping emissions were underestimated by the State.

Comment: Industrial VOC emissions are understated based on the preliminary results of the Texas 2000 Air Quality Study.

Response: As discussed above, TNRCC has followed EPA approved methodologies in preparing its emissions inventory. They have gone to substantial effort to characterize all the categories, including the industrial emissions. This has included detailed inventories from all of the major emitters and inclusion of episodic releases that were reported during the 1993 episode. We believe that the emissions inventory is based on the best

available techniques and data and meets all EPA criteria and requirements.

TNRCC is continuing to work to improve the inventory. This is a major emphasis of the Texas 2000 Air Quality study. We are aware some of the preliminary findings of this study indicate that industrial VOC emissions may be understated. This indication is based upon only preliminary findings at this time, however. Texas has reached no final conclusions. EPA will work with TNRCC and other stakeholders to address improvements to the inventory so that the mid-course review modeling incorporates any new and appropriate data.

Comment: The commission and its contractors have worked commendably to develop what may be, in many respects, the most accurate emissions inventory ever used in photochemical modeling. But major uncertainties still exist in other respects and in the model's representation of the chemical reactions and meteorological processes that determine the location, time, and magnitude of high ozone levels in Houston-Galveston.

Response: EPA disagrees that there are major uncertainties with the modeling. As discussed above in previous responses, it is EPA's technical position that the modeling adequately represents the meteorological processes for the HG area to allow its use for control strategy purposes. Further, the modeling is acceptable in its representation of the chemical reactions in the HG area. TNRCC and its contractors have used state-of-the-science modeling approaches for development of the meteorological parameters used in the modeling.

The chemical algorithms used in the modeling reflect the latest developments in the state-of-the-science today. TNRCC is currently investigating various alternate chemical mechanisms, and they plan to continue this activity with analyses on the Texas 2000 study results. If enhancements are identified for the chemical algorithms, they can be utilized in the mid-course evaluation, and Texas would include them in the mid-course review SIP.

Comment: It was noted that the 91 tpd increase in point source NO_x emissions produced daily maximum ozone increases ranging from 1.5 ppb (on September 10) to 6.1 ppb (on September 11). The commenter also noted that the 91 tpd decrease in on-road mobile and non-road mobile source NO_x emissions produced ozone decreases, relative to HRM Strategy 1, ranging from 6.9 ppb (on September 11) to 10.8 ppb (on September 8). From this, the commenter sees relatively small benefits from the

commission's 90% point source control proposal relative to a 75% point control level, but sees greater benefits if the same amount of incremental emissions was reduced from mobile sources. It was also noted that mobile source emission reductions ranged from 1.1 to 7.0 times more effective than point source NO_x reductions at reducing ozone levels (given the ratio of mobile source to point source NO_x effectiveness). From this, it follows that mobile source NO_x emission reductions are on average 3 times more effective at reducing ozone levels than are point source emission reductions.

Response: It is quite possible that mobile source controls may be more effective in reducing ozone levels for certain nonattainment areas. The State, however, analyzed the ensemble of emission reductions modeled for the SIP development for the HG area based on an analysis of potential reductions available from all of the various source categories. As discussed in other sections, Texas has adopted all RACM for mobile as well as stationary sources. It is not EPA's role to disapprove the State's choice of control strategies if that strategy will result in attainment of the one-hour standard and meets all other applicable statutory requirements. See *Union Electric v EPA*, 427 U.S. 246 (1976); *Train v. NRDC*, 421 U.S. 60 (1975).

Comment: One commenter states that the modeled control strategy contained in the Attainment Demonstration includes measures that were modified or removed from the SIP. The State did not remodel to determine the impact of these changes. Particularly, one measure that was modified was a relaxation in utility controls from 93% to 90%.

Another commenter supported the changes to the required emission rates for utilities because these revisions will be offset by emission reductions from grandfathered facilities in attainment counties surrounding the HG area.

Response: During the State's settlement negotiations and trial court proceedings this summer in *BCCA Appeal Group, et al. v. Texas Natural Resource Conservation Commission, et al.* in the District Court of Travis County, Texas 250th Judicial District, Cause No. GN1-00210, TNRCC determined that the amount of control for utilities should be reduced from 93% control to 90% control. Due to time constraints and the necessity for submitting an approvable attainment demonstration in time for EPA action before the NRDC consent decree deadline of October 15, 2001 for proposing a FIP in the absence of a fully approved SIP, the revised utility

controls were not modeled by TNRCC. TNRCC believes, and EPA agrees, that any potential loss in ozone benefit from reducing the utility point source requirement will be *de minimis*, based upon a review of certain information gathered from the 2000 Texas Air Quality Study. The information in the Study indicates that Reliant Energy's Parish power plant, located in the HG area has an ozone production efficiency which is 3 to 5 times smaller than the ozone production efficiency expected for the grand-fathered utility and non-utility sources based on Southern Oxidant Study results for the Memphis area. Ozone production efficiency is a measure of the efficiency that a particular NO_x plume generates ozone and is an indication of the reactivity of the VOCs with which the NO_x plume comes in contact. The Parish plant is located outside the central urban area and apparently not in an area of highly reactive biogenic emissions. The remaining units affected by the reduced control requirement are mainly peaking units which deliver their increased emissions during the hot afternoon hours. Modeling for the construction ban and lawn-care activities has consistently shown that emissions in the afternoon contribute less to ozone formation in the HG area than emissions generated in the morning.

To counterbalance the reduced controls on utilities in the HG area, Texas will control grandfathered sources in East and Central Texas by 50% as required by recent State legislation. These controls are in addition to controls on utility sources, Alcoa and Texas Eastman that are already included in the model results. These new controls would apply to all non-utility sources, particularly pipeline compressor station emissions would be reduced by 50%. These emission reductions can be expected to achieve an ozone benefit in the HG area to counterbalance the loss in NO_x reductions from the change in utilities from 93-90% control.

Because the impact of the emission increases for utilities in the HG area will be small and there is a program to offset these *de minimis* increases, EPA believes it is appropriate to accept the modeling and weight of evidence as showing that attainment can be achieved in the HG area by the statutory deadline.

TNRCC currently intends to conduct modeling based on the data results of the Texas 2000 Air Quality Study, in 2002. Pursuant to the State's mid-course review enforceable commitment, Texas will submit a revised attainment demonstration SIP by May 1, 2004 that

will include modeling that incorporates all scientific advancements made since the recent SIP revisions, as appropriate.

Comment: As required by recent legislation, the TNRCC repealed the time-of-day construction ban. To provide for the benefits that would have been achieved by the construction ban, the Texas legislature adopted a diesel emission reduction incentive program. However, TNRCC failed to model the control strategy with the diesel engine incentive program replacing the morning construction ban. EPA may not approve the photochemical modeling and the subsequent gap calculation because these emission reductions were revised and not modeled.

Response: Texas legislation, enacted in May, 2001, established a diesel emission reduction incentive program and required TNRCC to repeal its rules for a morning construction ban and accelerated purchase of diesel equipment. Due to time constraints and the necessity for submitting an approvable attainment demonstration in time for EPA action before the NRDC consent decree deadline of October 15, 2001 for proposing a FIP in the absence of a fully approved SIP, the State could not specifically model the diesel engine incentive program in their attainment demonstration. The TNRCC had, however, conducted numerous control scenario modeling runs, which combined federal, state and local measures, designed to provide significant ozone reductions in the area. The results of one control scenario modeling run indicated that the benefit of the construction ban was approximately 3 ppb of ozone. Based on the quadratic curve, TNRCC estimated that this 3 ppb reduction in the ozone concentration level was equivalent to a 6.7 tpd reduction of NO_x emissions. EPA believes the State used acceptable procedures for determining this estimate. As discussed in other responses to comments regarding the diesel engine incentive Program, EPA believes that this program will achieve greater NO_x emission reductions in the HG area than 6.7 tpd. EPA and State calculations project that this new program will cover the loss in reductions from the construction ban and the accelerated purchase rules, and also fill a portion of the shortfall. EPA believes that the incentive program will likely produce somewhat greater benefits than the morning construction ban because it can achieve emission reductions not only from construction diesel equipment but also from additional categories such as tug/tow boats which are located in the portion of the HG area where the highest ozone

levels often occur. In addition, TNRCC currently intends to conduct modeling based on the data results of the 2000 Texas Air Quality Study, in 2002. Pursuant to the State's mid-course review enforceable commitment, Texas will submit a revised attainment demonstration SIP by May 1, 2004 that will include modeling that incorporates all scientific advancements made since the recent SIP revisions, as appropriate.

Comment: TNRCC has not correctly estimated point source growth in attainment counties of East and Central Texas. The commenter provided Public Utility Commission estimates of new capacity.

Response: As noted by the commenter, Appendix H of the SIP contains documentation of the projected newly permitted growth. Texas examined all of the permits issued by TNRCC for the 8 county HG area and the counties within 100 miles of the HG area. Permitted projects in this area were included in the model's future base inventory. EPA believes that Texas used a reasonable method of estimating the growth for the area most likely to impact the HG area's air quality.

Comment: One commenter stated the attainment and rate of progress demonstrations are flawed because they assume a fleet mix that does not accurately reflect the growing proportion of sport utility vehicles and gasoline trucks. EPA and the states have not followed a consistent practice in updating SIP modeling to account for changes in vehicle fleets. EPA cannot rationally approve SIPs that are based on such materially inaccurate assumptions. Continued use of outdated assumptions is inconsistent with the duty imposed by the Act section 182(a)(3) to triennially update the emission inventory. If the motor vehicle inventory has not been updated in preparing the current SIP submission, the SIP should be disapproved. One commenter compared the numbers from the Dallas/Fort Worth area to the HG area and provided the results of a Contractor Study of vehicle registration data to support its claims that the portion of SUVs in the Houston fleet are understated.

Response: The November 1999 HG area attainment demonstration SIP's associated mobile source budgets were based on fleet mix information updated based on a December 1998 Texas Transportation Institute (TTI) Report, "Development of Gridded On-road Inventory for the Houston/Galveston Ozone Nonattainment Area," found in Appendix G of the November 1999 SIP revision. TTI relied on vehicle classification count data recorded on

roadways throughout the 8-county area by Texas Department of Transportation (TxDOT) personnel utilizing automatic vehicle classification (AVC) equipment. This equipment is set up along the roadway and is calibrated to classify all of the passing vehicles into thirteen vehicle types. Due to the fact that AVC equipment cannot distinguish vehicle fuel type on the roadway, the various vehicle categories are then separated out into their gasoline and diesel classifications, based on a combination of MOBILE5 defaults and county vehicle registration data. The fleet mix information was based on vehicle counts that were a mix of 1996 data for week days, and 1993 and 1998 data for weekends. This was the most recent data available when Texas submitted the attainment demonstration SIP for the HG area in November 1999.

The December 2000 SIP included data provided by TTI from the most recently available observed AVC data which was from 1997, 1998, and 1999. In order to avoid year-to-year fluctuations in the data set, TTI averaged the AVC data from these three years in order to obtain a more recent VMT mix, which was used in the revised 2007 inventory. This data was used to update the modeling provided in December 2000. At the time the TNRCC modeling for the December 2000 SIP was being completed, this data set was the most recent data available. The data used for the modeling is more recent than the most recently completed periodic inventory (1996). The 1999 inventory is expected to be completed soon and include the more recent data.

EPA requires the most recent available data to be used, but we do not require it to be updated on a specific schedule. Therefore, different SIPs base their fleet mix on different years of data. Our guidance does not suggest that SIPs should be disapproved on this basis. Nevertheless, we do expect that revisions to these SIPs that are submitted using MOBILE6 (as required in those cases where the SIP is relying on emissions reductions from the Tier 2 standards) will use updated vehicle registration data appropriate for use with MOBILE6, whether it is updated local data or the updated national default data that will be part of MOBILE6.

In the November 3, 1999, "Guidance on Motor Vehicle Emissions Budgets in One-Hour Ozone Attainment Demonstrations," we state that, when developing motor vehicle emissions budgets, the MOBILE inputs (including vehicle fleet characteristics) should be appropriate and up-to-date as outlined in EPA's guidance on SIP inventories and the MOBILE user's guide. The SIP

has been based on the most recent information and meets the intended purpose of the existing guidance.

A particular concern raised by a commenter was that registration data from the TXDOT data base indicate that 13.2% of the vehicles registered in the 8 county area are light duty gas trucks two (LDGT2) as compared to the VMT mix figures provided by TTI which project this category at only 4.5% of the mix. The commenter also pointed out that LDGT2 were estimated as 11.4% of the mix for the Dallas/Fort Worth area SIP and the EPA national default is 8.8%. The LDGT2 category includes large SUV and pickups. The percentage of miles traveled by these vehicles is important because they currently have higher emission standards than passenger cars.

The EPA believes that vehicle registration data alone does not necessarily represent the most accurate estimation of fleet mix characteristics that actually exist on the current transportation network system. The best possible approach would be to use a combination of both AVC and conventional registration data. However, EPA believes that field AVC data of vehicles traveling on the roadways throughout the 8-county area provide a reasonable estimate of the types of vehicles and distance these vehicles are driven. This is because vehicles from some categories are driven more than other categories. Heavy Duty Diesel Trucks, in particular, account for more miles than the values that may be reflected by the vehicular registration process. Registration distribution is different than VMT mix and actual data is the best possible information. In addition, while one might expect the numbers to be similar between DFW and Houston, they are two different cities with many different social and economic variables. One cannot presume Houston to be the same as DFW when the location specific data does not support this conclusion.

It is worth noting that the Tier II standards will eliminate the difference between (i) passenger car and (ii) larger truck and SUV emissions standards. Therefore, as Tier II vehicles become more widespread, possible discrepancies in the percentage of trucks and SUVs will become less important for air quality planning purposes. The Tier II standards begin taking affect in new vehicle manufactured in 2004.

The EPA has encouraged and required use of the latest assumptions and data in forecasting the on-road mobile source emissions whenever possible. Updating the data and using the latest information

is a continuous planning process which does not end with this SIP and will continue in the future for emissions inventory updates, SIP development, and for conducting conformity determinations. In addition, the refinements in the emissions inventory procedures and use of the MOBILE6 model will further enhance not only the VMT mix issue but also other parametric inputs in computing the on-road mobile source emissions. However, it must be recognized that because of many constraints associated with availability and timing of new information, the process of updating the vehicular and other data does not necessarily follow the SIP development cycle, and thus there is likely to be a lag time. The EPA is committed to ensure that the best available data are used in any air quality analysis and this SIP is no exception. Therefore, based on the information documented in the SIP and the EPA's current guidance, the EPA believes that Texas has made reasonable assumptions and has utilized the most recent available data in determining the on-road mobile source emissions.

Comment: The model's failure to account for episodic emissions events is a serious flaw. The commenter cited a description in the SIP of a butadiene release as evidence of this problem.

Response: TNRCC made every effort to account for episodic emissions in the model. It surveyed companies to determine if any specific events occurred during the modeling episode, including reported upset events. The reported episodic emissions were included in the modeling. Consequently, we believe Texas used the best information available to address episodic emissions and therefore, the SIP is approvable.

The growing availability of ambient VOC data from the Photochemical Assessment Monitoring Stations (PAMS) network, however, indicates that more may need to be done in this area. The butadiene release cited by the commenter is a case in point. In addition, the Texas 2000 Air Quality Study is providing a wealth of information that is just being analyzed. This data, it is hoped, will shed more light on the impact of episodic emissions on ozone levels. The mid-course review SIP, due to EPA in May 2004, will contain the most recent data available for that SIP's planning.

Comment: EPA should investigate the impact on the plan of any changes being considered in the EPA's 90-day review of the New Source Review (NSR) program. The commenter is concerned that relaxed NSR requirements may

affect the level of emissions from point sources in the Region.

Response: The 90-day review of the NSR program is not complete at this time. It is expected that any modifications to the Federal NSR provisions will include provisions for strict caps for the pollutants and therefore should be as stringent as the present NSR rule. Moreover, any changes made through this review will not affect the NSR rules approved for the HG area in the current SIP. If Texas determines that the HG area rules should be modified in response to the 90-day review, Texas will need to submit those changes as a SIP revision and under Section 110(l) of the Act, EPA will need to consider the effect of those changes on the HG area's attainment demonstration.

c. Weight of Evidence Analysis

Comment: Several commenters stated that the weight of evidence approach does not demonstrate attainment or meet CAA requirements for a modeled attainment demonstration. Commenters added several criticisms of various technical aspects of the weight of evidence approach, including certain specific applications of the approach to particular attainment demonstrations. These comments are discussed in the following response.

Response: Under section 182(c)(2) and (d) of the Act, serious and severe ozone nonattainment areas were required to submit by November 15, 1994, demonstrations of how they would attain the one-hour standard. Section 182(c)(2)(A) provides that "[t]his attainment demonstration must be based on photochemical grid modeling or any other analytical method determined by the Administrator, in the Administrator's discretion, to be at least as effective." As described in more detail below, the EPA allows states to supplement their photochemical modeling results, with additional evidence designed to account for uncertainties in the photochemical modeling, to demonstrate attainment. This approach is consistent with the requirement of section 182(c)(2)(A) that the attainment demonstration "be based on photochemical grid modeling," because the modeling results constitute the principal component of EPA's analysis, with supplemental information designed to account for uncertainties in the model. This interpretation and application of the photochemical modeling requirement of section 182(c)(2)(A) finds further justification in the broad deference Congress granted EPA to develop appropriate methods for

determining attainment, as indicated in the last phrase of section 182(c)(2)(A).

The flexibility granted to EPA under section 182(c)(2)(A) is reflected in the regulations EPA promulgated for modeled attainment demonstrations. These regulations provide, "The adequacy of a control strategy shall be demonstrated by means of applicable air quality models, data bases, and other requirements specified in (40 CFR part 51, Appendix W) (Guideline on Air Quality Models)."¹ 40 CFR 51.112(a)(1). However, the regulations further provide, "Where an air quality model specified in appendix W. * * * is inappropriate, the model may be modified or another model substituted (with approval by EPA, and after) notice and opportunity for public comment. * * *." Appendix W, in turn, provides that, "The Urban Airshed Model (UAM) is recommended for photochemical or reactive pollutant modeling applications involving entire urban areas," but further refers to EPA's modeling guidance for data requirements and procedures for operating the model. 40 CFR part 51, Appendix W, section 6.2.1.a. The modeling guidance discusses the data requirements and operating procedures, as well as interpretation of model results as they relate to the attainment demonstration. This provision references guidance published in 1991, but EPA envisioned the guidance would change as we gained experience with model applications, which is why the guidance is referenced, but does not appear, in Appendix W. With updates in 1996 and 1999, the evolution of EPA's guidance has led us to use both the photochemical grid model, and additional analytical methods approved by EPA.

The modeled attainment test compares model predicted one-hour daily maximum ozone concentrations in all grid cells for the attainment year to the level of the NAAQS. The results may be interpreted through either of two modeled attainment or exceedance tests: A deterministic test or a statistical test. Under the deterministic test, a predicted concentration above 0.124 parts per million (ppm) ozone indicates that the area is expected to exceed the standard in the attainment year and a prediction at or below 0.124 ppm indicates that the area is expected to not exceed the standard. Under the statistical test, attainment is demonstrated when all

predicted (i.e., modeled) one hour ozone concentrations inside the modeling domain are at, or below, an acceptable upper limit above the NAAQS permitted under certain conditions (depending on the severity of the episode modeled).²

In 1996, EPA issued guidance³ to update the 1991 guidance referenced in 40 CFR part 50, App. W, to make the modeled attainment test more closely reflect the form of the NAAQS (i.e., the statistical test described above), to consider the area's ozone design value and the meteorological conditions accompanying observed exceedances, and to allow consideration of other evidence to address uncertainties in the modeling databases and application. When the modeling does not conclusively demonstrate attainment, EPA has concluded that additional analyses may be presented to help determine whether the area will attain the standard. As with other predictive tools, there are inherent uncertainties associated with air quality modeling and its results. The inherent imprecision of the model means that it may be inappropriate to view the specific numerical result of the model as the only determinant of whether the SIP controls are likely to lead to attainment. The EPA's guidance recognizes these limitations, and provides a means for considering other evidence to help assess whether attainment of the NAAQS is likely to be achieved. The process by which this is done is called a weight of evidence determination. Under a weight of evidence determination, the state can rely on, and EPA will consider in addition to the results of the modeled attainment test, other factors such as other modeled output (e.g., changes in the predicted frequency and pervasiveness of one-hour ozone NAAQS exceedances, and predicted change in the ozone design value); actual observed air quality trends (i.e. analyses of monitored air quality data); estimated emissions trends; and the responsiveness of the model predictions to further controls.

In 1999, EPA issued additional guidance^{4 5} that makes further use of

² Guidance on the Use Of Modeled Results to Demonstrate Attainment of the Ozone NAAQS. EPA-454/B-95-007, June 1996.

³ Ibid.

^{4 5} "Guidance for Improving weight of Evidence Through Identification of Additional Emission Reductions, Not Modeled." U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, Emissions, Monitoring, and Analysis Division, Air Quality Modeling Group, Research Triangle Park, NC 27711. November 1999. Web site: <http://www.epa.gov/ttn/scram>. <http://www.ncdc.noaa.gov/ol/climate/research/1999/perspectives.html> and "Regional Haze and Visibility in the Northeast U.S.", NESCAUM at <http://www.nescaum.org/pdf/publist.pdf>

model results for base case and future emission estimates to predict a future design value. This guidance describes the use of an additional component of the weight of evidence determination, which requires, under certain circumstances, additional emission reductions that are or will be approved into the SIP, but that were not included in the modeling analysis, that will further reduce the modeled design value. An area is considered to monitor attainment if each monitor site has air quality observed ozone design values (4th highest daily maximum ozone using the three most recent consecutive years of data) at or below the level of the standard. Therefore, it is appropriate for EPA, when making a determination that a control strategy will provide for attainment, to determine whether or not the model predicted future design value is expected to be at or below the level of the standard. Since the form of the one-hour NAAQS allows exceedances, it did not seem appropriate for EPA to require the test for attainment to be "no exceedances" in the future model predictions. The method outlined in EPA's 1999 guidance uses the highest measured design value from all sites in the nonattainment area for each of three years.⁶ The three year "design value" represents the air quality observed during the time period used to predict ozone for the base emissions. This is appropriate because the model is predicting the change in ozone from the base period to the future attainment date. The three yearly design values (highest across the area) are averaged to account for annual fluctuations in meteorology. The result is an estimate of an area's base year design value. The base year design value is multiplied by a ratio of the peak model predicted ozone concentrations in the attainment year (i.e., average of daily maximum concentrations from all days modeled) to the peak model predicted ozone concentrations in the base year (i.e., average of daily maximum

⁶ A commenter criticized the 1999 guidance as flawed on grounds that it allows the averaging of the three highest air quality sites across a region, whereas EPA's 1991 and 1996 modeling guidance requires that attainment be demonstrated at each site. This has the effect of allowing lower air quality concentrations to be averaged against higher concentrations thus reducing the total emission reduction needed to attain at the higher site. The commenter's concern is misplaced. EPA relies on this averaging only for purposes of determining one component, i.e.,—the amount of additional emission reductions not modeled—of the weight of evidence determination. The weight of evidence determination, in turn, is intended to be a qualitative assessment of whether additional factors (including the additional emissions reductions not modeled), taken as a whole, indicate that the area is more likely than not to attain.

¹ The August 12, 1996 version of "Appendix W to Part 51—Guideline on air Quality Models" was the rule in effect for these attainment demonstrations. EPA is proposing updates to this rule which will not be in effect until the new rule is promulgated.

concentrations from all days modeled). The result is an attainment year design value based on the relative change in peak model predicted ozone concentrations from the base year to the attainment year. Modeling results also show that emission control strategies designed to reduce areas of peak ozone concentrations generally result in similar ozone reductions in all core areas of the modeling domain, thereby providing some assurance of attainment at all monitors.

In the event that the attainment year design value is above the standard, the 1999 guidance provides a method for identifying additional emission reductions, not modeled, which at a minimum provide an estimated attainment year design value at the level of the standard. This step uses a locally derived factor which assumes a relationship between ozone and the precursors.

Although a commenter criticized this technique for estimating ambient improvement because it does not incorporate complete modeling of the additional emissions reductions, the regulations do not mandate nor does EPA guidance suggest that States must model all control measures being implemented. Moreover, a component of this technique—the estimation of future design value, should be considered a model predicted estimate. Therefore, results from this technique are an extension of “photochemical grid” modeling and are consistent with section 182(c)(2)(A). Also, a commenter believes EPA has not provided sufficient opportunity to evaluate the calculations used to estimate additional emission reductions. EPA provided a 60-day period for comment on the methodology and calculations in December 1999 and a 30-day comment period in July 2001 on the HG area’s calculated shortfall. Texas also provided a public comment period and public hearings in September, 2000 on this issue.

A commenter states that application of the method of attainment analysis used for the December 16, 1999 NPRs will yield a lower control estimate than if we relied entirely on reducing maximum predictions in every grid cell to less than or equal to 124 ppb on every modeled day. However, the commenter’s approach may overestimate needed controls because the form of the standard allows up to 3 exceedances in 3 years in every grid cell. If the model over predicts observed concentrations, predicted controls may be further overestimated. EPA has considered other evidence, as described above through the weight of evidence determination.

When reviewing a SIP, the EPA must make a reasonable determination that the control measures adopted more likely than not will lead to attainment. Under the Weight of evidence determination, EPA has made this determination for the HG area based on all of the information presented by the State and available to EPA. The information considered includes model results for the majority of the control measures. Though all measures were not modeled, EPA reviewed the model’s response to changes in emissions as well as observed air quality changes to evaluate the impact of additional measures, not modeled. EPA’s decision was further strengthened by the State’s commitment to check progress towards attainment in 2004 and to adopt additional measures, if the anticipated progress is not being made.

A commenter further criticized EPA’s technique for estimating the ambient impact of additional emissions reductions not modeled on grounds that EPA employed a rollback modeling technique that, according to the commenter, is precluded under EPA regulations. The commenter explained that 40 CFR part 51, App. W, section 6.2.1.e. provides, “Proportional (rollback/forward) modeling is not an acceptable procedure for evaluating ozone control strategies.” Section 14.0 of appendix W defines “rollback” as “a simple model that assumes that if emissions from each source affecting a given receptor are decreased by the same percentage, ambient air quality concentrations decrease proportionately.” Under this approach if 20% improvement in ozone is needed for the area to reach attainment, it is assumed a 20% reduction in VOC would be required.

The “proportional rollback” approach is based on a purely empirically/mathematically derived relationship. EPA did not rely on this approach in its evaluation of the attainment demonstrations. The prohibition in Appendix W applies to the use of a rollback method which is empirically/mathematically derived and independent of model estimates or observed air quality and emissions changes as the sole method for evaluating control strategies. For the demonstrations, EPA used a locally derived (as determined by the model and/or observed changes in air quality) relationship of the change in emissions to change in ozone to estimate additional emission reductions to achieve an additional increment of ambient improvement in ozone. For example, if monitoring or modeling results indicate that ozone was reduced

by 25 ppb during a particular period, and that VOC and NO_x emissions fell by 20 tons per day and 10 tons per day respectively during that period, EPA developed a relationship for ozone improvement related to reductions in VOC and NO_x. This formula assumes a quadratic relationship between the precursors and ozone for a small amount of ozone improvement, but it is not a “proportional rollback” technique. Further, EPA uses these locally derived adjustment factors as a component to estimate the extent to which additional emissions reductions—not the core control strategies—would reduce ozone levels and thereby strengthen the weight of evidence test. EPA uses the UAM to evaluate the core control strategies. This limited use of adjustment factors is more technically sound than the unacceptable use of proportional rollback to determine the ambient impact of the entire set of emissions reductions required under the attainment SIP. The limited use of adjustment factors is acceptable for practical reasons: It obviates the need to expend more time and resources to perform additional modeling. In addition, the adjustment factor is a locally derived relationship between ozone and its precursors based on air quality observations and/or modeling which is more consistent with recommendations referenced to in Appendix W and does not assume a direct proportional relationship between ozone and its precursors. In addition, the requirement that areas perform a mid-course review (a check of progress toward attainment) provides a margin of safety.

A commenter expressed concerns that EPA used a modeling technique (proportional rollback) that was expressly prohibited by 40 CFR part 51, Appendix W, without expressly proposing to do so in a notice of proposed rulemaking. However, the commenter is mistaken. As explained above, EPA did not use or rely upon a proportional rollback technique in this rulemaking, but used UAM to evaluate the core control strategies and then applied its WOE guidance. Therefore, because EPA did not use an “alternative model” to UAM, it did not trigger an obligation to modify Appendix W. Furthermore, EPA did propose to use the November 1999 guidance, “Guidance for Improving Weight of Evidence Through Identification of Additional Emission Reductions, Not Modeled,” in the December 16, 1999 NPR and has responded to all comments received on the application of that guidance elsewhere in this document.

A commenter also expressed concern that EPA applied unacceptably broad discretion in fashioning and applying the WOE determinations. For all of the attainment submittals proposed for approval in December 1999 concerning serious and severe ozone nonattainment areas, EPA first reviewed the UAM results. In all cases, the UAM results did not pass the deterministic test. In two cases—Milwaukee and Chicago—the UAM results passed the statistical test; in the rest of the cases, the UAM results failed the statistical test. The UAM has inherent limitations that, in EPA's view, were manifest in all these cases. These limitations include: Only selected time periods were modeled, not the entire three-year period used as the definitive means for determining an area's attainment status. Also, there are inherent uncertainties in the model formulation and model inputs such as hourly emission estimates, emissions growth projections, biogenic emission estimates, and derived wind speeds and directions. As a result, for all areas, even Milwaukee and Chicago, EPA examined additional analyses to indicate whether additional SIP controls would yield meaningful reductions in ozone values. These analyses did not point to the need for additional emission reductions for Springfield, Greater Connecticut, Metropolitan Washington DC, Chicago and Milwaukee, but did point to the need for additional reductions, in varying amounts, in the other areas. As a result, the other areas submitted control requirements to provide the indicated level of emissions reductions. EPA applied consistent methodologies in these areas, but because of differences in the application of the model to the circumstances of each individual area, the results differed on a case-by-case basis.

The commenter also complained that EPA has applied the WOE determinations to adjust modeling results only when those results indicate nonattainment, and not when they indicate attainment. First, we disagree with the premise of this comment: EPA does not apply the WOE factors to adjust model results. EPA applies the WOE factors as additional analysis to compensate for uncertainty in the air quality modeling. Second, EPA has applied WOE determinations to all of the attainment demonstrations proposed for approval in December 1999. Although for most of them, the air quality modeling results by themselves indicated nonattainment, for two metropolitan areas—Chicago and Milwaukee, including parts of the States of Illinois, Indiana, and Wisconsin, the

air quality modeling did indicate attainment on the basis of the statistical test.

For the HG area, the primary evidence, in addition to the modeled control strategy that the HG area will attain the standard, is the estimation of the ozone benefits from the emission reductions that were not modeled (*i.e.*, approximately 90.9 tpd). Additional evidence for the HG area is provided by the good model performance which lends credence to the results. Further evidence is the substantial reduction in the area of nonattainment projected for the control strategy case. The State showed the modeled control strategy resulted in a 93.6% reduction in grid cells over the standard. Finally, the state's commitment to perform a mid-course review provides further confidence that the State's overall plan will result in attainment by 2007. Collectively, the above information supported EPA's decision. These determinations were made based on EPA's best understanding of the problem and relied on a qualitative assessment as well as quantitative assessments of the available information.

The commenter further criticized EPA's application of the weight of evidence determination on grounds that EPA ignores evidence indicating that continued nonattainment is likely, such as, according to the commenter, monitoring data indicate that ozone levels in many cities during 1999 continue to exceed the NAAQS by margins as wide or wider than those predicted by the UAM model. EPA did consider the monitoring data along with other information in these determinations. When reviewing the monitoring data, EPA considered other factors. For example, high monitoring values may have occurred for many reasons including, fluctuations due to changes in meteorology and lack of emission reductions. The 1999 monitor values do not reflect several control programs, both local and the regional which are scheduled for implementation in the next several years. And the 1999 meteorology in the Northeast was such that July 1999 was one of the warmest (ranked 9th) ever experienced since 1895.⁷ In addition to the heat, the middle and southern portions of the Northeast were also drier than average during this month. This information supports EPA's belief that the high exceedances observed in 1999

⁷ <http://www.ncdc.noaa.gov/ol/climate/research/1999/perspectives.html> and "Regional Haze and Visibility in the Northeast U.S.", NESCAUM at <http://www.nescaum.org/pdf/publist.pdf>

are not likely to reoccur frequent enough to cause a violation, once the controls adopted in these SIP's are implemented. There is little evidence to support the statement that ozone levels in many cities during 1999 continue to exceed the NAAQS by margins as wide or wider than those predicted by the UAM. Since areas did not model 1999 ozone levels using 1999 meteorology and 1999 emissions which reflect reductions anticipated by control measures, that are or will be approved into the SIP, there is no way to determine how the UAM predictions for 1999 compare to the 1999 air quality. Therefore, we can not determine whether or not the monitor values exceed the NAAQS by a wider margin than the UAM predictions for 1999. In summary, there is little evidence to support the conclusion that high exceedances in 1999 will continue to occur after adopted control measures are implemented.

In addition, the commenter argued that in applying the weight of evidence determinations, EPA ignored factors showing that the SIPs under-predict future emissions, and the commenter included as examples certain mobile source emissions sub-inventories. EPA did not ignore possible under-prediction in mobile emissions. EPA is presently evaluating mobile source emissions data as part of an effort to update the computer model for estimating mobile source emissions. EPA is considering various changes to the model, and is not prepared to conclude at this time that the net effect of all these various changes would be to increase or decrease emissions estimates. For the HG area's attainment demonstration SIP that relies on the Tier 2/Sulfur program for attainment (and reflects these programs in its motor vehicle emissions budgets), Texas has committed to revise the motor vehicle emissions budgets after the MOBILE6 model is officially released by EPA. EPA will work with Texas if the new emission estimates raise issues about the sufficiency of the present attainment demonstration. If analysis indicates additional measures are needed, EPA will take appropriate action.

Comment: The 1999 Guidance Document was criticized on grounds that EPA could not apply it, by its terms, to the Houston area because the result of such application would have been absurd. The commenter added that the technique used to estimate the additional needed emission reductions for the Houston area does not identify a sufficient level of emission reductions to reach attainment. In addition, according to the commenter, the

technique used for the Houston area is substantially at variance with the UAM modeling analyses performed by Texas and submitted to EPA as SIP revisions. Specifically, Texas showed in its May 1998 SIP submission that emissions in the Houston area would have to be reduced to 230 tons per day to attain. By contrast, according to the commenter, EPA's combination of techniques would allow 305 tons per day of emissions, and yet EPA claims that the area will attain with even this higher level of emissions. The commenters believe that Texas should not be able to use the gap calculation when modeling exists that demonstrates how attainment can be achieved. A commenter also asserted that Texas should not be able to use a gap calculation method that differs from what other areas must use and the gap calculation fails to account for real world chemistry.

Response: Direct application of the two methods discussed in EPA's November 1999 guidance, using available data for the HG area, produced a mathematical impossibility. The results indicated that all ozone precursor emissions would have to be reduced to less than zero. Thus, the two methods described in the 1999 guidance are not directly applicable to Houston. The 1999 guidance describes two techniques for estimating additional levels of emission reductions. Both techniques (methods) described in the 1999 guidance are based on the assumption that EPA can estimate the relationship between ozone and its precursors. EPA Region 6 and TNRCC worked together to develop a revised method that is consistent with the concepts in the 1999 guidance for estimating the relationship, but applicable to the Houston area's modeling results. The methods in the guidance use a linear extrapolation of model results to determine expected ozone benefits from additional precursor reductions. The method for the HG area is also an extrapolation of model results. Because, the method for the HG area extends model results, it does, in fact account for real world chemistry. Instead of a linear extrapolation, however, a quadratic extrapolation was developed based on the results of three of the modeling runs. A quadratic extrapolation is necessary because of the non-linearity of the ozone response to NO_x reductions in the HG area. Therefore, the method is a refinement in the methods described in the 1999 guidance, since it is based on the most recently available modeling for the Houston area. The factors used in the method for the Houston area are

based on model results for the majority of the control measures and, consequently, are scientifically sound for the HG area. We believe this approach is consistent with the intent and criteria of the 1999 guidance and, in the case of the Houston area, gives a better approximation (than the other two methods) of the amount of emission reductions that will be necessary to achieve the standard. Therefore, this method fulfills the purposes of the EPA guidance, and it is as rigorous, if not more rigorous, than the two methods discussed in the 1999 guidance. As a result, EPA concludes that the State of Texas used an acceptable method under the November 1999 guidance and applied it correctly.

In the strategy upon which the NO_x mobile vehicle emissions budget is based, Texas modeled NO_x emissions reduced to a level of approximately 396 t/d. Since the model predicted future ozone design values above the standard, using the refinement of the 1999 guidance (discussed above) EPA determined additional emission reductions were needed and the level of NO_x needed for attainment is 305 t/d.

The 230 tons per day emission level in the May 1998 SIP submission was based upon "across-the-board" emission sensitivity modeling and not specific control measures, as was submitted in the November 1999 attainment demonstration. Thus, the 230 tons per day emission level is not associated with any control measures, and it is not appropriate as a regulatory emission level for an attainment SIP. In addition, there have been many notable changes to the modeling emissions inventory subsequent to the May 1998 SIP submission. These include revised biogenic emissions, revised non-road emissions, and revised 2007 future year on-road mobile source emissions. Thus, it is not appropriate to compare the 305 t/d and the 230 t/d, since they are really based upon different applications of the model. Further, it is not correct to say modeling exist that demonstrates how attainment can be achieved.

With regards to whether the approach used for the HG area sufficiently identifies the expected additional amount of emission reductions needed for attainment by the deadline, for the reasons noted above, we believe the modeling and weight of evidence techniques used for the HG area do provide a reasonable estimate of the emission reductions necessary for attainment. Furthermore, these emission reductions are quite substantial. The projected attainment level of 305 t/d of NO_x is a 71% reduction from the projected 2007 NO_x emissions of 1052

t/d and a 77% reduction from the 1993 NO_x emissions of 1337 t/d. This is a significant amount of NO_x reductions and based on the analyses presented, EPA believes these level of reductions will bring the area into attainment.

Comment: A commenter stated that TNRCC took into account modeling performance concerns in developing a weight of evidence analysis to support its October 1999 SIP revision and concluded that a modeled control strategy, nearly identical to the one described in its December 2000 SIP revision would produce attainment even though attainment was not conclusively demonstrated by the model. EPA rejected this analysis, however, and prescribed a new method that the commenter goes on to criticize.

Response: EPA did not believe that sufficient emission reductions had been identified in the control strategy modeled in the November 1999 episode. EPA proposed its preliminary analysis of the November 1999 SIP revision that a shortfall of 11% NO_x emission reduction existed. Significantly, we received no comments at the time of that proposal that the 11% shortfall was too high. We received comments to the contrary that the needed additional emission reductions were understated.

EPA does not agree with the characterization that EPA "prescribed" a new method. Other weight of evidence techniques, as described in EPA guidance were still available to Texas and could have been considered. We worked with Texas in the development of the quadratic method that was used as weight of evidence for the HG area to provide a method that we and Texas believed gave an accurate estimate of the needed additional emission reductions.

Comment: A commenter criticizes that in contrast to the 1999 Guidance, the weight of evidence method EPA developed for the HGA does not employ a relative reduction factor or a future design value calculation. The quadratic extrapolation is neither consistent with nor an improvement on the 1999 guideline methods and EPA's description of it as such is erroneous. The commenter goes on to compare and contrast specific differences between the method developed for Houston and the 1999 guidance.

Response: EPA continues to believe, in the case of the HG area, the method developed is an improvement over the November 1999 guidance. This guidance was developed for estimating the additional reduction needed to support the one-hour ozone NAAQS for those nonattainment areas using a weight of evidence approach to

demonstrating attainment. This guidance describes two methods for calculating the amount of the additional reductions needed, but does not prohibit the use of an alternative method. Both methods assume that the relationship between ozone and the NO_x and VOC precursors can be estimated. Direct application of the two methods discussed in EPA's November 1999 guidance using available data for the Houston area, produced a mathematical impossibility. The results indicated that all ozone precursor emissions would have to be reduced to less than zero. Thus, the two methods described in the 1999 guidance are not directly applicable to Houston. EPA and TNRCC worked together to develop a revised method that is consistent with the concepts in the 1999 guidance for estimating the relationship, but applicable to the Houston area's modeling results. The methods in the guidance use a linear extrapolation of model results to determine expected ozone benefits from additional precursor reductions. The method for the Houston area is also an extrapolation of model results. Instead of a linear extrapolation, however, a quadratic extrapolation was developed based on the results of three of the modeling runs. A quadratic extrapolation is necessary because of the non-linearity of the ozone response to NO_x reductions in the Houston area. Therefore, the method developed for the HG area is a refinement of the two methods in the 1999 guidance, since these two methods are also based on modeling. The factors used in the method for the Houston area are based on model results for the majority of the control measures and, consequently, are scientifically sound for the Houston area. We believe this approach is consistent with the intent and criteria of the 1999 guidance and, in the case of the Houston area, gives a better approximation of the amount of emission reductions that will be necessary to achieve the standard. Therefore, this method fulfills the purposes of the EPA guidance, and it is as rigorous, if not more rigorous, than the two methods discussed in the 1999 guidance. Furthermore, it cannot be accurate to characterize the methods in the 1999 guidance as better when, in fact, they produce a mathematical impossibility for the HG area.

3. Comments on Control Strategies

Comment: One commenter stated that the plan should provide evidence that Texas Senate Bill 5 (SB-5) provisions can be implemented and will lead to at least 6.7 tons/day of NO_x emission

reductions. Another commenter stated EPA should not give credit to the Texas Emission Reduction Plan created by SB-5 without assurances of long-term funding levels and details about long-term funding. They also cite information that the funding for the program might be less than EPA assumed because of legal challenges.

Response: Based on experience in California with the Carl Moyer program, the Diesel Emission Reduction Program provided by the Texas Legislature should be able to provide emissions reduction in the range of \$3000–5000/ton. This is documented in the report "The Carl Moyer Memorial Air Quality Standards Attainment Program (The Carl Moyer Program) Guidelines-Approved Revision 2000, November 16, 2000 California Environmental Protection Agency Air Resources Board." The clear intent of the legislation, as stated on the TNRCC website, is "The highest priority for using the funds under the Emissions Reduction Grants Program will be to replace NO_x emissions reductions removed from the State Implementation Plans (SIPs) for the HG area and Dallas/Fort Worth (DFW) nonattainment areas as a result of S.B. 5. Using an average of \$5,000 per ton of NO_x reduced, the TNRCC has determined that it will require \$6.7 million per year in HGA to replace the construction shift and accelerated Tier II/III rules. Another \$7.5 million will be required to partially fill (20 tons) the 56 ton gap, making the HG area total \$14.2 million."

EPA's estimates are not as optimistic but we do believe the \$24.7 million/yr projected on the TNRCC website should result in at least 25 tons/year of emission reductions, an amount sufficient to offset the construction shift and accelerated Tier II/III and contribute to reducing the shortfall. We will work with Texas to refine the estimates of emission reductions. It is clear that if more money is needed for the HG area as the program is implemented to make additional reductions in the shortfall, the TNRCC has the discretion to channel more money to the Houston area.

With regard to legal challenges to the program's funding mechanisms, EPA will not anticipate a court's findings. If a court finds the funding mechanism illegal, Texas will have to revise the SIP at that time to address the loss in emission reductions or find alternative funding sources. In the absence of timely State action to address any adverse court ruling, EPA could take action to ensure attainment is not jeopardized.

Comment: Commenters questioned the emissions benefit of the low emission diesel rule.

Response: The EPA has just completed a study of the benefits of low emission diesel fuels, such as the Texas Clean Diesel fuel. EPA determined the Texas fuel will result in NO_x reductions. However, it appears that the NO_x reductions based on the just-completed study will be slightly less than those projected by Texas. EPA believes, because the emissions impact is expected to be small and because Texas has committed to address any change to the amount of needed emission reductions at the mid-course review, the recent study findings do not change the approvability of the attainment demonstration. We will work with Texas to incorporate the findings of the study into future SIP revisions.

Comment: One commenter supported the fact that EPA did not take any action on morning construction ban.

Response: EPA determined not to take action on the construction ban since the legislature had removed the TNRCC's authority to implement this measure.

Comment: EPA must discount the emission reduction credit from the Airport Ground Support Equipment agreed orders because these orders do not assign specific budgets to individual airlines and therefore do not insure the achievement of any particular ton/day emissions.

Response: The agreed orders require percentage reductions from a 1996 baseline which achieve the same purpose as an emissions limitation. The reductions specified in each order are enforceable against the owner/operator of the equipment, thus providing a comfortable degree of certainty that the reductions will take place.

Comment: The EPA should discount the emission reductions from I/M based on the recently released National Research Council (NRC) Report.

Response: The NRC recommendation provides that the models projecting emissions from I/M programs should be improved to reflect actual reductions more accurately. EPA agrees that emission performance of vehicles has improved since the data that form the basis of existing models were generated. Most of the data for MOBILE5 was based on evaluation of early 1980's vehicles.

EPA's soon-to-be-released MOBILE6 model has been substantially updated to better reflect actual emissions and actual I/M benefits. The model has also been made more flexible to better incorporate local data on compliance, technician training, and the inclusion/exclusion of vehicles of certain ages. As technologies and characteristics of the

fleet change, data collection, analysis, and model improvement will likely continue to be warranted. Texas has committed to revise the Mobile Vehicle Emissions Budget using MOBILE6 no later than 2 years after its official release. 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. Further, it is our understanding that TNRCC intends to use Mobile 6 in the attainment demonstration modeling planned for submission in December 2002.

Comment: The Act requires the SIP to include a program to provide for enforcement of the adopted measures. Most plans address this requirement, however, none of the plans clearly set out programs to provide for enforcement. Another commenter said the EPA should take steps to insure adequate enforcement of permit standards. Other commenters said the plan includes unenforceable items such as the restriction on commercial lawn mowing.

Response: State enforcement program elements are contained in SIP revisions previously approved by EPA under obligations set out in section 110 of the Act. Once approved by the EPA, there is no need for states to readopt and resubmit their enforcement programs with each and every SIP revision generally required by other sections of the Act.

EPA will monitor the effectiveness of the new programs, such as the commercial lawn mowing restriction, and work with Texas to revise the programs if necessary.

Comment: The State submittal should include creditable, adequate rules to achieve attainment that should also provide for a margin for error.

Response: EPA generally agrees with the comment. EPA believes that the Margin of Error for the HG area plan, while small, is appropriate in light of the significant level of reductions in the plan and the commitment to perform the mid-course review and to adopt additional measures as appropriate.

Comment: One commenter stated that there is over crediting of national rules for architectural coatings, auto-refinishing coatings and consumer products. They state the credit claimed is based on EPA estimates of emission reductions from proposed versions of these rules, but the final versions of the rules are weaker than the proposed rules. Therefore, the credit claimed for these national rules should be

recalculated to reflect only the actual emission reductions that can be expected under the final EPA rules.

Response: Architectural Coatings: EPA's March 22, 1995 memorandum⁸ indicated EPA's view that it was acceptable for states to claim a 20% reduction in VOC emissions from the AIM coatings category in ROP and attainment demonstration plans based on the anticipated promulgation of a national AIM coatings rule. In developing the attainment SIP for the Houston area, Texas relied on this memorandum to estimate emission reductions from the anticipated national AIM rule. EPA promulgated the final AIM rule in September 1998, codified at 40 CFR part 59, subpart D. In the preamble to EPA's final AIM coatings regulation, EPA estimated that the regulation will result in 20% reduction of nationwide VOC emissions from AIM coatings categories (63 FR 48855). The estimated VOC reductions from the final AIM rule resulted in the same reductions as those estimated in the March 1995 EPA policy memorandum. In accordance with EPA's final regulation, Texas has assumed a 20% reduction from AIM coatings source categories in its attainment modeling. AIM coatings manufacturers were required to be in compliance with the final regulation within one year of promulgation, except for certain pesticide formulations which were given an additional year to comply. Thus all manufacturers were required to comply, at the latest, by September 2000. EPA believes that all emission reductions from the AIM coatings national regulation will occur by 2002 and therefore are creditable in the attainment plan for the Houston area.

Autobody Refinish Coatings Rule: According to EPA's guidance⁹ and proposed national rule, many States have claimed a 37% reduction from this source category based on a proposed rule. However, EPA's final rule, "National Volatile Organic Compound Emission Standards for Automobile Refinish Coatings," published on September 11, 1998 (63 FR 48806), did not regulate lacquer topcoats and will result in a smaller emission reduction of around 33% overall nationwide. The

⁸ "Credit for the 15 Percent Rate-of-Progress Plans for Reductions from the Architectural and Industrial Maintenance (AIM) Coating Rules," March 22, 1995, from John S. Seitz, Director, Office of Air Quality Planning and Standards to Air Division Directors, Regions I-X.

⁹ "Credit for the 15 Percent Rate-of-Progress Plans for Reductions from the Architectural and Industrial Maintenance (AIM) Coating Rule and the Autobody Refinishing Rule," November 27, 1994, from John S. Seitz, Director, OAQPS, to Air Division Directors, Regions I-X.

37% emission reduction from EPA's proposed rule was an estimate of the total nationwide emission reduction. Since this number was an overall average, it was not applicable to any specific area. For example, in California the reduction from the national rule is zero because its rules are more stringent than the national rule.

Texas did not rely on the above guidance. Instead, as part of the development of their 15% Rate of Progress plan, Texas used data for auto-refinishing coating use specific for Texas to estimate the emission reductions from existing state rules. To avoid double counting, for the purposes of the attainment demonstration, they did not assume any additional emission reductions due to the national rule. Therefore, the Houston area's attainment demonstration SIP relied on state rules, not the national rule for its emission reductions. On EPA's approval of the 15% ROP plan, EPA approves the credit Texas is now relying on for attainment.

Consumer Products Rule: According to EPA's guidance¹⁰ and proposed national rule, States have generally claimed a 20% reduction from this source category. The final rule, "National Volatile Organic Compound Emission Standards for Consumer Products," (63 FR 48819), published on September 11, 1998, will result in a 20% reduction. Therefore the reductions obtained by States from the final national rule are consistent with credit which was claimed.

Comment: One commenter included by reference their comments on the TNRCC proposed rules. They include several comments opposing the Construction Hour shift, Accelerated Tier II/III, NO_x Reduction Systems (a requirement to retrofit off-road equipment), and low sulfur gasoline.

Response: As all of these measures have been dropped from the State's plan and were not submitted to EPA. Thus, no response is necessary.

4. Comments on Enforceable Commitments

Comment: Several commenters claim that EPA should not approve the attainment demonstration for the HG area because the plan contains, in part, commitments to adopt measures that are necessary to reach attainment. The commenters contend that EPA does not have authority to accept enforceable commitments to adopt measures in the

¹⁰ "Regulatory Schedule for Consumer and Commercial Products under Section 183(e) of the Clean Air Act," June 22, 1995, from John S. Seitz, Director, OAQPS, to Air Division Directors, Regions I-X.

future in lieu of adopted control measures.

The commenters contend that the 56 tpd gap must be closed now. The commenters are concerned that Texas has proposed a process that will take three more years—until 2004—to develop and adopt the final control measures needed for attainment. Deferred adoption and submittal are not consistent with the statutory mandates and are not consistent with the Act's demand that all SIPs contain enforceable measures. EPA does not have authority to approve a SIP if part of the SIP is not adequate to meet all tests for approval. Because the submittal consists in part of commitments, Texas has not adopted rules implementing final control strategies, and the plan includes insufficient reduction strategies to meet the emission reduction goals established by the TNRCC. Thus, Texas has failed to adopt a SIP with sufficient adopted and enforceable measures to achieve attainment. For these reasons, the submittal also does not meet the NRDC's consent decree definition of a "full attainment demonstration SIP," which obligates EPA to propose a federal implementation plan if it does not approve the HG area SIP. For these reasons, EPA should reject the HG area SIP and impose sanctions on the area and publish a proposed FIP no later than October 15, 2001.

Response: EPA disagrees with the comments, and believes—consistent with past practice—that the Act allows approval of enforceable commitments that are limited in scope where circumstances exist that warrant the use of such commitments in place of adopted measures.¹¹ Once EPA determines that circumstances warrant consideration of an enforceable commitment, EPA believes that three factors should be considered in determining whether to approve the enforceable commitment: (1) Whether

the commitment addresses a limited portion of the statutorily-required program; (2) whether the state is capable of fulfilling its commitment; and (3) whether the commitment is for a reasonable and appropriate period of time.

As an initial matter, EPA believes that present circumstances for the New York City, Philadelphia, Baltimore and Houston nonattainment areas warrant the consideration of enforceable commitments. The Northeast states that make up the New York, Baltimore, and Philadelphia nonattainment areas submitted SIPs that they reasonably believed demonstrated attainment with fully adopted measures. After EPA's initial review of the plans, EPA recommended to these areas that additional controls would be necessary to ensure attainment. Because these areas had already submitted plans with many fully adopted rules and the adoption of additional rules would take some time, EPA believed it was appropriate to allow these areas to supplement their plans with enforceable commitments to adopt and submit control measures to achieve the additional necessary reductions. For the HG area, the State has submitted supporting information that EPA has confirmed indicating that Texas has adopted for the HG area NO_x controls that are as tight or tighter than any other area including the one extreme area—South Coast. Thus, because the State has adopted many strict controls that were included in the submitted plan and needs additional time to consider technologies that are still in the developmental stages, EPA determined that it is appropriate to consider an enforceable commitment for the remaining necessary reductions. For the HG area, EPA has determined that the submission of enforceable commitments in place of adopted control measures for this limited set of reductions will not interfere with the area's ability to meet its rate-of-progress obligations.

EPA's approach here of considering enforceable commitments that are limited in scope is not new. EPA has historically recognized that under certain circumstances, issuing full approval may be appropriate for a submission that consists, in part, of an enforceable commitment. See e.g., 62 FR 1150, 1187 (Jan. 8, 1997) (ozone attainment demonstration for the South Coast Air Basin); 65 FR 18903 (Apr. 10, 2000) (revisions to attainment demonstration for the South Coast Air Basin); 63 FR 41326 (Aug. 3, 1998) (federal implementation plan for PM-10 for Phoenix); 48 FR 51472 (State Implementation Plan for New Jersey).

Nothing in the Act speaks directly to the approvability of enforceable commitments.¹² However, EPA believes that its interpretation is consistent with provisions of the Act. For example, section 110(a)(2)(A) provides that each SIP "shall include enforceable emission limitations and other control measures, means or techniques * * * as well as *schedules and timetables for compliance*, as may be necessary or appropriate to meet the applicable requirement of the Act." Section 172(c)(6) of the Act requires, as a rule generally applicable to nonattainment SIPs, that the SIP "include enforceable emission limitations and such other control measures, means or techniques * * * as may be necessary or appropriate to provide for attainment * * * by the applicable attainment date * * *" (Emphasis added.) The emphasized terms mean that enforceable emission limitations and other control measures do not necessarily need to generate reductions in the full amount needed to attain. Rather, the emissions limitations and other control measures may be supplemented with other SIP rules—for example, the enforceable commitments EPA is approving today—as long as the entire package of measures and rules provides for attainment. EPA's interpretation that the Act allows for a approval of limited enforceable commitments has been upheld by the courts of appeals in some circuits. See *City of Seabrook v. EPA*, 659 F.2d 1349 (5th Cir. 1981); *Connecticut Fund for the Environment v. EPA*, 672 F.2d 998 (2d Cir.), cert. denied 459 U.S. 1035 (1982); *Friends of the Earth v. EPA*, 499 F.2d 1118 (2d Cir. 1974); *Kamp v. Hernandez*, 752 F.2d 1444 (9th Cir. 1985).

As provided above, after concluding that the circumstances warrant consideration of an enforceable commitment—as they do for the HG area—EPA would consider three factors in determining whether to approve the submitted commitments. First, EPA believes that the commitments must be limited in scope. In 1994, in considering EPA's authority under section 110(k)(4) to conditionally approve unenforceable commitments, the Court of Appeals for the District of Columbia Circuit struck down an EPA policy that would allow

¹¹ These commitments are enforced by the EPA and citizens under, respectively, sections 113 and 301 of the Act. In the past, EPA has approved enforceable commitments and courts have enforced these actions against states that failed to comply with those commitments. See, e.g., *American Lung Association of New Jersey v. Kean*, 670 F. Supp. 1285 (D.N.J. 1987), affirmed, 871 F.2d 319 (3rd Cir. 1989); *NRDC v. N.Y. State Dept. of Environmental Conservation*, 668 F. Supp. 848 (S.D.N.Y. 1987); *Citizens for a Better Environment v. Deukmejian*, 731 F. Supp. 1448, reconsideration granted in part, 746 F. Supp. 976 (N.D. Cal. 1990); *Coalition for Clean Air, et al. v. South Coast Air Quality Management District, CARB and EPA*, No. CV 97-6916 HLH, (C.D. Cal. August 27, 1999). Further, if a state fails to meet its commitments, EPA could make a finding of failure to implement the SIP under Section 179(a), which would start an 18-month period for the State to begin implementation before mandatory sanctions are imposed.

¹² Section 110(k)(4) provides for "conditional approval" of commitments that need not be enforceable. Under that section, a State may commit to "adopt specific enforceable measures" within one-year of the conditional approval. Rather than enforcing such commitments against the State, the Act provides that the conditional approval will convert to a disapproval if "the State fails to comply with such commitment."

States to submit (under limited circumstances) commitments for entire programs. *Natural Resources Defense Council v. EPA*, 22 F.3d 1125 (D.C. Cir. 1994). While EPA does not believe that case is directly applicable here, EPA agrees with the Court that other provisions in the Act contemplate that a SIP submission will consist of more than a mere commitment. See *NRDC*, 22 F.3d at 1134.

In the present circumstances, the commitments address only a small portion of the plan. For the HG area, the commitment addresses only 6% of the emission reductions necessary to attain the standard. Already adopted measures include controls to reduce NO_x emissions by approximately 90% from industrial sources, a more stringent and expanded I/M program, a Clean Diesel Program, a well-funded incentive program to encourage the early introduction of cleaner diesel equipment, controls on airport ground support equipment, and several voluntary measures to reduce emissions from mobile sources.

As to the second factor, whether the State is capable of fulfilling the commitment, EPA considered the current or potential availability of measures capable of achieving the additional level of reductions represented by the commitment and whether the State has or is capable of getting the requisite authority to adopt measures to achieve those reductions.

For HG area, the SIP submittal already includes substantial reductions, covering every significant NO_x source category. The SIP for the HG area already includes NO_x control requirements that, overall, are more expensive and technologically advanced, and apply to smaller emitters, than those in any other SIP in the nation other than the South Coast—the one area classified as extreme for the 1-hour ozone standard. Thus, determining measures that will generate the necessary additional reductions is significantly more complex than for the northeastern States. However, the State has provided EPA with sufficient information to assure EPA that it will be capable of adopting controls to achieve the necessary level of emission reductions. First, the State has identified advanced technologies and innovative ideas that, in EPA's opinion, are or will be shortly available and thus could be adopted and implemented in sufficient time for the HG area to attain by 2007. Furthermore, the State has identified a range of emission reductions that potentially could be achieved by each of these advanced technologies and innovative strategies.

While at this time the State—in conjunction with EPA—is still working to assess the appropriate level of reductions that may be achieved by these technologies and strategies, EPA believes that the totality of the current information is sufficient to assure EPA that Texas can meet its commitment to adopt measures that will achieve the level of reductions necessary to meet the HG area's shortfall.

The third factor, EPA has considered in determining to approve limited commitments for the HG area attainment demonstration is whether the commitment is for a reasonable and appropriate period. EPA recognizes that both the Act and EPA have historically emphasized the need for submission of adopted control measures in order to ensure expeditious implementation and achievement of required emissions reductions. Thus, to the extent that other factors—such as the need to consider innovative control strategies—support the consideration of an enforceable commitment in place of adopted control measures, the commitment should provide for the adoption of the necessary control measures on an expeditious, yet practicable, schedule.

Texas is faced with exploring cutting-edge technology, as it has already required extremely stringent controls. Thus, in considering the appropriate amount of time for Texas to meet its commitment, EPA considered that Texas needs time to develop and assess the capabilities of these technologies in addition to the time it needs to adopt the measures that will achieve the needed level of emission reductions. Because some of the measures that Texas is considering are further along in the development process, Texas has committed to adopt measures to fill a portion of the shortfall in the near term and to adopt the remaining measures by an intermediate-term date. Thus, Texas has committed to adopt controls to achieve 25% of the needed emission reductions by December 2002 and to adopt controls to achieve the remaining level of reduction by May 1, 2004. EPA believes that this schedule is expeditious in light of the types of cutting-edge controls that Texas needs to evaluate, develop and then adopt in order to achieve the level of reductions needed in the HG area. In addition, EPA believes that these adoption dates will not impede Houston's ability to attain the 1-hour ozone standard by November 15, 2007 nor will it impede Houston's ability to meet the ROP requirement because the HG area can meet the ROP requirement with already adopted measures.

The enforceable commitments submitted for the HG nonattainment area, in conjunction with the other SIP measures and other sources of emissions reductions, constitute the required demonstration of attainment and the commitments will not interfere with the area's ability to make reasonable progress under section 182(c)(2)(B) and (d). EPA believes that the delay in submittal of the final rules is permissible under section 110(k)(3) because the State has obligated itself to submit the rules by specified short-term and intermediate-term dates, and that obligation is enforceable by EPA and the public. Moreover, as discussed in the proposal and TSD, the SIP submittal approved today contains major substantive components submitted as adopted regulations and enforceable orders.

EPA does not agree with the assertion that the HG area SIP does not meet the NRDC consent decree definition of a "full attainment demonstration." The consent decree defines a "full attainment demonstration" as a demonstration according to CAA section 182(c)(2). As a whole, the attainment demonstration—consisting of photochemical grid modeling, adopted control measures, an enforceable commitment with respect to a limited portion of the reductions necessary to attain, and other analyses and documentation—is approvable since it "provides for attainment of the ozone (NAAQS) by the applicable attainment date." See section 182(c)(2)(A).

Comment: The SIP includes explicit enforceable commitments to consider relaxing regulations on industrial point sources. EPA must reject any efforts to relax effective control measures on the books before the TNRCC eliminates the identified shortfall in emission reductions. Proposed changes to the plan would commit the TNRCC to consider steps that will unlawfully increase the gap between predicted emission reductions resulting from regulatory measures and the emission reduction goals established by the TNRCC. Further, it is unlawful for the SIP to contain a promise to relax NO_x point sources in exchange for implementation of measures to control upset emissions.

Response: The TNRCC has included in Chapter 7 of the SIP its commitment to developing an enforceable plan to reduce releases of reactive hydrocarbon emissions and emissions of chlorine. Recent findings from the Texas 2000 Air Quality Study indicate that highly reactive hydrocarbons and/or chlorine emissions may be primary causes of the rapid build-up of ozone in the HG area.

TNRCC goes on to say that to the extent that the science confirms the benefit from this program then it is the intent of the commission to implement such a program through a SIP revision which would also decrease NO_x reductions required from industrial sources down to 80% control. At this time, EPA is not acting on whether this potential, future SIP revision would be approvable. At this time, we are considering only the effective State rules before us that include 90% control on industrial source NO_x emissions. The State's commitment to consider alternative control strategies in the future has no bearing on this approval. The Supreme Court has consistently held that under the Act, initial and primary responsibility for deciding what emissions reductions will be required from which sources is left to the discretion of the States. *Whitman v. Am. Trucking Ass'ns*, 531 U.S. 457 (2001); *Train v. NRDC*, 421 U.S. 60 (1975). This discretion includes the continuing authority to revise choices about the mix of emission limitations. *Train* at 79. Therefore, EPA believes that it is appropriate and authorized under the Act for a State to continue to update its growth projections, inventories, modeling analyses, control strategies, etc., and submit these updates as a SIP revision based on newly available science and technology.

However, section 110(l) of the Act governs EPA's review of a SIP revision from a state that wishes to make changes to its approved SIP. This section provides that EPA may not approve a SIP revision if it will interfere with any applicable requirement concerning attainment and reasonable further progress or any other applicable requirement of the Act.¹³ Therefore, if we receive an attainment demonstration SIP revision from Texas that contains relaxed control measures or the replacement of existing control measures, we would consider the revised plan's prospects for meeting the current attainment requirements and other applicable requirements of the Act. See, the Act section 110(k)(3), *Union Electric v. EPA*, 427 U.S. 246 (1976) and *Train*, 421 U.S. at 79.

In summary, the State may choose to submit a SIP revision in 2002 or 2003 as it has suggested it may do. If we receive a SIP revision that meets our completeness criteria, we will review it

against the statutory requirements of section 110(l). Further, the Act requires us to publish a notice and to provide for public comment on our proposed decision. EPA believes that it is in the context of that future rulemaking, not EPA's current approval, that the commenter's concern regarding the appropriateness of any replacement measures adopted by the State should be considered.

Comment: The mid-course review process outlined by TNRCC is not a permissible substitute for a currently complete attainment demonstration or adopted enforceable control measures. The mid-course review will delay final approval of the SIP until 2004, 10 years after the SIP was required under the Act.

Response: The mid-course review is not intended as a replacement for a complete attainment demonstration or as a replacement for adopted control measures. As provided elsewhere in the responses to comments, EPA believes the State's commitment to adopt additional measures is appropriate. It is intended to reflect the reality that the modeling techniques and inputs are uncertain. Thus, the progress of implementing the plan should be evaluated so that adjustments can be made to ensure the plan is successful. EPA is fully approving the attainment demonstration based on the information currently available. The mid-course review allows the State and EPA an opportunity to consider additional information closer to the attainment date to assess whether adjustments are necessary.

In the case of Texas, the State has extensive plans to fully evaluate the inputs to the model and the modeling itself using the most up to date information possible. The State will also be evaluating several new control measures for inclusion in the SIP. We are fully supportive of this continued evaluation of the science supporting the plan to reach attainment.

Comment: TNRCC has failed to meet its commitment to provide a plan by July 8, 2001. The TNRCC has reneged on previous commitments to model attainment. These demonstrate reasons for our objection to EPA's reliance on commitments.

Response: We do not agree that TNRCC has reneged on previous commitments to model attainment. As discussed in the response to comments on modeling, using weight of evidence in conjunction with the model is an appropriate method of demonstrating attainment. Further, Texas has made every effort to adopt all of the necessary measures to demonstrate attainment.

Therefore, as discussed previously, EPA believes that it is acceptable to allow additional time for the development of new programs or measures for a small percentage of the needed reductions.

Comment: Texas provided a comment letter on EPA's December 1999 proposal. In this letter, Texas explained their plans to provide the following elements and enforceable commitments by April 2000: (1) A list of measures that could be used to achieve attainment (2) a commitment to provide a new mobile source emissions budget using MOBILE6 by May 2004, (3) a reenforcement of their previous commitment to adopt the majority of necessary rules for attainment by December 31, 2000, and to adopt the remainder if necessary by July 31, 2001, and (4) a commitment to perform a mid-course review.

Response: TNRCC adopted these elements in April 2000. We are now approving the commitments that are still relevant. (See the final action section).

Comment: One commenter suggested several specific language changes to the enforceable commitments in the Texas SIP.

Response: EPA and TNRCC met and agreed that some but not all of the language changes should be made. The section on changes from the proposal explain these changes. Other specific language changes proposed by the commenters are not necessary for approvable enforceable commitments.

5. Comments on Motor Vehicle Emissions Budgets

a. Comments on the July 12, 2001 Proposal

Comment: The commenters raised several questions concerning the Motor Vehicle Emissions Budgets (the budgets) established in the Houston attainment demonstration SIP. The commenters stated that the budgets submitted in the SIP should not be called adequate or be approved by the EPA because the attainment demonstration SIP does not provide for attainment. One commenter specifically pointed to the need for adopted and enforceable control measures.

Response: The rate-of-progress (ROP) budgets for the year of 2007 are 79.5 tpd and 156.7 tpd for VOC and NO_x, respectively. The commenters support these budgets. In addition, these budgets are identified as the budgets for the 2007 attainment demonstration SIP which are being approved by the EPA only until revised budgets pursuant to the State's commitments relating to MOBILE6 and shortfall measures are

¹³ The Supreme Court under the 1970 CAA, observed that EPA's judgment in determining the approval of a SIP revision is to "measure the existing level of pollution, compare it with the national standards, and determine the effect on this comparison of specified emission modifications." *Train* at 93.

submitted and we have found them adequate for transportation conformity purposes. Approval of the attainment budgets is based on the current control measures specified in the SIP and the enforceable commitments made for additional controls which will be implemented in the interim period. Because all measures which have not yet been adopted are included in written commitments in the SIP, EPA believes that it can find the budgets adequate. The EPA believes that consistency of the budgets related to the emissions inventory, and SIP control strategy are demonstrated and meet the requirements of 40 CFR 93.118(e). Therefore, the budgets for the attainment demonstration SIP are adequate for transportation conformity purposes. Also, it should be noted that the conformity rules allow emission reduction credit to be taken for purposes of conformity determinations for any measures that have been either adopted by the enforcing jurisdiction, included in the applicable implementation plan, contained in a written commitment in the submitted implementation plan, or promulgated by EPA as a federal measure. See 40 CFR 93.122(a)(3).

As described in the November 3, 1999 memorandum entitled "Guidance on Motor Vehicle Emissions Budgets in One-Hour Ozone Attainment Demonstrations," from Marylin Zaw-Mon, Office of Mobile Sources, to Air Division Directors, Regions I-VI, there are circumstances in which the EPA could find a SIP's motor vehicle emissions budgets adequate even though additional emission reductions are necessary in order to demonstrate attainment. Specifically, the EPA's position is that the motor vehicle emissions budgets could be adequate for conformity purposes if the State commits to adopt, for the area, measures that will achieve the necessary additional reductions, and the State identifies a menu of possible measures that could achieve the reductions without requiring additional limits on highway construction. The HG area's SIP contains such commitments and such a menu.

We believe that the budgets can be found adequate and approvable because the budgets will not interfere with the area's ability to adopt additional measures to attain the ozone standard and they are consistent with the attainment demonstration SIP. While the area is adopting its additional measures, the SIP's budgets will cap motor vehicle emissions and thereby ensure that the amount of additional reductions necessary to demonstrate attainment will not increase. The

budgets are consistent with and clearly related to the emissions inventory and the control measures and consistent with attainment. EPA disagrees that the SIP does not provide for attainment. For further explanation of how this attainment demonstration SIP as an overall plan provides for attainment please see other responses directly relating to the sufficiency of the overall attainment plan, control strategy, enforceable commitments, etc. contained in this final action.

Comment: The commenters asserted that further NO_x reductions needed for attainment will require additional on-road mobile source controls and these controls will result in a lower motor vehicle emissions budget. The commenters felt that the budgets established in the SIP are too high and the NO_x budgets should be reduced by 30 or more tpd.

Response: Agency policy for the areas needing additional emission reductions has provided that, in certain cases, EPA may determine the budget adequate even when the SIP includes commitments to additional measures. In a November 3, 1999, Memorandum entitled "Guidance on Motor Vehicle Emissions Budgets in One-Hour Ozone Attainment Demonstrations," EPA issued guidance regarding such commitments in the ozone attainment demonstrations for the HG area as well as other areas. We indicated that budgets could be based on potential control measures identified in the SIP that, when implemented, would be expected to achieve the emission reductions necessary for attainment of the standard and a commitment to adopt measures to achieve the reductions. These measures may not involve additional limits on highway construction beyond the restrictions already imposed under the submitted motor vehicle emissions budget. As long as the additional measures do not involve additional limits on highway construction, allowing new transportation investments consistent with the submitted budgets will not prevent the area from achieving the additional reductions that it needs for attainment. This allows the EPA to consider the budgets adequate for transportation conformity purposes. The HG area SIP contains such commitments and measures. The SIP demonstrates that the budgets will not interfere with the HG area's ability to adopt additional measures to attain.

The budgets established in the SIP are consistent with the process in 40 CFR 93.118(e), and the EPA does not consider them too high within the context of the ozone attainment

demonstration SIP as described above and further documented in the SIP and EPA's TSD. The budgets are consistent with and clearly related to the emissions inventory and the control measures and consistent with attainment. Our approval of the budgets is limited until revised budgets are submitted and we have found them adequate for transportation conformity purposes. Texas has committed to revise the budgets relating to MOBILE6 and the shortfall measures. While the list of potential measures does include measures that pertain to motor vehicles, none of the measures involves additional limits on highway construction; therefore, if lower budgets do result, the transportation investments will still be consistent with the budgets and will not prevent the HG area from achieving attainment.

Comment: The motor vehicle emissions budgets are inadequate because they do not provide for all reasonably available control measures to attain the standard as expeditiously as practicable.

Response: The motor vehicle emissions budgets are adequate. The SIP includes all necessary RACM and provides for expeditious attainment as explained further in the RACM section of this action.

b. Comments on July 28, 2001 Supplemental Notice

Comment: One commenter generally supports a policy of requiring motor vehicle emissions budgets to be recalculated when revised MOBILE models are released.

Response: The Phase II attainment demonstrations that rely on Tier 2 emission reduction credit contain commitments to revise the motor vehicle emissions budgets after MOBILE6 is released.

Comment: The revised budgets calculated using MOBILE6 will likely be submitted after the MOBILE5 budgets have already been approved. EPA's policy is that submitted SIPs may not replace approved SIPs.

Response: This is the reason that EPA proposed in its July 28, 2000 Supplemental Notice of Proposed Rulemaking (65 FR 46383) that the approval of the MOBILE5 budgets for conformity purposes would last only until MOBILE6 budgets had been submitted and found adequate. In this way, the MOBILE6 budgets can apply for conformity purposes as soon as they are found adequate.

Comment: If a State submits additional control measures that affect the motor vehicle emissions budgets but does not submit revised motor vehicle

emissions budgets, EPA should not approve the attainment demonstration.

Response: EPA agrees. The motor vehicle emissions budgets in the HG area attainment demonstration reflect the motor vehicle control measures in the attainment demonstration. In addition, Texas would be required to submit a new budget if any adopted measures would change the budget, and Texas has committed to submit a new budget if they adopt additional control measures that reduce on-road vehicle emissions.

Comment: EPA should make it clear that the motor vehicle emissions budgets to be used for conformity purposes will be determined from the total motor vehicle emissions reductions required in the SIP, even if the SIP does not explicitly quantify a revised motor vehicle emissions budget.

Response: EPA will not approve SIPs without motor vehicle emissions budgets that are explicitly quantified for conformity purposes. The HG attainment demonstration contains explicitly quantified motor vehicle emissions budgets which EPA has found adequate and approvable.

Comment: If a state fails to follow through on its commitment to submit the revised motor vehicle emissions budgets using MOBILE6, EPA could make a finding of failure to submit a portion of a SIP, which would trigger a sanctions clock under section 179.

Response: If a state fails to meet its commitment, EPA could make a finding of failure to implement the SIP, which would start a sanctions clock under section 179 of the Act.

Comment: If the budgets recalculated using MOBILE6 are larger than the MOBILE5 budgets, then attainment should be demonstrated again.

Response: As EPA proposed in its December 16, 1999 notices, we will work with States on a case-by-case basis if the new emissions estimates raise issues about the sufficiency of the attainment demonstration.

Comment: If the MOBILE6 budgets are smaller than the MOBILE5 budgets, the difference between the budgets should not be available for reallocation to other sources unless air quality data show that the area is attaining, and a revised attainment demonstration is submitted that demonstrates that the increased emissions are consistent with attainment and maintenance. Similarly, the MOBILE5 budgets should not be retained (while MOBILE6 is being used for conformity demonstrations) unless the above conditions are met.

Response: EPA agrees that if recalculation using MOBILE6 shows lower motor vehicle emissions than

MOBILE5, then these motor vehicle emission reductions cannot be reallocated to other sources or assigned to the motor vehicle emissions budget unless the area reassesses the analysis in its attainment demonstration and shows that it will still attain. In other words, the area must assess how its original attainment demonstration is impacted by using MOBILE6 vs. MOBILE5 before it reallocates any apparent motor vehicle emission reductions resulting from the use of MOBILE6. In addition, Texas will be submitting new budgets based on MOBILE6 so the MOBILE5 budgets will not be retained in the SIP indefinitely.

Comment: We received a comment on whether the grace period before MOBILE6 is required in conformity determinations will be consistent with the schedules for revising SIP motor vehicle emissions budgets ("budgets") within 1 or 2 years of MOBILE6's release.

Response: This comment is not germane to this rulemaking, since the MOBILE6 grace period for conformity determinations is not explicitly tied to EPA's SIP policy and approvals. However, EPA understands that a longer grace period would allow some areas to better transition to new MOBILE6 budgets. EPA is considering the maximum 2-year grace period allowed by the conformity rule, and EPA will address this in the future when the final MOBILE6 emissions model and policy guidance is released.

Comment: One commenter asked EPA to clarify in the final rule whether MOBILE6 will be required for conformity determinations once new MOBILE6 budgets are submitted and found adequate.

Response: This comment is not germane to this rulemaking. However, it is important to note that EPA intends to clarify its policy for implementing MOBILE6 in conformity determinations when the final MOBILE6 model is released. EPA believes that MOBILE6 should be used in conformity determinations once new MOBILE6 budgets are found adequate.

Comment: One commenter did not prefer the additional option for a second year before the state has to revise the conformity budgets with MOBILE6, since new conformity determinations and new transportation projects could be delayed in the second year.

Response: EPA proposed the additional option to provide further flexibility in managing MOBILE6 budget revisions. The supplemental proposal did not change the original option to revise budgets within one year of MOBILE6's release. State and local

governments can continue to use the 1-year option, if desired, or submit a new commitment consistent with the alternative 2-year option. EPA expects that state and local agencies have consulted on which option is appropriate and have considered the impact on future conformity determinations. Texas has committed to revise its budgets within 2 years of MOBILE6's release for the HG area. Texas has committed 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.

6. Comments on RACM

a. Comments on December 16, 1999 Proposal

Comment: Several commenters stated in response to the December 16, 1999 proposed approval/proposed disapprovals for the severe areas and certain serious areas that there is no evidence in several states that they have adopted reasonably available control measures (RACM) or that the SIPs have provided for attainment as expeditiously as practicable. Specifically, the lack of Transportation Control Measures (TCMs) was cited in several comments, but potential stationary source controls were also covered. One commenter stated that mobile source emission budgets in the plans are by definition inadequate because the SIPs do not demonstrate timely attainment or contain the emissions reductions required for all RACM. That commenter claims that EPA may not find adequate a motor vehicle emission budget (MVEB) that is derived from a SIP that is inadequate for the purpose for which it is submitted. The commenter alleges that none of the MVEBs submitted by the states that EPA is considering for adequacy is consistent with either the level of emissions achieved by implementation of all RACM nor are they derived from SIPs that provide for attainment. Some commenters stated that for measures that are not adopted into the SIP, the State must provide a justification why they were determined to not be RACM.

Response: The EPA reviewed the November 1999 submission for the HG area and determined that it did not include sufficient documentation concerning available RACM measures. For all of the severe areas for which EPA proposed approval in December 1999, EPA consequently issued policy guidance memorandum to have these

States address the RACM requirement through an additional SIP submittal. (Memorandum of December 14, 2000, from John S. Seitz, Director, Office of Air Quality Planning and Standards, re: "Additional Submission on RACM from States with Severe 1-hour Ozone Nonattainment Area SIPs.")

On May 30, 2001, TNRCC proposed a RACM analysis which we proposed to approve on July 13, 2001 through parallel processing. The State finalized its RACM analysis on September 26, 2001. The Governor submitted this final RACM analysis in a letter dated October 4, 2001. Based on this SIP supplement, EPA concluded that the SIP for the HG area meets the requirement for adopting RACM.

Section 172(c)(1) of the Act requires SIPs to contain RACM and provides for areas to attain as expeditiously as practicable. EPA has previously provided guidance interpreting the requirements of 172(c)(1). See 57 FR 13498, 13560 (April 16, 1992). In that guidance, EPA indicated its interpretation that potentially available measures that would not advance the attainment date for an area would not be considered RACM. EPA also indicated in that guidance that states should consider all potentially available measures to determine whether they were reasonably available for implementation in the area, and whether they would advance the attainment date. Further, states should indicate in their SIP submittals whether measures considered were reasonably available or not, and if measures are reasonably available they must be adopted as RACM. Finally, EPA indicated that states could reject measures as not being RACM because they would not advance the attainment date, would cause substantial widespread and long-term adverse impacts, would be economically or technologically infeasible, or would be unavailable based on local considerations, including costs. The EPA also issued a recent memorandum re-confirming the principles in the earlier guidance, entitled, "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. November 30, 1999. Web site: <http://www.epa.gov/ttn/oarpg/t1pgm.html>.

EPA evaluated the Texas RACM demonstration and performed an additional analysis of TCMs as described in the TSD for the July 12, 2001 proposed approval. Specific comments on the RACM demonstration

are addressed in later responses to comments.

Although EPA does not believe that section 172(c)(1) requires implementation of additional measures for the HG area, this conclusion is not necessarily valid for other areas. Thus, a determination of RACM is necessary on a case-by-case basis and will depend on the circumstances for the individual area.¹⁴ In addition, if in the future EPA moves forward to implement another ozone standard, this RACM analysis would not control what is RACM for these or any other areas for that other ozone standard.

Also, EPA has long advocated that States consider the kinds of control measures that the commenters have suggested, and EPA has indeed provided guidance on those measures. See, e.g., <http://www.epa.gov/otaq/transp.htm>. In order to demonstrate that they will attain the 1-hour ozone NAAQS as expeditiously as practicable, some areas may need to consider and adopt a number of measures-including the kind that Texas itself evaluated in its RACM analysis—that even collectively do not result in many emission reductions. Furthermore, EPA encourages areas to implement technically available and economically feasible measures to achieve emissions reductions in the short term—even if such measures do not advance the attainment date—since such measures will likely improve air quality. Also, over time, emission control measures that may not be RACM now for an area may ultimately become feasible for the same area due to advances in control technology or more cost-effective implementation techniques. Thus, areas should continue to assess the state of control technology as they make progress toward attainment and consider new control technologies that may in fact result in more expeditious improvement in air quality. The mid course review process outlined by Texas in Chapter 7 of the SIP contains the State's commitment to continue to evaluate new technologies as potentially RACM, for inclusion later in the plan. The TNRCC adopted an enforceable commitment to submit a revised SIP no later than May 1, 2004, addressing any new information including an "ongoing assessment of new technologies and innovative ideas to incorporate into the plan."

Because EPA is finding that the SIP meets the Clean Air Act's requirement

¹⁴ See, *Ober v. EPA*, 84 F.3d 304, 311 (9th cir. 1996) (citing the General Preamble, 57 Fed.Reg. at 13560 (April 16, 1992) which held that EPA did not abuse discretion when changing the interpretation of the RACM provisions of the Act.

for RACM and that there are no additional reasonably available control measures that can advance the attainment date, EPA concludes that the attainment date being approved is as expeditiously as practicable

EPA previously responded to comments concerning the adequacy of the MVEBs submitted with the November 1999 SIP submission when EPA took final action determining the budgets (associated with that 1999 plan) adequate and does not address those issues again here. The responses are found at <http://www.epa.gov/oms/transp/conform/pastsips.htm>. It should be noted, since that time, EPA has found the MVEBs in the November 1999 HG attainment demonstration SIP inadequate. (66 FR 35420, July 5, 2001) We are now approving and finding adequate through parallel processing the budgets finally submitted by Texas in a letter dated October 4, 2001. The section of this notice on MVEBs explains why the budgets are adequate and indicates that the budgets are consistent with the conclusion that the SIP contains all necessary RACM for expeditious attainment.

b. Comments on July 12, 2001 Proposal

Comment: EPA cannot invent rationales for the states: EPA concedes that Texas failed to adequately justify rejection of RACMs identified as measures to be considered in the future, or provides its own rationales for why Texas might have rejected other RACMs not included on the list to be considered in the future. The Act and EPA guidance require the State to perform the required RACM analysis. EPA's role is limited to reviewing what the states have submitted, and approving or disapproving it. 42 U.S.C. 7410(k)(3); *Riverside Cement Co. v. Thomas*, 843 F.2d 1246 (9th Cir. 1988). EPA "may either accept or reject what the state proposes; but EPA may not take a portion of what the state proposes and amend the proposal ad libitum." *Id.* If states are going to reject control measures, their decision to do so and the rationale therefore must be subject to notice and hearing at the state and local level. This comment is essentially the same as a comment provided on EPA's October 12, 2000 Notice of Availability proposing action regarding RACM for the three serious areas of Atlanta, Washington DC and Springfield, MA.

Response: In the case of the HG SIP, Texas has performed an analysis of whether all RACM were included in the SIP. Based upon its analysis, the State concluded that one additional measure not included in the December 2000 SIP

submission, control of small liquid fired engines, was reasonably available and therefore proposed and adopted a rule to control these sources. Otherwise, the State concluded all RACM were in place. The public did have a chance to comment at the State level on the State's conclusion that no additional RACM were required. The EPA believes that the State analysis was adequate. We reviewed the State's proposed analysis and discussed our evaluation of it in the TSD for our July 2001 proposed action on the State's RACM analysis. The EPA did not amend the SIP; EPA evaluated the State's analysis and for transportation control measures, supplemented the State's rationale with additional thoughts on why we believed the RACM analysis was adequate. We explain in the TSD why we agree with the State that no additional measures are RACM for the HG area and therefore the RACM requirement of the Act is met.

The commenter cites *Riverside Cement* for the proposition that EPA cannot perform an analysis of whether the State's plan complies with the Act's RACM requirement. The EPA believes that the holding of that case is inapplicable to these facts. In *Riverside Cement*, EPA approved a control requirement establishing an emission limit into the SIP and disregarded a contemporaneously-submitted contingency that would allow the State to modify the emission limit. Thus, the court concluded that EPA "amended" the State proposal by approving into the SIP something different than what the State had intended. 843 F.2d at 1248. In the present circumstances, EPA did not attempt to modify a substantive control requirement of the submitted plan. Rather, EPA evaluated the State's analysis plus performed additional analysis to determine if the plan, as submitted, fulfilled the substantive RACM requirement of the Act. As a general matter, EPA believes that States should perform their own analyses of RACM (as well as submitting other supporting documents for the choices they make), which is what Texas did in this instance for the Houston area. The statute places primary responsibility on the States to submit plans that meet the Act's requirements. However, nothing in the Act precludes EPA from performing those analyses, and the Act clearly provides that EPA must determine whether the State's submission meets the Act's requirements. Under that authority, EPA believes that it is appropriate, though not mandated, that EPA perform independent analyses to evaluate whether a submission meets

the requirements of the Act if EPA believes such analysis is necessary. The EPA has not attempted to modify the State's submission by either adding or deleting a substantive element of the submitted plan. By virtue of the State's analysis and EPA's evaluation of it, and EPA's supplemental RACM analysis for transportation control measures, EPA has concluded that the State's submission contains control measures sufficient to meet the RACM requirement.

Comment: Inappropriate grounds for rejecting RACM. The commenter claims that EPA's bases for rejecting measures as RACM are inappropriate considerations: (a) The measures are "likely to require an intensive and costly effort for numerous small area sources"; or (b) the measures "do not advance the attainment dates" for the areas. 65 FR 61134. Neither of these grounds are legally or rationally sufficient bases for rejecting control measures. This comment is essentially the same as a comment provided on EPA's October 12, 2000 Notice of Availability proposing EPA's RACM action for the three areas of Atlanta, Washington D.C. and Springfield, MA.

Response: The EPA's approach toward the RACM requirement is grounded in the language of the Act. Section 172(c)(1) states that a SIP for a nonattainment area must meet the following requirement, "In general.—Such plan provisions shall provide for the implementation of all reasonably available control measures as expeditiously as practicable (including such reductions in emissions from existing sources in the area as may be obtained through the adoption, at a minimum, of reasonably available control technology) and shall provide for attainment of the national primary ambient air quality standards." [Emphasis added.] The EPA interprets this language as tying the RACM requirement to the requirement for attainment of the national primary ambient air quality standard. The Act provides that the attainment date shall be "as expeditiously as practicable but no later than * * *" the deadlines specified in the Act. EPA believes that the use of the same terminology in conjunction with the RACM requirement serves the purpose of specifying RACM as the way of expediting attainment of the NAAQS in advance of the deadline specified in the Act. As stated in the "General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990 (General Preamble)" (57 FR 13498 at 13560, April 16, 1992), "The EPA interprets this requirement to impose a

duty on all nonattainment areas to consider all available control measures and to adopt and implement such measures as are reasonably available for implementation in the area as components of the area's attainment demonstration." [Emphasis added.] In other words, because of the construction of the RACM language in the Act, EPA does not view the RACM requirement as separate from the attainment demonstration requirement. Therefore, EPA believes that the Act supports its interpretation that measures may be determined to not be RACM if they do not advance the attainment date. In addition, EPA believes that it would be unreasonable to require implementation of measures that would not in fact advance attainment. See 57 FR 13560. EPA has consistently interpreted the Act as requiring only such RACM as will provide for expeditious attainment since the agency first addressed the issue in guidance issued in 1979. See 44 FR 20372, 20375 (April 4, 1979).

The term "reasonably available control measure" is not actually defined in the definitions in the Act. Therefore, the EPA interpretation that potential measures may be determined not to be RACM if they require an intensive and costly effort for numerous small area sources is based on the common sense meaning of the phrase, "reasonably available." A measure that is reasonably available is one that is technologically and economically feasible and that can be readily implemented. Ready implementation also includes consideration of whether emissions from small sources are relatively small and whether the administrative burden, to the States and regulated entities, of controlling such sources was likely to be considerable. As stated in the General Preamble, EPA believes that States can reject potential measures based on local conditions including cost (57 FR 13561). See *Ober v. EPA*, 84 F3d at 312 (9th Circuit 1996).

Also, the development of rules for a large number of very different source categories of small sources for which little control information may exist will likely take much longer than development of rules for source categories for which control information exists or that comprise a smaller number of larger sources. The longer time frame for development of rules by the State would decrease the possibility that the emission reductions from the rules would advance the attainment date. Texas has determined and we agree that such additional measures in the HG area could not be developed soon enough to advance the attainment date.

Comment: Failure to quantify reductions needed to attain sooner:

Even if advancement of the attainment date were a relevant test for RACM, EPA has failed to rationally justify its claim that additional control measures would not meet that test. To begin with, neither the Agency nor the states have quantified in a manner consistent with EPA rules and guidance the emission reductions that would be needed to attain the standard prior to achievement of emission reductions required under the NO_x SIP call. Nowhere is there an analysis that shows what it would take to attain in 2004, 2005, 2006 or 2007. This comment generally repeats a comment provided on EPA's October 12, 2000 Notice of Availability proposing EPA's RACM action for the three areas of Atlanta, Washington DC and Springfield, MA.

Response: First, note that while the commenter makes reference to the NO_x SIP call, Texas is not included in the mandatory NO_x SIP call. However, it should also be noted that even though Texas was not included, Texas adopted control measures for regional NO_x emissions reductions (including in attainment areas) as part of the HG attainment demonstration SIP, in a manner similar to those undertaken by the states included in the NO_x SIP call. These regional reductions will occur by May 2003 in Texas. In *Michigan v. EPA*, 200 WL 1341477 (D.C. Cir. 2000) (order denying motion to stay mandate pending appeal from 213 F.3d 663(D.C. Cir. 2000)) the court held the NO_x control measures could not be required by EPA until May 31, 2004 in order to allow sources in subject States 1309 days from the date of the court order to implement the measures as provided in the original rule. These regional measures in Texas are thus being implemented on a more expeditious schedule and as expeditiously as is practicable.

Further, it would be futile for TNRCC to attempt to quantify the emission reductions that could be possible for the HG area to attain prior to the 2007 deadline. With all of the adopted control measures, and with the enforceable commitments to achieve the additional 56 tons/day of NO_x emission reductions needed for attainment, plus the necessary reliance upon Federal measures, including the amount of cleaner on and off-road vehicles that will enter the fleet, there are simply no additional measures that EPA is aware of that are reasonably available or economically feasible that could be implemented, much less implemented in time, to achieve attainment in

advance of when the measures are being implemented in this plan.

The following respond to the issue of whether additional specific potentially available measures are RACM for the HG area.

Comment: Inadequate RACM analysis: EPA's RACM analysis is grossly inadequate in several key respects.

Comment a: EPA's analysis fails to provide the technical basis and calculations by which it developed its emission reduction estimates for various measures. EPA failed to provide citations to the literature regarding estimates of emission reductions for various TCMs. EPA failed to specify the level of implementation assumed for some of the TCMs in the analysis.

Response a: First, note that EPA's analysis contained in the TSD was intended to evaluate and in one instance supplement the TNRCC analysis and conclusion that all RACM had been adopted. We evaluated the TNRCC's technical basis and calculations for the emission reduction estimates for controls possible for all of the source categories in the emission inventory. Regarding the TCM category, we provided additional technical analysis and calculations. The commenter apparently believes EPA's analysis of potential TCMs as not being RACM for the HG area is insufficient, however. EPA's technical basis for the supplemental TCM RACM analysis and the assumptions used in the calculation of estimated emission reductions from additional potential TCMs were derived from a review of the literature on the implementation and effectiveness of TCM's.¹⁵ The TCMs evaluated depend on the level of implementation. Implementation variables, representing levels of implementation effort, are implicit in the range of effectiveness for each category of TCM. EPA does not believe it is necessary, or even practically possible, to evaluate every explicit variation of TCM's in order to adequately determine if it is reasonably available. In summary, the technical basis is provided in Appendix B to the TSD and Chapter 7 of TNRCC's SIP. In conclusion, we determined that at a reasonable level of implementation, all potential categories of TCMs taken together would not be sufficient to advance the attainment date.

Comment b: EPA's analysis looks at only a small universe of potential

measures, and does not evaluate all of the measures identified in public comment and other sources. Several commenters suggested that a variety of measures were Reasonably Available and should be included in the SIP.

Response b: It is EPA's position that the TNRCC's RACM analysis identified and addressed all potential categories of stationary and mobile sources in the HG area, that could provide additional emission reductions, and measures that might be considered RACM. The EPA believes not only that Texas identified and addressed all the potential source categories but that it also addressed identified measures raised by commenters. The TNRCC considered a wide range of potential measures, including all measures adopted in other severe and serious areas and the California South Coast's extreme attainment demonstration SIP.

The following addresses specific measures that were suggested by commenters.

VOC Control Measures

Comment: An adequate plan would emphasize reductions in all precursors not just one.

Response: The two primary precursors to ozone are Volatile Organic Compounds (VOCs) and Oxides of Nitrogen (NO_x). These classes of chemicals react in the atmosphere in the presence of sunlight to form ozone. Under 182(c)(2), States must base their attainment demonstration on photochemical modeling or any other analytical method determined by EPA to be at least as effective. Modeling is generally regarded as the most reliable basis for ascertaining which precursors should be emphasized for control in order to obtain a reduction in ozone concentration levels. In the HG area, the photochemical modeling indicates that NO_x emission reductions are much more effective in reducing ozone and thus, NO_x emission reductions have appropriately been the emphasis in the plan's control strategy. As discussed further in the next comment/response, EPA agrees that no additional VOC measures would advance the attainment date.

Future studies may revise the emphasis of the control strategy. EPA is aware that some of the preliminary results of the Texas Air Quality Study 2000 indicate that reactive VOC's may need to be considered for additional control. Further, there is no clear evidence, at this time, that indicates that the control of other pollutants, such as particulate matter, would help in reducing the ozone concentration levels in the HG area.

¹⁵ Transportation Control Measures: State Implementation Plan Guidance, US EPA 1992; Transportation Control Measure Information Documents, US EPA 1992; Costs and Effectiveness of Transportation Control Measures: A Review and Analysis of the Literature, National Association of Regional Councils 1994.

Comment: A commenter stated that TNRCC has not developed adequate VOC controls. The document presents evidence that categories of emissions representing the "vast majority" of point source emissions are regulated but does not determine whether in fact the facilities are regulated. The commenter felt the proper analysis would present an inventory of controlled emissions and compare it with total emissions.

Response: EPA believes the analysis in Chapter 7 of the SIP and in the TSD does demonstrate further VOC controls are not required as RACM based on the information currently available. This conclusion is based on three factors. First, EPA believes Texas has regulated all major sources of VOCs in the HG area to at least a RACT level. We took action on these RACT rules in separate **Federal Register** actions. We found that the State had implemented RACT on all major sources in the HG area except those that were to be covered by post-enactment Control Technique Guidelines (CTGs) (60 FR 12437, March 7, 1995). Since that time many expected CTGs were issued as Alternative Control Technique documents—ACTs. Of the expected CTGs and ACT's, the HG area had major sources in the following categories; batch processing, industrial wastewater, reactors and distillation, and wood furniture. We have approved measures for all of these categories as meeting RACT.

Batch Processing—July 16, 2001 66 FR 36913

Industrial Wastewater—December 10, 2000 65 FR 79745

Reactors and Distillation—January 26, 1999, 64 FR 3841

Wood Furniture—October 30, 1996, 61 FR 55894

Further, EPA agrees with the conclusion drawn by Texas in its RACM analysis that the majority of VOC point source emissions (whether emitted from major sources or minors) are already regulated by the rules contained in Chapter 115 of the State Implementation Plan. The State's VOC rules go beyond RACT level controls for some categories such as fugitive emissions and gasoline loading emissions. EPA has approved Chapter 115 as meeting the RACT requirements.

Second, because of the particular chemistry in the HG area VOC controls are not nearly as effective as NO_x controls in reducing ozone. TNRCC has demonstrated through modeling that 12–15 tons/day of VOC emission reductions are needed to achieve the same ozone benefit as one ton/day of NO_x emission reductions as shown in Chapter 7 of the October 2001 SIP

revision. Thus, the particular chemistry in the HG area makes additional ozone benefits very difficult to achieve through VOC reductions. In fact, modeling indicates that if all man made VOC's were reduced to zero, the area would not reach attainment.

Third, Texas analyzed the controlled VOC inventory to determine if any source categories remained where additional VOC controls could be implemented that could advance the attainment date in light of the modeling evidence. As discussed previously, EPA does not believe that section 172(c)(1) requires implementation of potential RACM measures that will not be sufficient to allow the area to achieve attainment in advance of full implementation of all other required measures, in this case, full implementation of the NO_x controls called for in the plan including the 56 tons/day NO_x reductions called for by the enforceable commitments. In the TNRCC analysis, a VOC source category had to have at least 12–15 tons per day of emissions to warrant further analysis. This level was chosen because it might be theoretically possible to reduce these categories enough to achieve as much as the equivalent of one ton/day of NO_x reduction. Given that the final 121 tons/day of point source reductions, out of a total of almost 600 ton/day of emission reductions, will not be implemented until spring 2007 emission reductions from measures that achieve less than the equivalent one ton/day of NO_x reductions even if combined with several measures of similar magnitude cannot advance the attainment date. The TNRCC presents in the SIP Narrative, Chapter 7, a summary of the inventory that reflects the controlled level of emissions. Based on the above screening level one category, storage tanks, was examined for additional control. Based on controls in the Alternative Technique Guideline, only 2.2 tpd of additional reduction in VOC could be achieved which is far less than the equivalent of one ton/day of NO_x reduction and therefore would not advance attainment.

Texas also reviewed all VOC area source (as opposed to points source) categories to see if any categories were emitting greater than 11 tons/day in emissions. While some area source categories emitted more than 11 tons/day, these categories already are subject to rules. TNRCC did not believe additional controls on already regulated categories would be reasonable in light of the amount of VOC reductions needed to achieve ozone benefits.

In summary, the modeling indicates that it takes substantial VOC emission

reductions to achieve ozone reductions in the HG area. Already all major sources of VOC's in HG have RACT in place. Emission reductions beyond RACT on major VOC sources may be achievable but could not achieve sufficient ozone benefit for the HG area to achieve attainment in advance of the measures in the SIP we are approving today. Significant area source categories are also regulated. Therefore, no emission reduction measures were identified that would achieve attainment in advance of the measures contained in the plan.

Comment: For States that need additional VOC reductions, this commenter recommends a process to achieve these VOC emission reductions, which involves the use of HFC–152a (1,1 difluoroethane) as the blowing agent in manufacturing of polystyrene foam products such as food trays and egg cartons. HFC–152a could be used instead of hydrocarbons, a known pollutant, as a blowing agent. Use of HFC–152a, which is classified as VOC exempt, would eliminate nationwide the entire 25,000 tons/year of VOC emissions from this industry.

Response: This comment was not provided to TNRCC. EPA has met with the commenter and has discussed the technology described by the company to reduce VOC emissions from polystyrene foam blowing through the use of HFC–152a (1,1 difluoroethane), which is a VOC exempt compound, as a blowing agent. Since the HFC–152a is VOC exempt, its use would give a VOC reduction compared to the use of VOCs such as pentane or butane as a blowing agent. However, EPA has not studied this technology exhaustively. It is each State's prerogative to specify which measures it will adopt in order to achieve the additional VOC reductions it needs. In evaluating the use of HFC–152a, States may want to consider claims that products made with this blowing agent are comparable in quality to products made with other blowing agents. Also the question of the over-all long term environmental effect of encouraging emissions of fluorine compounds would be relevant to consider. This is a technology which States may want to consider, but ultimately, the decision of whether to require this particular technology to achieve the necessary VOC emissions reductions must be made by each affected State. Finally, EPA notes that under the significant new alternatives policy (SNAP) program, created under CAA § 612, EPA has identified acceptable foam blowing agents many of which are not VOCs (<http://www.epa.gov/ozone/title6/snap/>).

In the case of the HG area, the analysis in chapter 7 did not show this category of emissions as one with more than 11 tons/day of emissions so, as discussed in a previous comment, there cannot possibly be enough emission reductions from this category to achieve sufficient ozone benefit for the HG area to reach attainment in advance of the full implementation of the measures in this SIP.

Comment: Two commenters suggested that a portable gasoline container buy back program should be adopted in the HG area to introduce gasoline containers meeting the California Air Resources Board (CARB) standards to the HG area. It was estimated based on CARB experience that controls on containers would be able to achieve 23 tpd of VOC reductions in the HG area.

Response: This measure was suggested to TNRCC as a replacement to their Commercial Lawn Service operating restrictions. TNRCC evaluated the measure and decided the measure would not achieve equivalent reductions to the operating restrictions.

EPA is aware that CARB has projected significant emission reductions from this measure. This is based on their studies of the emissions from evaporation and spillage from gasoline containers in California. TNRCC in their RACM analysis of the HG emission inventory, however, did not identify this source category, i.e., gasoline containers, as having the same level of emissions and therefore the potential to achieve the same level of emission reductions as was found in California. TNRCC used EPA approved methodology to develop its inventory. EPA concludes, based on the record supporting the State's RACM analysis, that Texas used appropriate assumptions for determining emission reductions from this measure. Based on the emission estimates contained in the approved inventory, EPA agrees with Texas that this measure cannot be considered RACM at this time because the measures cannot achieve sufficient ozone benefit for the HG area to achieve attainment in advance of the full implementation of the measures in the SIP we are approving today. Future study of this portion of the inventory utilizing information developed by CARB may indicate that more emissions arise from this category in the HG area and this measure may have to be revisited.

Comment: One commenter pointed to the results of the Channelview Source Reduction Project as evidence that significant levels of VOC emission reductions can be achieved. The Channelview Project resulted in the

following improvements: Additional gas flow meters, reduced flaring of off-spec product, elimination of flaring of extra-contract product, improved flare systems, and prevention of unnecessary shutdowns.

Response: The November 14, 2000 "Source Reduction Project, Report on Phase I" documents the cooperative effort between the Community Advisory Panel and Lyondell and Equistar (CAPLE) to reduce air emissions at these companies. It documents several improvements and significant emission reductions that have been made at these plants through focusing on source reduction. It is not clear from the report, however, whether or not the measures instituted by these companies have general applicability within the chemical industry. The measures taken by these companies to reduce emissions have promise as measures that can achieve emission reductions throughout the HG area but it will take further study by us and the State to determine if they can be applied to other facilities, are technically and economically feasible and achieve reductions that could advance attainment, and thus can be considered potential RACM for the HG area. Therefore, at this time, EPA cannot find these measures feasible. EPA agrees with Texas that this type of project cannot currently be considered RACM.

Comment: One commenter suggested that the State should reduce fugitive VOC emissions by 90%.

Response: The commenter did not suggest how the 90% emission reduction from fugitive VOC emissions could be achieved. EPA is not aware of any technology or programs that have been demonstrated to achieve this level of reductions. TNRCC already has in place a leak detection and repair requirement that goes beyond the levels in EPA's control technique guidelines to control refinery and chemical plant fugitive emissions. EPA has approved this requirement for fugitive emissions as meeting the RACT requirement for the HG area. Based on the above, EPA concludes that this measure is not technically feasible at this time.

Upset Emissions

Comment: TNRCC has failed to adopt reasonably available control measures for controlling upset emissions because the TNRCC rules fail to meet at a minimum EPA guidance for upset emissions. The rule violates the requirements regarding creating an affirmative defense because (1) it is a blanket exemption, (2) it covers sources whose individual contributions of pollutants have the potential to cause an exceedance, (3) it covers both penalties

and injunctive relief, and (4) it could be interpreted as barring citizen and/or EPA enforcement action.

Response: On November 28, 2000, EPA issued a direct final approval of a revision to the Texas SIP addressing excess emissions from start-up, shutdown, malfunction and maintenance. 65 FR 70792. In that notice, EPA explained that it determined that the rule was consistent with the EPA guidance referenced by the commenter, "State Implementation Plans: Policy Regarding Excess Emissions During Malfunctions, Startup and Shutdown," September 20, 1999. This determination included EPA's conclusion that the Texas rule does not provide an exemption from compliance for periods of excess emissions. No adverse comments were received and EPA's approval became effective on January 29, 2001. Through the proposed actions on which EPA is taking today, EPA is not re-opening its past approval of SIP requirements. Thus, the commenters attempt to now raise issues about whether EPA's approval of that rule was appropriate are untimely.

Point Source NO_x Controls

Comment: The Phase II NO_x limits agreed to by OTC States are clearly RACM for all areas, as they are widely in effect. States that have not adopted such measures have not adopted enforceable NO_x RACT limits for all relevant facilities. It is not sufficient for States to assert that they will adopt additional NO_x controls if needed.

Response: That the OTC states have implemented the OTC Phase II NO_x limits does not automatically prove that these limits are RACM for all areas. EPA concedes that the wide-spread adoption of such programs and EPA's own analysis of NO_x control on large stationary sources would warrant consideration whether such limits meet the technological and economical feasibility criteria of RACM and would advance attainment. However, such an analysis is not relevant in the case of the HG ozone nonattainment area. Texas has already adopted programs for the HG area to implement limits that are more stringent than the OTC Phase II limits.

Comment: A commenter suggested energy efficiency improvements are not just for residential and commercial buildings and suggested savings could be achieved by more efficient motor and drive systems.

Response: We agree that improved energy efficiency is a desirable method of reducing air emissions. There are difficulties in including such measures in a SIP because it is not always clear

where the benefits of the reduced electrical demand will occur. The reduced demand could result in emission reductions outside the HG area. There are initiatives in Texas to reduce growth in demand in Texas such as the State wide building codes established by Senate Bill 5. The State of Texas has committed to further examine the benefits and methods of improving energy efficiency for possible inclusion in the SIP at the mid-course review. EPA concludes that there is not enough information at this time to determine the appropriate emission benefits and therefore energy efficiency cannot currently be considered RACM.

Comment: Just as Integrated Resource Planning (IRP) for electric utilities resulted in demand side management programs that conserved electricity, IRP for natural gas utilities will have the same impact on conserving natural gas usage and resulting emissions. A number of states have effectively implemented IRP for natural gas.

Response: As noted above, EPA agrees that improved energy conservation—regardless of the form of energy—is a desirable method of reducing air emissions. Since such measures would likely have to rely on voluntary efforts, the State would have to estimate the effect on emission reductions that would result. Putting in place even a voluntary effort to conserve natural gas that could be quantified in terms of its emission reduction benefits would likely require a significant amount of time. EPA is aware that the State had devoted a tremendous amount of resources in developing and adopting the number of control measures that it did for the HG area's one-hour ozone SIP, and even with that had to commit to fill a shortfall of 56 tons/day of NO_x reductions. EPA believes it is unlikely—given the time spent on the bulk of the SIP—that the State had the time to develop such a quantifiable voluntary program that would have yielded enough NO_x reductions to advance the attainment date. Furthermore, it appears unlikely that such a quantifiable program could be put into place in sufficient time to advance the attainment date given the resources that the State will have to spend over the next several years simply developing and adopting the emission controls to achieve the 56 tons/day NO_x emission reductions. Therefore, EPA believes that this measure is not RACM, at this time, for the HG area.

Comment: Stringent Standards for Stationary Diesel Engines: The TNRCC should establish the same requirements for new and existing stationary diesel engines in the HG area that are not used

exclusively during infrequent emergency or backup situations.

Response: The State received a similar comment. In their response they explained that based on information in the emissions inventory and contact with diesel engine vendors and others familiar with the stationary diesel engines in the HG area, the State is unaware of any existing stationary diesel engines that are being operated in situations other than generation of electricity in emergency situations or operation for maintenance and testing. The Chapter 117 rule requires that all testing and maintenance be done outside the hours of 6 am to 12 am. As discussed in the comments on the modeling inputs, emissions in the morning are the most conducive to ozone formation. Emissions outside this period are much less conducive to ozone formation. Therefore, the rules for maintenance represent RACM for the HG area.

TNRCC believes and EPA agrees that few existing engines will be moved from emergency service to routine or peak shaving operations for the following reasons. Any existing engines at a site with a collective design capacity to emit (from units with chapter 117 emission limits) greater than ten tpy of NO_x are subject to the Chapter 101 mass emissions cap and trade program if they choose to increase their operation to 100 hours per year or more (based on a rolling 12-month average) and, in addition to having to comply with the Chapter 117 rules, will only be issued NO_x emissions allocations based on their historical activity level which would be much lower than 100 hrs/year. Existing engines theoretically could be switched to peak shaving service up to 100 hours/year but in reality only about 40 hours/year would be available for this type of operation. The remaining time would have to be used for normal routine testing of the engines. It is unlikely that the profit from sale of electricity, would justify the cost of the modifications to the switching system for only about 40 hours of operation. EPA concludes that additional control beyond the existing program is not economically feasible and therefore would not represent RACM.

On-Road Control Measures

Comment: Two commenters suggested that 15 ppm sulfur gasoline should be adopted in the HG area as a reasonably available control measure.

Response: The Act preempts states from establishing state fuels under section 211(c)(4)(A). Waivers from preemption are possible under section 211(c)(4)(C) if the state can show

necessity for that fuel to meet the NAAQS, and if no other reasonable or practicable non-fuel measures exist that could be implemented in place of a state fuel. For a state to obtain a waiver of preemption, an acceptable demonstration must be submitted to EPA that can justify the need for a particular state fuel. This provision of the Act was included to discourage the development of a patchwork of fuel requirements from State to State.

Texas considered adopting a 15 ppm sulfur standard in gasoline, but withdrew the proposal once the 30 ppm Federal low sulfur gasoline standard became final. They received comments both for and against the proposal. Comments against cited excessive costs when compared with the emissions benefit, the difficulties in producing a boutique fuel, and anticipated distribution problems and conflicts with on-going efforts to comply with the federal low-sulfur requirements of 30 ppm. Texas only projected a 1.15 ton/day of emission reduction from the institution of a 15 ppm fuel. The BCCA estimates that the cost of these reductions is \$400,000/ton to refiners. Based on TNRCC cost estimates, the cost is over \$500,000/ton to consumers.

Because of the general preemption in the Act and the low projected cost effectiveness, EPA does not consider this fuel requirement to be RACM for the HG area.

Comment: One commenter suggested that Texas adopt diesel fuel that meets a 15 ppm sulfur standard by 2003.

Response: Texas adopted a low emission diesel fuel in December 2000, that includes a low sulfur component. The state's low sulfur component phases in beginning May 1, 2002, with 500 ppm sulfur statewide for on-highway use and 110 counties in east and central Texas for non-road use. On June 1, 2006, the sulfur level drops to 15 ppm in east and central Texas for off-highway use to be consistent with Federal low sulfur diesel fuel for on-highway use. Thus, TNRCC has already adopted a standard more stringent than the Federal Standards.

In order for Texas to adopt statewide fuel controls that are more stringent than Federal controls, the state must show necessity to achieve the NAAQS in the nonattainment areas and justify implementing a fuel measure over nonfuel measures statewide. Texas has requested and EPA is granting in a separate **Federal Register** a waiver under 211(c)(4)(A) for this fuel. EPA does not believe the accelerated schedule of implementing the low sulfur standard suggested by the commenter is reasonable or will result

in ozone benefits because the low sulfur requirement does not result in NO_x emission reductions by itself but instead enables catalyst technologies. Under Federal regulations, new vehicles will not be required to meet the new emission standard enabled by low sulfur diesel until 2007. Therefore, EPA does not consider calling for these fuel requirements earlier as suggested by the commenter to be RACM.

Comment: Two commenters gave comments that the Inspection and Maintenance Program could be improved. One said that adequate resources to develop and implement an I/M program must be assigned; otherwise, the program cannot be considered credible. A second commenter stated that the program should be established based on where the vehicle owner usually works.

Response: EPA has reviewed the I/M program developed by the State of Texas. In a separate **Federal Register** notice, we are approving the State's I/M program. The new program, using the Accelerated Simulation Mode (ASM) test method will be implemented in all eight counties of the HG nonattainment area and covers more vehicles than are required by the Federal I/M rules. Expanding the program to cover vehicles not registered in the program area is beyond the scope of the Federal rules and would be extremely difficult to implement and enforce. Further, the prior, less stringent program met the minimum I/M requirement for the HG area. The new program goes beyond those requirements. As such, we believe TNRCC has adopted an I/M program that meets the RACM requirement. We agree that adequate resources will have to be devoted to the implementation of this program by the Texas Department of Public Safety and TNRCC for the goals of the program to be achieved. At this time, we have no information to support a determination that the program will not be fully implemented.

Comment: One commenter suggested that public and large commercial fleets be required to have low emitting vehicles.

Response: Texas adopted Fleet provisions and submitted them to EPA on August 27, 1998 as the Texas Clean Fuel Fleet (CFF) substitute plan. EPA approved this provision on February 7, 2001 (66 FR 9203) as meeting the Clean Fuel Fleet Requirements of the Act. These provisions ensure that fleets meet a reasonable level of control in serious and above nonattainment areas. Texas' CFF substitute plan relies on a State fleet program—the Texas Clean Fleet (TCF) program—supplemented with additional volatile organic compound

(VOC) and nitrogen oxide (NO_x) emission controls. The emission reductions for Texas' plan greatly exceed the reductions that would have been achieved with the Federal CFF program. Therefore, the State's substitute plan will meet the Federal CFF requirement for VOC and NO_x emissions reductions. EPA believes that TNRCC has instituted RACM for this source category.

Comment: One commenter suggested that the State should encourage the early introduction of Tier 2 vehicles.

Response: In the last session, the Texas legislature passed Senate Bill 5 which includes an incentive program for the purchase of vehicles that meet the more stringent Tier II vehicle standards. This program should result in more cleaner vehicles coming into use in Texas than would be required under the Federal Program. It is uncertain, however, how much additional emission reduction will come from this program as it apparently is the first of its kind in the country. Therefore, EPA concludes that further acceleration of this program would not constitute RACM for the HG area.

Comment: A commenter suggested that non-USA registered trucks should be subject to an I/M inspection.

Response: It is not clear whether the State has the legal authority to require trucks from a foreign country to be inspected. As a practical matter, there are no proven test methods to employ for Diesel I/M programs. Therefore, this cannot be considered a reasonably available measure.

Comment: One commenter felt all highway construction in HG area should be limited. The HG area must absorb ongoing expansions at the airports, medical center plus population and job growth. There is no room for the above ongoing new emissions generating projects let alone any new large emissions generating projects. The same commenter later said that the Transportation Improvement Plan and other proposed changes to Regional Highway system must demonstrate full conformity with the Act.

Response: EPA agrees that the Regional Transportation Plans must demonstrate conformance to the State Implementation Plan consistent with section 176(c) of the Act and our transportation conformity rules at 40 CFR 93.100; however, these are separate requirements from demonstrating attainment of the NAAQs.

Transportation conformity is the process whereby the transportation plans have to be reconciled with and show they are consistent with the plans for attainment. In this SIP, the State has established an

emissions budget for motor vehicle emissions consistent with attainment. The Houston/Galveston Area Council will have to show for all future plans, taking into account existing roads and future growth how they will conform to these budgets. Given the severe impact a ban on road construction would place on the HG area, EPA concludes that this is not a reasonably available measure.

Comment: One commenter suggested the State institute an auto license fee tied to actual vehicle NO_x emission rates.

Response: EPA is not aware of anywhere where this measure has been instituted. It is not clear how much emission reductions could be achieved and at what fee levels. Because of the lack of localized information on the costs and benefits of this program this cannot be considered a RACM.

Texas is already instituting a program to provide rebates for the purchase of vehicles meeting the cleanest Tier II standards. This program should influence positively the introduction of cleaner vehicles into the fleet.

Off Road Measures

Comment: Three commenters recommended measures they felt were appropriate to control emissions from construction equipment. One commenter felt that all diesel equipment should be required to register. He felt this would result in a 70% reduction in emissions. Two other commenters felt that all State and Local Government contracts should have requirements that require lower emission equipment be used.

Response: The Texas legislature has passed an incentive program that will pay for the cost of upgrading diesel equipment to meet cleaner standards. Texas plans to direct 24.7 million dollars/year to the HG area from the Texas Emission Reduction Program passed under Senate Bill 5. Based on experience from similar programs in California, we expect substantial reductions to be achieved. We therefore believe that additional measures to reduce emissions from this category are not RACM.

Comment: One commenter suggested the following measures to achieve additional emission reductions from aircraft operations: (1) Mandatory Powering of Jets at gates with Electric Power (2) Reduced Idling on the runway (3) Congestion Pricing at Rush Hours at Airports.

Response: First, the State has executed agreed Orders with the major airlines and the City of Houston to achieve emission reductions from Ground Support Equipment (GSE) at

airports in the HGA area. These Orders require a phased-in replacement of current combustion engine equipment with electric equipment or to achieve equivalent reductions. Equipment powering jets at gates is included in the definition of GSE; thus, over a period of time jets at gates will be powered with electric equipment or equivalent emission reductions will be achieved. Second, although planning of airline operations during rush hours to reduce idling on runways to reduce emissions may have merit, the State does not have the authority to impose regulations on airlines to require this planning. The Federal Aviation Administration has jurisdiction over airline operations once the aircraft leaves the gate and State regulation is pre-empted. Third, since the State has no authority to control airline operations, and congestion is a function of the higher level of operations during rush hours, congestion pricing is likely to place an unnecessary economic burden on the traveling public with no air quality benefits. State controls on pricing are expressly preempted by the Air Deregulation Act. Therefore, EPA concludes that such measures are not reasonably available.

Transportation Control Measures and Land Use

Comment: Transportation Control Measures as RACM: EPA gives virtually no consideration to the emission reduction benefits of transportation programs, projects and services contained in adopted regional transportation plans (RTPs), or that are clearly available for adoption as part of RTPs adopted for a nonattainment area. In addition, it is arbitrary and capricious for EPA not to require as RACM economic incentive measures that are generally available to reduce motor vehicle emissions in every nonattainment area. One commenter provided a report "Studies on the Travel and Air Quality Effects of Transit, Land Use Intensification, and Auto Pricing Policies." The commenter felt this report contained measures that are RACM.

Response: A similar comment was received in response to the analysis EPA performed as part of EPA's notice of availability where an analysis of Reasonably Available TCMs was performed for four serious ozone nonattainment areas: Greater Connecticut, Springfield, MA, Washington, DC and Atlanta. In the Technical Support Document for the July 12, 2001 proposal on RACM, EPA performed a similar analysis for the HG area. This analysis was performed to

evaluate the State's conclusion that further TCMs are either economically infeasible or would not advance attainment.

EPA's TSD for the July 12, 2001 proposal on RACM for the HG area does consider transportation programs, projects and services that are generally adopted, or available for inclusion in a nonattainment area's SIP. The RACM analysis includes seven broad categories and twenty-seven subcategories of Transportation Control Measures (TCMs) that represent a range of programs, projects and services. The inclusion of a TCM in an RTP or TIP does not necessarily mean that it meets EPA's criteria for RACM and must be included in the SIP. The measure must also contribute to expeditious attainment. EPA concluded from its analysis that the State's assertion that further TCMs are not RACM was appropriate.

Some of these TCMs, such as parking cashout, transit subsidies, and parking pricing, are explicitly economic incentive programs. Furthermore, these categories of TCMs, as well as most of the others, could be infinitely differentiated according to criteria, such as the method of implementation, level of promotional effort or market penetration, stringency of enforcement, etc. The application of economic incentives to increase the effectiveness of a TCM is one such criterion. These implementation variables, representing levels of implementation effort, are implicit in the range of effectiveness for each category of TCM. EPA does not believe it is necessary, or even practically possible, to evaluate every explicit variation of TCM's in order to adequately determine if it is reasonably available.

From the analysis for the HG area, EPA identified 1.7 to 22.4 tpd of NO_x emission reductions as theoretically achievable from TCMs. The EPA believes that emission reductions which are in the low- to mid-point range of EPA's analysis are achievable with careful planning, adequate implementation resources, aggressive public information programs and a sustained commitment by the implementing agencies. TNRRCC has identified in its SIP the implementation of a wide range of TCMs which are projected to achieve 4.86 tpd of emission reductions. The TCM's identified in the HG analysis are in the low- to mid-point range. Additional emission reductions beyond this level that could be reasonably achieved would not advance attainment given that the final 121 tons/day of NO_x emissions reductions from the point

source rules will not be achieved until spring of 2007.

There are many important reasons why a state, regional, or local planning agency might implement TCMs in an integrated traffic management plan beyond whatever air quality benefits the TCMs might generate, including preserving open space, water shed protection, avoiding sprawl, mitigating congestion, and "smart growth" planning generally. So the fact that TCMs are being implemented in certain ozone nonattainment areas does not necessarily lead one to the conclusion that those TCMs represent mandatory RACM when they are analyzed primarily for the purpose of determining whether they would advance the ozone attainment date.

The report, "Studies on the Travel and Air Quality Effects of Transit, Land Use Intensification, and Auto Pricing Policies," provides case studies from two areas of the country, Portland OR, and Sacramento, CA and a literature survey. EPA's analysis included consideration of measures in the same categories as provided in this report. Based on this analysis, EPA does not believe implementation of these measures would advance the HG area's attainment. Further, as stated in the General Preamble, 57 FR 13560, EPA believes that local circumstances vary to such a degree from city-to-city that a national presumption of RACM is not appropriate. It is more appropriate for States to consider TCM's on an area-specific basis and to consider groups of interacting measures, rather than individual measures. Therefore, based on EPA's analysis, EPA cannot conclude that these measure suggested in the report are RACM for the HG area.

Comment: A number of specific TCMs and economic incentive programs to reduce vehicle miles traveled were identified by various commenters. These include: Telecommuting, satellite offices, college/university traffic control measures, Bike and Walk pathways, Increased Government Use of the Web, Voluntary No Drive Days, Trip Reduction Ordinances, Employer Based Transportation Management, Road Pricing, Ride Share Incentives, Insurance Pricing, Commuter Choice, Parking Cashout, Taxes on Paid Parking, Congestion Pricing, Location Efficient Mortgages, Fee Bate on Suburban Mortgages, Tax Incentives for Living Near Place of Employment, Incentives for Transit Oriented Development and improved incident response.

Response: As stated in the previous response, EPA does not believe it is necessary, or even practically possible, to evaluate every explicit variation of

TCM's in order to adequately determine if it is reasonably available. EPA notes that many of the measures listed above are being encouraged in the HG area as part of the commuter choice program such as telecommuting, ride share incentives, and employer based transportation management. As discussed in the previous comment Texas has identified 4.83 tpd of NO_x emission reductions from reasonably available Transportation Control Measures which, based on the literature survey, falls into the low to midpoint of emission reductions theoretically achievable from these programs. Also, as noted above, this small amount of emissions reductions would not advance attainment prior to the implementation of all other measures in the plan. Therefore, EPA believes the small amount of additional reductions that could reasonably be achieved would not advance attainment.

Comment: EPA's analysis also completely fails to consider the additional benefits likely from combined implementation of complementary TCMS e.g., parking management along with transit improvements. It is arbitrary and irrational for EPA to assume that these measures can and will be implemented in complete isolation from one another.

Response: EPA recognizes that many control measures, particularly TCMS, are more effective if done in conjunction with others. EPA maintains, however, that it is not practically possible to analyze a seeming infinite set of combinations of measures for possible benefits. The EPA's analysis did look at all measures in various categories at a reasonable level of implementation and concluded that as a whole these categories of measures, taken together, would not advance attainment or would otherwise not be reasonably available.

General RACM Comments

Comment: One commenter suggested that the SIP should include enforcement of New Source Review such that grandfathered plants would get emissions permits with emission limits that are identical to new construction as of June 2001.

Response: Existing industrial sources in the HG area are required to comply with Chapter 115 for VOC and Chapter 117 for NO_x controls regardless of whether the sources are permitted or grandfathered. These rules have been approved as RACT. In addition all sources, both existing and new, are subject to the NO_x mass emissions cap in Chapter 101. Requiring all existing sources to obtain permits is not likely to result in any additional emission

reductions beyond those achieved by the Chapter 115 and Chapter 117 rules.

Comment: One commenter incorporated in their comments to EPA their comment to the TNRCC where they encouraged the State to use Market Incentives to the extent possible.

Response: We believe the State has employed market based incentives in a variety of programs. The cap and trade program and the Texas Emission Reduction Program are the two main examples of programs that use markets to provide significant flexibility in how emission reductions are achieved.

Comment: STAPPA's 1993 report recommended adoption of California or South Coast Air Quality Management District (SCAQMD) controls/limits for various source categories. The commenter mentions further possible control measures as well, and notes that none of the states offered consideration of these measures accompanied by reasoned explanations for their rejection.

Response: Texas used the EPA survey "Serious and Severe Ozone Nonattainment areas: Information on Emissions Control Measures Adopted or Planned and Other Available Control Measures" as a basis to determine if all reasonably available control measures had been implemented. This report includes measures from the STAPPA 1993 report and other measures that EPA considers potentially reasonably available. TNRCC did not identify any additional measures that were considered reasonable for the HG area.

Comment: By absorbing ozone and reducing air temperatures, trees actually account for a small but measurable reduction in ozone levels. The EPA should work with TNRCC to encourage public funding for tree planting and local ordinance that require canopy cover in new private development.

Response: EPA agrees that tree planting can result in a possible reduction in ozone formation. Unfortunately, at this time, these benefits are difficult to quantify. Efforts are currently underway to complete a modeling study to quantify the impacts of various urban heat island mitigation strategies using the photochemical model. It is hoped that these studies will provide information that will allow tree planting strategies to be included as a creditable portion of the SIP at a later date, perhaps for the mid-course review SIP submission. Texas is involved in this effort and intends to incorporate such programs in the SIP should they prove effective and reasonably available.

C. Response to Comments on Local Measures

1. Comments on Speed Limits

Comment: Three commenters indicated the speed limit measure would not be enforced or was not enforceable and that EPA should not give credit unless TNRCC develops a mechanism to demonstrate that speeds actually decrease.

Response: The mechanism to enforce reduced speed limits is already in place with the Department of Public Safety and local municipalities. EPA acknowledges that it is unlikely that 100% of vehicles will comply with the new speeds. The modeling projections assume that the average speed will be 10% higher than the posted speed limits on roads that currently have average speeds above the reduced speeds. Thus, the State has made reasonable assumptions to anticipate the level of compliance with this rule. We believe we can approve these reasonable planning assumptions about speed reductions. It would not be appropriate to wait until Texas proves that the speeds have been reduced to give credit for this measure just as we would not wait until industrial sources have accomplished their emission reductions before approving point source rules. We do believe that the effectiveness of this measure, as with all measures, should be monitored. Data is collected in the HG area by Transtar and Texas Department of Transportation. This data could be used to evaluate the efficacy of this measure in reducing speeds.

2. Comments on the VMEP

Comment: The plan includes impermissible reductions for "Voluntary controls." EPA has no legal basis for issuing SIP credit for the VMEP program; the VMEP measures do not meet the test of being real, permanent, and enforceable to qualify for emission reductions.

Response: EPA disagrees with the comments, and continues to believe that the voluntary measures proposed by Texas for inclusion in the SIP are approvable under the Act. EPA acknowledges that, by themselves, the measures would not be approvable, because, as noted by the commenter, they are not enforceable against the entities producing the emissions reductions and thus do not meet the enforceability requirement of section 110(a)(2)(A). However, EPA did not propose to approve the measures by themselves. EPA proposed to approve them only in conjunction with an enforceable commitment by the state of Texas to monitor implementation of the

voluntary measures, determine whether the anticipated reductions from the measures were in fact achieved, and if not to either alter the program such that the requisite reductions will be achieved, adopt substitute measures, or demonstrate that the attainment and maintenance goals of the ozone SIP can still be met without the reductions from these measures. Thus, EPA did not propose to approve voluntary measures as satisfying the enforceability requirements of section 110. Rather, EPA proposed to approve the voluntary programs into the SIP as part of the overall attainment scheme, and proposed to approve the state's enforceable commitment to monitor, assess, and rectify any shortfall as meeting the enforceability requirements of the Act.

EPA continues to believe that this approach is a proper means of encouraging implementation of innovative mobile source control measures while providing an enforceable SIP backstop measure. Ideally, the voluntary measures will produce the estimated emissions reductions without need for any state backfill or federal or citizen enforcement. However, should any shortfall result, Texas will be bound by the enforceable SIP commitment to rectify the problem and supply the necessary emissions reductions. Both EPA and private citizens retain all of their rights under sections 113 and 304 to bring appropriate enforcement pressure to bear against the state should Texas fail to monitor, assess or fill any shortfall in emissions reductions resulting from implementation of the voluntary measures in the SIP. Contrary to the commenter's allegations, the emissions reductions associated with the voluntary measures in the HG area SIP are required to be achieved; it is however the state and not the individuals implementing the voluntary measures who must ultimately produce them.

Comment: Two commenters raise numerous arguments concerning the unenforceability of the voluntary measures.

Response: The commenter makes no mention of the enforceable state commitment other than to refer to it as insufficient. This statement without further explanation does not give EPA any guidance on the alleged inadequacy of the commitment nor how the commenter would have EPA improve upon it. Therefore, EPA continues to maintain that the commitment is approvable as meeting the enforceability requirements of the Act. In the past, EPA has often approved enforceable

state commitments to take future actions under the SIP, and these actions have been enforced by courts against states that have failed to comply with those commitments.¹⁶ EPA believes that the Texas commitments associated with the voluntary measures portion of the SIP are similarly enforceable and thus approvable. NRDC alleges that the Act requires all control measures to be enforceable against individual polluters and not just against states. However, many mobile source control measures are enforceable only against the state or local transit operator, and not the individual entities actually producing the emissions reductions, for instance in the case of state obligations to establish vehicle inspection and maintenance programs or to purchase buses or expand transit systems. The Act does not require federal enforcement capability against individual vehicle owners or transit users prior to approval of such programs into the SIP.¹⁵

Comment: A commenter alleges that the public cannot adequately monitor implementation of the voluntary measures nor determine whether the emissions reductions are achieved. The commenter admonishes the State to commit to a solid evaluation or auditing framework to monitor performance of measures in the VMEP.

Response: Texas is required by its enforceable commitment to conduct the evaluation and audit mentioned by ED, and should make such assessments available to the public in the normal course of administrative practice. The commenters also claim that the state itself has raised concerns about the emissions reductions that will be achieved from these measures. Such concerns may be valid, nevertheless Texas has made a commitment to fill any shortfall in emissions, which both EPA and citizens can enforce under the Act.

¹⁶ See, *Trustees for Alaska v. Fink*, 17 F. 3d 1209 (9th Cir. 1994); *Coalition Against Columbus Center v. City of New York*, 967 F. 2d 764 (2d Cir. 1992); *Citizens for a Better Environment v. Deukmejian*, 731 F. Supp. 1448, reconsideration granted in part, 746 F. Supp. 976 (N.D. Cal. 1990); *American Lung Ass'n of New Jersey v. Keane*, 871 F.2d 319 (3d Cir. 1989); *NRDC v. New York State Department of Environmental Conservation*, 668 F. Supp. 848 (S.D.N.Y. 1987); *Council of Commuter Organizations v. Gorsuch*, 683 F.2d 648 (2d Cir. 1982) and *Friends of the Earth v. EPA*, 499 F.2d 1118 (2d Cir. 1974).

¹⁷ The Act does require that enhanced I/M programs include state enforcement through denial of vehicle registration without proof of compliance with inspection requirements. However, the enforceable SIP requirement is to develop a program that includes registration denial, and any enforcement would be against the state for failing to deny registration. The Act does not contemplate enforcement actions against individual vehicle owners attempting to register their vehicles.

Comment: A commenter makes various arguments about the unacceptability of the voluntary measures program stemming from the stationary source permitting program under Title V of the Act.

Response: Title V is totally irrelevant to these mobile source programs. The voluntary measures program Texas has included in the HG SIP applies only to mobile sources that are not subject to regulation under the Title V stationary source operating permit program.

Comment: EPA can not alter its past interpretations without completing notice-and-comment rulemaking.

Response: EPA believes that this action is consistent with its past interpretations that enforceable state commitments to take future action are approvable SIP measures. For example, see EPA actions approving California plans at 62 FR 1150 (January 8, 1997) and 65 FR 18903 (April 10, 2000). In addition, this action is consistent with the guidance that EPA issued in 1997 indicating its belief that voluntary programs could be approved in conjunction with enforceable state commitments to fill any resultant shortfall.¹⁸ The individual SIP approval actions implementing the VMEP guidance constitute the notice-and-comment rulemaking required to effectuate action under the guidance. Thus, this SIP rulemaking satisfies both CAA and APA rulemaking requirements with respect to final interpretations of the Act consistent with the guidance. Further, NRDC alleges that EPA may not alter interpretations of the Administrator through SIP rulemaking signed by the Regional Administrator. However, the Administrator has properly delegated the authority for SIP rulemakings to the Regional Administrators under Delegation 7-10 dated May 6, 1997, and section 301(a)(1) of the Act. Thus, the Regional Administrators are authorized to act for the Administrator with respect to all matters pertaining to SIP approvals, including interpretations of the Act relevant to a given SIP approval.

Comment: A commenter questions the 3% limit on voluntary measures, arguing that this limit itself implicitly acknowledges that such measures are not approvable.

Response: EPA did not impose the 3% limit because it believed the measures to be suspect, but rather, as noted in the VMEP guidance, based on the innovative nature of the measures and the agency's lack of experience both

¹⁸ Guidance on Incorporating Voluntary Mobile Source Emission Reduction Programs in State Implementation Plans (SIPs), October 24, 1997.

with implementation and calculating appropriate credit for such measures. Therefore, EPA created the 3% limit as a policy matter, indicating in the guidance that it did not think it would be appropriate to approve a greater percentage while the agency begins to implement the program. EPA further indicated that it would reassess the limit after several years of experience with the program. Since all VMEP measures would be approved only with enforceable state commitments to fill any resultant shortfall, EPA felt confident that including voluntary programs up to 3% of required emissions reductions in SIPs would not jeopardize attainment and maintenance goals during initial implementation under the policy. Further, EPA did not indicate that 3% of required emissions reductions could be considered *de minimis*, as the commenter implies. EPA agrees with the commenter that it should not conclude in advance that any given percentage of emissions reduction could be considered *per se de minimis* for all areas and types of SIPs. Any conclusion about the *de minimis* nature of required emission reductions should be made in light of the specific circumstances of the areas and CAA requirements at issue. Therefore, all of the commenter's arguments relating to the availability of a *de minimis* exemption and the need for notice-and-comment rulemaking to effectuate it are not relevant to EPA's approval of the voluntary measures in the HG area SIP.

Comment: The record is insufficient to support TNRCC's credit claims.

Response: EPA reviewed the documentation submitted for each measure of the VMEP. We found that for each measure the documentation was acceptable to demonstrate that the criteria for approval were met for each measure. For each measure the State was able to show that the measure plus the State commitment was quantifiable, surplus, enforceable, permanent, and adequately supported.

Comment: One commenter pointed out that delays may result from identifying and rectifying emissions shortfalls.

Response: EPA acknowledges that reductions will be somewhat delayed where states must first monitor and assess implementation and subsequently implement corrections. For this reason EPA indicated in the VMEP guidance that states should fill any shortfalls in a timely fashion. EPA recently issued a companion voluntary measures policy for stationary sources. See, "Incorporating Voluntary Stationary Source Emission Reduction Programs Into State Implementation

Plans—FINAL POLICY," memorandum and attachment dated January 19, 2001, from John Seitz, Director of the Office of Air Quality Planning and Standards. In that policy EPA indicated that where voluntary measures were included in attainment or rate of progress SIPs, any shortfalls would have to be filled prior to the relevant attainment or progress milestone date. EPA believes this is an appropriate interpretation of the requirement to fill shortfalls in a timely fashion under the VMEP policy.

Comment: EPA put forth different, conflicting explanations for why VMEP measures purportedly will meet the enforceability requirements of section 110(a)(2) of the Act. In the DFW proposed approval we say that the measures will be enforced by the State, whereas in the HGA proposed approval we say that the voluntary measures will be enforceable against the State.

Response: As discussed above, courts have upheld the legal authority to enforce state SIP commitments. The language in the DFW notice was intended to indicate that Texas was to monitor and assess reductions attributable to VMEP and, in case of a shortfall, implement measures to offset that shortfall. What is enforceable is the commitment to see that reductions in an amount equal to what is proposed in the VMEP are achieved. Such enforcement is also available against the State, but not against the individual entities that are implementing the voluntary measures. Texas has made similar commitments with respect to both Dallas/Fort Worth and the HG area.

Comment: EPA improperly redefined the subject of the enforceability requirements of section 110(a)(2); that what is enforceable against the State is the commitment to monitor, assess, and timely remedy a shortfall from implementation of the measures.

Response: We agree that what is enforceable against the State is the commitment to monitor, assess and timely remedy any shortfall to ensure the claimed VMEP reductions are met. We do not agree that this is improper under the Act and have already cited case law in support of this position.

Comment: One commenter appreciated EPA's approval of the VMEP and asked for the State's and EPA's continued support.

Response: We appreciate the commenters support. EPA will continue to support the State's VMEP activities as long as they are developed and implemented in accordance with EPA's October 24, 1997, Guidance on Incorporating Voluntary Mobile Source Emission Reduction Programs in State

Implementation Plans (SIPs) and the responses to comments in this rulemaking.

3. Comments on TCMs

Comment: The commenters stated that the TCMs are inadequate and do not satisfy the requirements of section 182(d)(1)(A) of the Act.

Response: Section 182(d)(1)(A) directs the State to submit a SIP revision that identifies and adopts specific enforceable transportation control strategies and TCMs to offset any growth in emissions from growth in vehicle miles traveled or number of vehicle trips in severe nonattainment areas, and to attain reduction in motor vehicle emissions as necessary to meet reasonable further progress and attainment requirements of the Act. The State submitted SIP revisions to the EPA on August 25, 1997 and May 17, 2000 to address the VMT Offset provision, the first required element under section 182(d)(1)(A). The EPA proposed approval of these SIP revisions on July 10, 2001 (66 FR 35920, *see also* 66 FR 35903), and subsequently received public comments. The EPA's final approval action on this SIP, the VMT Offset Plan, has been taken in a separate concurrent Federal Register action that discusses the emissions growth offset element in detail.

That action also explains that EPA believes it is appropriate to allow States to separate the VMT Offset SIP into three elements, each to be submitted at different times: (1) The initial requirement to submit TCMs that offset growth in emissions; (2) the requirement to comply within the 15 percent periodic reduction requirement of the Act; and (3) the requirement to comply with the post-1996 periodic reduction and attainment requirements of the Act. Please see the concurrent VMT Offset action referenced above for the first element.

Today's action here satisfies the second and third elements of section 182(d)(1)(A). EPA believes this SIP action, including its TCMs, demonstrates that the HG area will achieve the required ROP and attainment of the ozone NAAQS for the reasons discussed in more detail throughout this final action, and that the SIP therefore satisfies the last two elements.

D. Response to Comments on Post 1999 Rate of Progress Plans

Comment: Texas provided a comment on EPA's December 1999 proposal indicating the April 2000 SIP revision will contain a commitment by the state

to submit a full Post-99 ROP analysis by 12/31/00.

Response: Texas has fulfilled this commitment. EPA is approving this Post-99 ROP plan in this action.

Comment: The TNRCC ROP plan should be revised to be consistent with the budget. The required NO_x reduction for 2005–2007 should be more than the 6% (3%/year for the 2 year period) figure included in Chapter 5.

Response: The EPA acknowledges that the TNRCC has included a 2007 MVEB, which in conjunction with the other measures in the plan will result in more than 6% emission reduction. The Rate of Progress requirement is to achieve at a minimum 6% emission reduction for the time period 2006–2007 as called for by section 182(b)(2) of the Act. The requirement should remain 6%, setting the MVEB lower will only result in more reductions than needed to achieve the required ROP levels.

Comment: One commenter on the December 1999 proposed approval/proposed disapproval claims that the plans fail to demonstrate emission reductions of 3% per year over each 3-year period between November 1999 and November 2002; and November 2002 and November 2005; and the 2-year period between November 2005 and November 2007, as required by 42 U.S.C. section 7511a(c)(2)(B). The states have not even attempted to demonstrate compliance with these requirements, and EPA has not proposed to find that they have been met. The EPA has absolutely no authority to waive the statutory mandate for 3% annual reductions. The statute does not allow EPA to use the NO_x SIP call or 126 orders as an excuse for waiving rate-of-progress (ROP) deadlines. The statutory ROP requirement is for emission reductions—not ambient reductions. Emission reductions in upwind states do not waive the statutory requirement for 3% annual emission reductions within the downwind nonattainment area.

Response: Under no condition is EPA waiving the statutory requirement for 3% annual emission reductions. In today's action we are approving Texas Post-99 ROP plan as submitted December 2000 and revised and submitted in October 2001. As provided in this EPA's final action on the ROP plan Texas is relying on reductions of NO_x and VOC within the nonattainment area for meeting the ROP requirement.

E. Response to Comments on Administrative Record

Comment: A commenter could not find support in the administrative record for the following propositions:

The Shortfall

Proposition: Identified potential measures can achieve an additional 56 tons/day NO_x emissions reduction without requiring additional limits on highway construction.

Support: In Chapter 7, Texas projected that the measures being considered for adoption would address the 56 tpd shortfall. Examination of these measures reveals that their implementation would not result in additional limitations on highway construction. Further, the State has provided a commitment that future measures will not rely on limits on highway construction.

Proposition: The State's cited ranges of potential reductions from measures being considered to address the shortfall provide a "reasonable assurance" that the State can meet its commitment to submit adopted measures to fill the shortfall; the State has identified sufficient innovative programs and new technologies such that it is reasonable to believe that, in the aggregate, the projected emission reductions from these new programs and technologies can be achieved and will fill the shortfall and the measures to be considered for adoption at the mid-course review can achieve the NO_x emissions reductions indicated on pp. 23–24 of the Technical Support Document.

Support: Chapter 7 of the Texas SIP discusses each of the measures and the State's projected range of emission reductions. The TSD in Section IV.F. has further discussion of each of the potential measures and information that exists to support the projected emission reductions.

SB5 and Incentive Programs

Proposition: Texas Emission Reduction Plan (TERP) will provide 130 million dollars per year for incentive programs to reduce emissions.

Support: This estimate was based on fiscal estimates provided by the State regarding the revenue that will be available from the fees associated with this bill. Chapter 7 of the adopted SIP cites an estimate of 133 million dollars.

Proposition: Incentive programs in SB5 can achieve more reductions than the reductions that were projected to be achieved by the accelerated purchase of Tier II/III non-road diesel equipment and the Heavy-duty Diesel Equipment Operating Restrictions measure and can contribute to reducing the shortfall.

Support: This is discussed at Section IV.F. of the TSD.

Proposition: It can safely be assumed that at least 45% of the SB5 funding for

clean up of diesel engines will go to the HG area and TERP can reasonably be expected to provide 40 million dollars/year to the HG area for reducing emissions from existing diesel equipment.

Support: These assumptions were first developed based on early discussions with TNRCC. We understand as pointed out by the commenter that only \$24.7 million/year are currently being planned for the HG area. As discussed in our response to comment on this issue, we believe this will still provide sufficient funds to replace the emission reductions from the morning construction ban and Accelerated Tier II/III. clearly, the priority of TNRCC and the legislation is to preserve the HG and Dallas/Fort Worth SIPs. to that end as discussed in the comments on this control strategy in section III.B.3, Texas has the discretion to provide more money, even more than 40 million, to the HG area if necessary.

Proposition: Incentive programs in SB5 can obtain emissions reductions from existing diesel equipment at an average cost on the order of \$3,000–5,000/ton.

Support: As stated in the TSD, this is based on experience with California programs. The actual experience of the Carl Moyer Program is a cost effectiveness of better than \$3000/ton as stated in "The Carl Moyer Memorial Air Quality Standards Attainment Program (The Carl Moyer Program) Guidelines-Approved Revision 2000, November 16, 2000 California Environmental Protection Agency Air Resources Board."

Proposition: The TERP program for reducing emissions from diesel equipment can achieve between 32 and 40 tons/day of emissions reductions in the HG area.

Support: This is discussed in IV.F of the TSD. It is also discussed in Chapter 7 of the adopted version of the Texas SIP and in the responses to comments in this action.

Proposition: The TERP's projected emissions reductions that will be substituted for the Tier II/III non-road diesel equipment measure will achieve 12.2 tons/day. It is also discussed in Chapter 7 of the adopted version of the Texas SIP submitted in a letter dated October 4, 2001.

Support: This is discussed in Section IV.F of the TSD.

Growth Rates

Proposition: Projected growth rates and emissions reductions from the sources subject to the Tier 2 Vehicle Emission Standards and Federal Low Sulfur Gasoline, National Low Emitting

Vehicle Standards, and Heavy-duty Diesel Standards were calculated correctly by the State.

Support: The procedures for calculating the emissions from on-road vehicles are documented in Chapter 3 of the SIP. As discussed in Chapter 3, these emissions are based on a report that was included in Appendix G of the November 1999 SIP revision. Chapter 3 discusses several refinements and revisions to what was provided in the November 1999 SIP. These were discussed in Appendix A of the TSD Section I.F.

Proposition: Growth rates and emission reductions were correctly projected by the State for sources subject to the Federal Measures, including on-road and off-road mobile source measures and the Act Statutory Requirements.

Support: On-road measures were discussed in the previous proposition. Off-road measures are also discussed in I.F. of Appendix A of the TSD.

Proposition: The State has correctly factored growth in emissions due to population and economic growth.

Support: These are discussed in Section I.G.4 of Appendix A of the TSD.

Settlement

Proposition: Additional controls at uncontrolled grandfathered facilities in East Texas, which are called for by recent legislation, will offset the increased emissions from utilities pursuant to the settlement agreement.

Support: This issue is discussed in Chapter 6 of the Texas SIP. EPA's review is discussed in the TSD in Section III.K of the TSD. The issue is also discussed in the response to comments regarding model inputs.

Proposition: Substitution of a portion of the emissions reductions from the new TERP measures 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 reductions. Changes in the Heavy-duty Diesel Equipment Operating Restrictions and rules for utilities will not "adversely affect the modeling results" or "affect modeling results in a way to increase ozone."

Support: These issues were discussed in III. I. of the TSD and in Chapter 7 of the adopted SIP revision.

Speed Limit Reductions

Proposition: Reductions in the speed limit to 55 mph in the HG area will result in the reductions calculated by TTI. The percentage of motorists that TTI projected to exceed the newly proposed speed limits is reasonable.

Support: The reduction in speed limit is discussed in detail in TNRCC's SIP and in particular in the State's response to comments in the December 2000 SIP. EPA reviewed and evaluated these documents to draw these conclusions. Also, see the Chapter 3 of the December 2000 SIP and Appendix A of the TSD.

RACM

Proposition: Texas has established that all reasonable measures that could accelerate the attainment date have been adopted, or will be adopted.

Support: Chapter 7 of the SIP and Appendix B of the TSD extensively discuss this issue.

VOCs

Proposition: The modeling and list of control measures demonstrate that additional VOC controls are not cost-effective in reducing ozone in the HG area and would not advance the attainment deadline.

Support: This issue is extensively discussed in Appendix B. of the TSD and Chapter 7 of the SIP. This issue is discussed further in our response to comments on this action.

Proposition: RACT is in place for all major sources of VOC in the HG area.

Support: As part of our action approving VOC requirements, we found that the State had adopted RACT for all major sources, in the HG area except those that were to be covered by post-enactment Control Technique Guidelines (CTG's)(60 FR 12437, March 7, 1995). Since that time many expected CTGs were issued as Alternative Control Technique documents—ACTs. Of the expected CTGs and ACTs, the HG area had major sources in the following categories; batch processing, industrial wastewater, reactors and distillation, and wood furniture. We have approved measures for all of these categories as meeting RACT.

Batch Processing—July 16, 2001 66 FR 36913

Industrial Wastewater—December 10, 2000 65 FR 79745

Reactors and Distillation—January 26, 1999, 64 FR 3841

Wood Furniture—October 30, 1996, 61 FR 55894

State's Estimated NO_x Reductions

Proposition: The State control measures and local initiatives will provide the NO_x reductions indicated in Table 4 of the TSD. The State's projection of expected emissions reductions from Regional and Local Measures is correct (this includes the adequacy of the equivalent NO_x reductions credited to the commercial lawn care shift). The NO_x reductions for

the 2007 attainment year resulting from the State control measures and local initiatives predicted in Table 4 on pg. 18 of the TSD are accurate.

Support: First, each of the control measures have been approved in separate actions or in this action as listed in Section II of this action. These **Federal Register** actions announce our belief that these are permanent, enforceable measures that will achieve emission reductions toward attainment. Regarding the projected emission reductions from each measure:

Point Source Control reductions are well documented in a table in the State's preamble to NO_x rules submitted in December 2000. We reviewed this table in concluding the SIP will achieve the projected reductions from point sources. Also see the EPA's TSDs for its actions on the point source rule and this action.

The record for reductions for on-road emissions reductions from I/M, low emissions diesel fuel, speed limit reductions, and vehicle idling are discussed in previous propositions. They are principally discussed in the record in Chapter 3 of the SIP and in Appendix A of the TSD.

Off-road measures; Heavy duty diesel operating restriction and Accelerated Tier II/III have been replaced by the TERP and the potential emission reductions from the TERP are discussed in section IV.F. of the TSD. The emissions shifted by small spark operating restrictions are discussed in the State's preamble to the rule and in Chapter 6. Airport GSE emissions are discussed in Appendix A of the TNRCC December 2000 SIP submission, Heavy equipment gas engines emission reductions are discussed in the State's preamble to the rules submitted in December 2000.

Gas-fired water heaters—EPA reviewed the discussion provided in the State's preamble to the water heater and small boiler rule.

VMEP measures and the projected emission reductions are extensively discussed in Appendix K of the December 2000 State submission and in section IV of the TSD.

Energy Efficiency projections are discussed in Chapter 6 of the SIP.

Transportation Control Measure are documented in Appendix I of the SIP and discussed in section IV of the TSD.

IV. Administrative Requirements

Under Executive Order 12866 (58 FR 51735, October 4, 1993), this 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 action merely approves state law as meeting Federal requirements and imposes no additional requirements beyond those imposed by state law. Accordingly, the Administrator certifies that this 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 approves 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 (Pub. L. 104-4).

This rule also does not have tribal implications because it will 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). This action also does not have Federalism implications because it does not 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). This action merely approves a state rule implementing a Federal standard, and does not alter the relationship or the distribution of power and responsibilities established in the Act. This rule also is not subject to

Executive Order 13045 "Protection of Children from Environmental Health Risks and Safety Risks" (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 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 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. This 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.*).

The Congressional Review Act, 5 U.S.C. section 801 *et seq.*, as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. EPA will submit a report containing this rule and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the **Federal Register**. A major rule cannot take effect until 60 days after it is published in the **Federal Register**. This action is not a "major rule" as defined by 5 U.S.C. section 804(2).

Under section 307(b)(1) of the Act, petitions for judicial review of this action must be filed in the United States Court of Appeals for the appropriate circuit by January 14, 2002. Filing a petition for reconsideration by the Administrator of this final rule does not affect the finality of this rule for the purposes of judicial review nor does it extend the time within which a petition for judicial review may be filed, and shall not postpone the effectiveness of such rule or action. This action may not be challenged later in proceedings to enforce its requirements. (See section 307(b)(2).)

List of Subjects in 40 CFR Part 52

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

Dated: October 15, 2001

Gregg A. Cooke,
Regional Administrator, Region 6.

Part 52, chapter I, title 40 of the Code of Federal Regulations is amended as follows:

PART 52—[AMENDED]

1. The authority citation for part 52 continues to read as follows:

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

Subpart SS—Texas

2. In § 52.2270, entries in the "EPA Approved Nonregulatory Provisions and Quasi-Regulatory Measures in the Texas SIP" table in paragraph (e) are added to the end of the table to read as follows:

§ 52.2270 Identification of plan.

* * * * *
(e) * * *

EPA APPROVED NONREGULATORY PROVISIONS AND QUASI-REGULATORY MEASURES IN THE TEXAS SIP

Name of SIP provision	Applicable geographic or nonattainment area	State submittal/effective date	EPA approval date	Comments
* * *	* * *	*	*	*
Attainment Demonstration for the 1-hour Ozone NAAQS.	Houston/Galveston, TX	¹ 12/09/00	[Insert 11/14/01 Federal Register cite].	Section 6.3.12
Speed Limit Reduction	Houston/Galveston, TX	12/09/00	[Insert 11/14/01 Federal Register cite].	
Voluntary Mobile Emission Program	Houston/Galveston, TX	12/09/00	[Insert 11/14/01 Federal Register cite].	
Texas Senate Bill 5	Houston/Galveston, TX	9/26/00	[Insert 11/14/01 Federal Register cite].	
Transportation Control Measures Appendix I	Houston/Galveston, TX	12/09/00	[Insert 11/14/01 Federal Register cite].	
Commitment to Mid-course review	Houston/Galveston, TX	4/19/01	[Insert 11/14/01 Federal Register cite].	

EPA APPROVED NONREGULATORY PROVISIONS AND QUASI-REGULATORY MEASURES IN THE TEXAS SIP—Continued

Name of SIP provision	Applicable geographic or nonattainment area	State submittal/effective date	EPA approval date	Comments
Table 7.1–1 Enforceable Commitments	Houston/Galveston, TX	9/26/01	[Insert 11/14/01 Federal Register cite].	
Post 1999 Rate of Progress Plans and associated contingency measures.	Houston/Galveston, TX	9/26/01	[Insert 11/14/01 Federal Register cite].	
15% Rate of Progress Plan	Houston/Galveston, TX	12/09/00	[Insert 11/14/01 Federal Register cite].	
Revisions to the 1990 Base Year Inventory ..	Houston/Galveston, TX	12/09/00	[Insert 11/14/01 Federal Register cite].	
Reasonably Available Control Measure Analysis.	Houston/Galveston, TX	9/26/01	[Insert 11/14/01 Federal Register cite].	

¹ As revised 9/26/01.

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[FR Doc. 01–27580 Filed 11–13–01; 8:45 am]

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ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[TX–134–5–7509; FRL–7091–5]

Approval and Promulgation of Air Quality State Implementation Plans (SIP); Texas: Low Emission Diesel Fuel

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: The EPA is approving a State Implementation Plan (SIP) revision submitted by the State of Texas establishing a Low Emission Diesel (LED) fuel program for distribution in 110 counties in the eastern and central parts of Texas. Texas developed this fuel requirement to reduce ozone as part of the State’s strategy to achieve the National Ambient Air Quality Standard (NAAQS) in the Houston-Galveston Area (HGA) nonattainment area. We are approving Texas’ fuel requirement into the SIP because we found that the fuel requirement is in accordance with the requirements of the Clean Air Act (the Act) as amended in 1990 and is necessary for the nonattainment area to achieve the ozone NAAQS.

DATES: This final rule is effective on December 14, 2001.

ADDRESSES: Copies of the documents relevant to this action are available for public inspection during normal business hours at the following locations. Persons interested in examining these documents should make an appointment with the appropriate office at least 24 hours before the visiting day.

Environmental Protection Agency, Region 6, Air Planning Section (6PD–L),

1445 Ross Avenue, Suite 700, Dallas, Texas 75202–2733. Texas Natural Resource Conservation Commission, 12100 Park 35 Circle, Austin, Texas 78753.

FOR FURTHER INFORMATION CONTACT: Ms. Sandra G. Rennie, Air Planning Section (6PD–L), EPA Region 6, 1445 Ross Avenue, Dallas, Texas 75202–2733, telephone (214) 665–7367.

SUPPLEMENTARY INFORMATION:

Throughout this document “we,” “us,” and “our” means EPA.

- I. Table of Contents
- II. What action is EPA taking today?
- III. What are the Clean Air Act Requirements?
- IV. Why is EPA taking this action?
- V. What does the State’s LED Regulation include?
- VI. What did the State submit?
- VII. What comments did EPA receive in response to the July 12, 2001, proposed rules?

A. Issue 1: Cost and Feasibility

- 1.1 State LED requirements will lead to significantly higher production costs
- 1.2 State LED requirements could cause supply disruptions
- 1.3 State LED requirements could cause price spikes
- 1.4 Retail price increases may not be reasonable
- 1.5 State LED requirements will injure small businesses
- 1.6 State LED requirements will injure the trucking industry
- 1.7 State LED requirements will injure the railroad industry
- 1.8 State LED requirements will impair future controls on railroads
- 1.9 State LED requirements will impair implementation of federal low-sulfur diesel

B. Issue 2: Benefits

- 2.1 The environmental benefit of the LED rule is uncertain or overstated because the analysis of the NO_x reduction benefit is flawed.
- 2.2 The environmental benefit of the LED rule is not properly accounted for or is insignificant because its reliance on low sulfur levels will not have impact until newer engines enter the fleet after 2007, or because low sulfur levels will not

have impact on locomotives since they do not use engines which benefit from low sulfur fuel.

- 2.3 The environmental benefit of using LED fuel is overstated because Texas has failed to account for consumers who will re-fuel outside the covered area.
 - 2.4 The environmental benefit of the LED rule is uncertain or overstated because Texas has failed to determine how alternative formulations will be tested to determine if they achieve equivalent emission reductions.
 - 2.5 A process is needed to protect consumer interests during the development of alternative emission reduction plans.
- C. Issue 3: Federal Preemption**
- 3.1 General preemption comments
 - 3.2 Explanation of why other control measures are unreasonable or impracticable
 - 3.3 Explanation of why other control measures are unreasonable or impracticable-premature to assess this now when Texas must still identify future control measures to fill the emissions shortfall, and the LED rule will not be implemented until 2005.
 - 3.4 Explanation of why other control measures are unreasonable or impracticable-measures for which there is no explanation of justification
 - 3.5 Explanation of why other control measures are unreasonable or impracticable-measures for which there is inadequate explanation of justification
 - 3.6 Explanation of why other control measures are unreasonable or impracticable-measures which Texas and EPA failed to consider at all, or which Texas has recently adopted and has failed to account for in the SIP
 - 3.7 Failure to show necessity for the LED fuel measure in attainment areas
 - 3.8 Failure to meet CAA requirement that the state fuel measure is reasonable and practicable, due to the LED fuel measure’s consumer cost volatility
 - 3.9 Failure to show necessity because the environmental benefits of the LED rule are overstated or inaccurately quantified
 - 3.10 Preemption under the Supremacy Clause of the U.S. Constitution
- D. Issue 4: Potential Backsliding With Proposed SIP Changes**