

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103**

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SUBJECT: Technical Support Document for Adequacy Findings for the Motor Vehicle Emissions Budgets in Pennsylvania's Revised Attainment Plan for the Philadelphia-Wilmington-Trenton Ozone Nonattainment Area and in the Rate of Progress Plans (1999, 2002, 2005) for the Pennsylvania Portion of the Area

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(3AP23)

TO: Administrative Record for Adequacy Findings for the Motor Vehicle Emissions Budgets in Pennsylvania's Revised Ozone Attainment Plan for the Philadelphia-Wilmington-Trenton Ozone Nonattainment Area and in Pennsylvania's Post-96 (1999) and Post-99 (2002 and 2005) Rate of Progress Plans Its Portion of the Area (Southeast Pennsylvania)

THRU: Robert Kramer, Chief
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(3AP23)

I. Administrative Requirements For Making Adequacy Findings

The adequacy of the motor vehicle emission budgets (hereafter "budgets") has been reviewed in accordance with the procedures and criteria of the Transportation Conformity Rule contained in 40 CFR Part 93, Sections 118 (e) (4) through (e) (5), and the guidance contained in the both the November 3, 1999 EPA Memorandum from Merrylin Zaw-Mon entitled: "Guidance on Motor Vehicle Emissions Budgets in One-Hour Ozone Attainment Areas," and the May 14, 1999 EPA Guidance Memorandum from Gay MacGregor entitled, "Conformity Guidance on the Implementation of the March 2, 1999 Conformity Court Decision."

On February 25, 2000, the Pennsylvania Department of Environmental Protection (PADEP) formally submitted revisions its State Implementation Plan (SIP). The PADEP submitted revisions to its attainment demonstration plan (attainment plan) for the Philadelphia-Wilmington-Trenton Ozone Nonattainment Area and to its rate-of-progress (ROP) plans for the Pennsylvania portion of that area. The Pennsylvania portion of the Philadelphia-Wilmington-Trenton Ozone Nonattainment Area consists of Philadelphia, Delaware, Chester, Montgomery and Bucks Counties (hereafter "Southeast Pennsylvania"). Pennsylvania's revised ROP plans are for the milestone years 1999, 2002 and 2005 (Post-1996 and Post-1999 ROP). The

attainment year is for the Philadelphia-Wilmington-Trenton area is 2005.

On March 13, 2000, a notice was posted on EPA's web site at <http://www.epa.gov/oms/traq>, for the purpose of opening EPA's 30-day public comment period on the adequacy of the budgets in Pennsylvania's February 25, 2000 SIP revision submittal of the revised attainment plan and ROP plans. That notice also informed the public that PADEP had posted the SIP revision submittal on its website, and provided a link to and the address for the PADEP website where interested members of the public could access the SIP revision. EPA's public comment period closed on April 24, 2000.

On April 3, 4, 7, and 13, 2000, pursuant to the posting's providing access to Pennsylvania's February 25, 2000 SIP submittal, we received comments from Mr. Fran Jackson, P.E., a private citizen of the Commonwealth, on Pennsylvania's revised attainment and ROP plans.

On December 16, 1999, EPA published a notice of proposed rulemaking on the attainment plan submitted on April 30, 1998 and supplemented on August 21, 1998 by PADEP for the Philadelphia-Wilmington-Trenton Ozone Nonattainment Area. That proposed rulemaking is entitled, "Approval and Promulgation of Air Quality Implementation Plans; Pennsylvania; One-Hour Ozone Attainment Demonstration for Philadelphia-Wilmington-Trenton Ozone Nonattainment Area" (64 FR 70428, December 16, 1999).

On February 14, 2000, we received comments from Robert Yuhnke, on behalf of Environmental Defense (ED) and the Natural Resources Defense Council (NRDC) on the December 16, 1999 proposed rulemaking (64 FR 70428, December 16, 1999) for Pennsylvania some of which speak to making adequacy findings on motor vehicle emission budgets. We also received comments on that December 16, 1999 proposed rulemaking on Pennsylvania's April 30, 1998/August 21, 1998 attainment plan submittal from Joseph O. Minott, Esq. on behalf of the Clean Air Council, and from Ms. Nancy Parks on behalf of the Pennsylvania Chapter of the Sierra Club.

Section II of this Technical Support Document (TSD) summarizes the public comments and EPA's responses. This TSD will be an attachment to the letter from EPA to PADEP informing the State of our adequacy findings on the budgets for Southeast Pennsylvania. We will then publish a Federal Register notice announcing our adequacy findings. The effective date of the adequacy findings will be 15 days after the publication date of that Federal Register notice. The letter to Pennsylvania and the TSD will be posted on EPA's website at <http://www.epa.gov/oms/traq> once we have published the Federal Register notice announcement.

II. Public Comments Received on the Budgets and EPA's Responses

Before summarizing and responding to the specific comments, the difference between finding budgets adequate and approving them as part of a ROP or attainment demonstration SIP revision via a rulemaking action must be understood. The adequacy process is separate from the notice and comment rulemaking process conducted by EPA to approve or disapprove the ROP and attainment plans as SIP revisions. The rulemaking process to approve or disapprove these plans

as SIP revisions involves a more detailed examination of the technical analyses submitted by the State to demonstrate ROP and attainment. EPA's adequacy findings are determinations that submitted budgets are consistent with attainment, maintenance and/or ROP for conformity purposes. EPA's actual approval or disapproval of the budgets into the SIP occurs when we have completed our full rulemaking process on the relevant ROP or attainment plan and have either approved or disapproved it as a SIP revision. The adequacy process considers certain criteria specified in 40 CFR 93.118 in order to allow the use of these submitted budgets in conformity determinations while EPA is completing its formal review process to determine whether to approve the ROP and attainment plans as SIP revisions.

Therefore, we are deferring addressing those comments which are germane to the approvability of the ROP and attainment plans as required SIP revisions for the time being rather than addressing them in the context of this TSD prepared in support of our adequacy findings on the budgets.

Comment: We received comments asserting the weight of evidence approach does not demonstrate attainment or meet CAA requirements for a modeled attainment demonstration. The comments raise several criticisms of various technical aspects of the weight of evidence approach, including certain specific applications of the approach to particular attainment demonstrations.

Response: Under section 182(c)(2) and (d) of the CAA, serious and severe ozone nonattainment areas were required to submit by November 15, 1994, demonstrations of how they would attain the 1-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 rely on photochemical modeling results, supplemented 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 adjustments 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)." 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 51 App. 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 as well as consider additional analytical methods approved by EPA.

The modeled attainment test compares model predicted 1-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) 1-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 episodes modeled) by EPA’s guidance.¹

In 1996, EPA issued guidance² to update the 1991 guidance referenced in 40 CFR 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 (WOE) determination. Under a WOE determination, the state can rely on, and EPA will consider, factors such as other modeled output, e.g., changes in the predicted frequency and pervasiveness

¹ Guidance on the Use Of Modeled Results to Demonstrate Attainment of the ozone NAAQS. EPA-454/B-95-007, June 1996.

² Ibid.

of 1-hour ozone NAAQS exceedances and predicted changes 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 guidance³ that makes further use of 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 WOE 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 three 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 1-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.⁴ 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 three 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 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

³ “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>.

⁴ A comment criticizes 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 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 concern expressed in this comment 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 WOE determination. The WOE 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.

designed to reduce areas of peak ozone concentrations generally result in similar ozone reductions in all core areas of the modeling domain, thereby providing further 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 provides an estimated attainment year design value at the level of the standard. This step uses a locally derived factor which assumes a linear relationship between ozone and the precursors. Although a comment was raised that this technique for estimating ambient improvement because it does not incorporate complete modeling of the additional emissions reductions, none of the applicable guidance or regulations mandates or suggests that States 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.

When reviewing a SIP, the EPA must make a reasonable determination that the control measures identified are more likely than not to attain. Under the WOE determination, EPA has made these determinations based on all of the information presented by the States and available to EPA. This included 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 a few additional measures, not modeled. EPA's decision was further strengthened by the States commitment to a mid-course review to check progress towards attainment in 2003 and adopt additional measures, if the anticipated progress is not being made.

A comment was raised that 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 this comment, is precluded under EPA regulations. The comment explained that 40 CFR 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 was needed for the area to reach attainment, it was assumed a 20% reduction in VOC would be required. This approach was never applied to NO_x, is a purely empirically/mathematically derived relationship, and is not the approach EPA used. EPA used a locally derived (as determined by the model and/or observed changes in air quality) ratio of change in emissions to change in ozone to estimate additional emission reductions to achieve an additional increment of ambient improvement in ozone. This did assume a linear relationship between the precursors and ozone for a small amount of ozone improvement. 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. EPA has generally relied on photochemical modeling to evaluate the attainment demonstrations and their control strategies, and has used 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. This limited use of adjustment factors is more technically sound than the unacceptable use of proportional rollback. The limited use of adjustment factors is more practical in light of the uncertainty in the modeling; the resources and time required to perform additional modeling; and the requirement that areas perform a mid-course review by the end of 2003.

Contrary to concerns expressed in a comment, EPA did not err by modifying the modeling requirements without first proposing to do so. Section 3.0 of appendix W states, "It should not be construed that the preferred models identified here are the only models available for relating emissions to air quality." Section 3.2.2 of appendix W further provides that the "determination of acceptability of a model is a Regional Office responsibility. Where the Regional Administrator finds that an alternative model is more appropriate than a preferred model, that model may be used subject to the recommendations below. This finding will normally result from a determination that (1) A preferred air quality model is not appropriate for the particular application; or (2) a more appropriate model or analytical procedure is available and is applicable." Therefore, EPA does have the discretion to identify a more appropriate analytical procedure without undergoing rulemaking on updates to Appendix W. Also, as discussed above, by reference to the modeling guidance, Appendix W was designed to allow changes in the predictive tools and data bases without undergoing additional rulemaking. In any event, the EPA is taking comment during the SIP rulemaking process on the application of its guidance.

A comment raised concern that EPA applied unacceptably broad discretion in fashioning and applying the WOE determinations. EPA disagrees. The WOE determinations are made on a case-by-case basis. EPA has approved attainment demonstrations based on WOE determinations, generally with a requirement for additional reductions not modeled, only when the photochemical modeling provides a basis for believing that the SIP controls will achieve substantial ozone reductions, if not attainment levels. The fact that these WOE adjustments are incremental leads EPA to conclude that they may be made on a case-by-case basis, without hard-and-fast guidelines. Moreover, EPA believes that the WOE approach is bounded by the strength of the various factors that may be applied. The comment raised as an example EPA's application of the WOE approach to the Washington, D.C. attainment demonstration where modeling showing an ozone level (as adjusted) of 142 ppb was compared to the acceptable upper limit of 137 ppb. The comment was made that EPA adjusted the modeled prediction on average by a factor of 19% to account for model overprediction, and suggested both that such an adjustment was not appropriate and that, if used, no further adjustment for WOE factors was appropriate. EPA puts no limit on the amount of WOE factors that may be considered. In addition, in EPA's view, the 19% overprediction that underlies the 142 ppb level is only a rough approximation of the extent of modeling uncertainty. As a result, EPA applied the 1999 guidance (using the original model prediction of 156, and not the adjusted value of 142 ppb) to estimate the future design value as another way of addressing model uncertainty, in the same manner as applied to all of the other attainment demonstrations received. Both the assessment of overprediction and

the estimated future design value were used in the WOE determination.⁵

The comment was also raised that complained EPA has applied the WOE determinations to adjust modeling results only when those results indicate nonattainment, and not when they indicate attainment. EPA agrees that to date, it has applied WOE determinations only in the context of demonstrations that indicate nonattainment, but the main reason is simply that these comprise most of the demonstrations that the States have presented to EPA.

A comment was made that further criticized EPA's application of the WOE determination on grounds that EPA ignores evidence indicating that continued nonattainment is likely, such as, according to the comment, monitoring readings indicating 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 believes that this comment misses the mark because although some cities continued to experience nonattainment ozone levels during 1999, the 1999 monitoring data provide little basis for evaluating the performance of the UAM model as used in the various attainment demonstrations. Many areas did not model expected 1999 ozone levels, that are or will be approved into the SIP but that were not included in the modeling analysis. and in any event, many areas had not, by 1999 implemented additional ozone-precursor controls that would be expected to lead to the ozone reductions projected by the models.⁶ In addition, the comment argued that in applying the WOE determinations, EPA ignored factors showing that the SIPs under-predict future emissions, and included as examples certain mobile source emissions sub-

⁵ Observing that for the attainment demonstration for the Washington, D.C. area, EPA reduced modeled ozone values by 19% to account for model overprediction, a comment was made that criticized this technique as lacking technical justification. EPA explained this technique in "Technical Support Document for the One-Hour Ozone Attainment Demonstrations submitted by the State of Maryland, Commonwealth of Virginia and the District of Columbia for the Metropolitan Washington, D.C. Ozone Nonattainment Area," November 30, 1999. The modeled peak ozone results generally correlated (in geographic proximity) with the monitored peak ozone emissions (and the modeled plume generally correlated (in geographic proximity) with the observed ozone plume), except that the peak modeled ozone levels averaged approximately 19-20% higher than the peak monitored levels. Modeling uncertainties (including, for example, the non-linearity of the modeling) lead EPA to conclude that adjusting each modeled peak by the 19% average over-prediction was at least as sensible as adjusting each modeled peak by an amount that corresponds to that modeled peak's relationship to the monitored ozone value in the same vicinity.

⁶ The comment raised the issue that monitored readings during 1999 in the Washington, D.C. nonattainment area indicated nonattainment levels, but these data, again, do not provide much basis for evaluating the UAM model. In any event, at the time of the 1999 monitored readings, the Washington, D.C. area had not implemented certain measures that were required to be implemented as part of the attainment demonstration, and neither the Washington, D.C. area nor areas upwind of it had implemented through SIP revisions the NOx reductions required under the NOx SIP Call, 63 FR 57,356 (Oct. 27, 1998). Implementation of all these controls may be expected to reduce ozone levels in the Washington, D.C. area.

The comment was raised that for Atlanta, modeled results generally did not much vary from monitored results, and that in several areas, modeled results appeared to underestimate ozone levels. However, in acting on Atlanta's attainment demonstration, EPA generally did not apply WOE factors except for taking into account ambient improvement due to upwind NOx reductions required under the NOx SIP Call, and for requiring additional emissions reductions not modeled.

inventories. 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.

A comment also criticized the 1999 Guidance Document 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 comment also stated that the technique used to estimate the additional needed emission reductions for the Houston area does not identify a sufficient level of emission reduction to reach attainment. In addition, according to the comment, 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 comment, EPA's combination of techniques would allow 259 [sic., 289] tons per day of emissions, and yet EPA claims that the area will attain with even this higher level of emissions.

Direct application of the two methods discussed in the EPA's November 1999 guidance produced a mathematical impossibility for the Houston area. The results using either method were that all ozone precursor emissions would have to be reduced to less than zero. Thus, those two methods discussed in the 1999 guidance are not directly applicable to the Houston area's particular situation. Although this 1999 guidance memorandum describes two techniques for estimating additional levels of emission reductions, the memorandum should not be read to discourage or preclude the use of another technique. 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 was still consistent with the concepts in the 1999 guidance for estimating the relationship, but appropriate for the Houston area's modeling results. One of the methods in the guidance (Method 1) uses a linear extrapolation of model results to determine expected ozone benefits from additional precursor reductions. The revised 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 (i.e., VIa, VIb, and VIc) for the Houston area. A quadratic extrapolation is necessary because of the non-linearity of the ozone response to NO_x reductions in the Houston area. Therefore, the revised method is a refinement of Method 1 described in the 1999 guidance, based on the most recently available modeling for the Houston area. The factors used in the revised 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, it is EPA's preliminary finding that this revised method meets the EPA guidance, and it is as rigorous, if not more rigorous, than the two methods discussed in the 1999 guidance.

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, such as was modeled in strategy H2 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.

With regards to whether the revised approach sufficiently identifies the expected additional amount of emission reductions needed for attainment by the deadline, we believe that the comment raised failed to take into account all of the measures that will reduce ozone in the Houston area’s modeled control strategies submitted in the November 1999 SIP. In model strategy H2 (upon which the budgets are based), Texas modeled the effect of a prohibition on the use of construction equipment during the morning hours. The morning construction ban is different than most measures because it does not have the effect of reducing emissions, only shifting the time that they occur. By shifting the time that the NO_x emissions occur to later in the day, there is less time for the NO_x emissions to participate in the photochemical reaction before the sun sets. Therefore, less ozone is formed. This shift in timing of emissions changes the relationship between the peak ozone level to the total level of emissions. Therefore, the quadratic relationship correlating the level of ozone to the total level of emissions had to be adjusted. This shifted the curve used to estimate the amount of additional NO_x emission reductions by 9.5% based on comparing results of similar modeling runs with and without the time shift in construction emissions. The 9.5% is a percentage of the 2007 base emissions of 1052 tons per day. It is this adjustment in the curve that is the primary reason for the apparent discrepancy in the estimated level of emission reductions that are necessary for attainment. If some of the area’s emissions are shifted from the morning to later in the day, the total amount of emissions for the day can be higher with lower ozone levels.

As a result, EPA preliminarily concludes that the State of Texas used an acceptable method under the November 1999 guidance and applied it correctly.

Therefore, EPA concludes that the Commonwealth of Pennsylvania has met the necessary requirements for the Agency to preliminarily determine that the SIP and the associated commitments demonstrate attainment. As a result, EPA finds that the motor vehicle emissions budgets consistent with the attainment demonstration are adequate. Some comments received by EPA submitted additional specific comments on the weight of evidence analysis for the State of Commonwealth of Pennsylvania. EPA will address these comments fully in the context of rulemaking to approve the attainment demonstration. Because EPA is only preliminarily concluding that the attainment demonstration is approvable for purposes of finding the budgets adequate without completing rulemaking at this time on the attainment demonstrations, EPA believes that it need only address general comments about the appropriate tests for approving attainment demonstrations at this time and preliminarily determine that they were properly applied in this case. Detailed analysis of the attainment demonstration and specific comments on application of appropriate requirements will be addressed in subsequent rulemaking on approvability of the SIP. The adequacy process is separate from the notice and comment rulemaking process conducted by EPA to approve or disapprove the attainment plans as SIP

revisions. The rulemaking process to approve or disapprove these plans as SIP revisions involves approval of their associated control strategies and a more detailed examination of the technical analyses submitted by the state to demonstrate attainment. Therefore, EPA's adequacy findings are that submitted budgets are consistent with attainment, maintenance and/or ROP for conformity purposes. EPA's actual approval or disapproval of the budgets into the SIP occurs when we have completed our full rulemaking process on the relevant ROP or attainment plan and have either approved or disapproved it as a SIP revision. The adequacy process considers certain criteria specified in 40 CFR 93.118 in order to allow the use of these submitted budgets in conformity determinations while EPA is completing its formal review process to determine whether to approve the ROP and attainment plans as SIP revisions.

Comment: We received comments which assert that EPA can not extend attainment dates under its attainment date extension policy.

Response: The Philadelphia-Wilmington-Trenton ozone nonattainment area is classified as a severe area, therefore this comment does not apply.

Comment: We received comments asserting that some 9% demonstrations assume that a 1% reduction in NO_x emissions is equivalent in ozone reducing benefit to a 1% reduction in VOC emissions. The comments further assert that the EPA Guidance is legally flawed because it allows NO_x substitution without a demonstration that such substitution will in fact provide ozone reductions at least equivalent to that which would result from a 3% annual cut in VOC emissions. The States cannot use 1% for 1% without proving equivalent ozone reductions.

Response: The EPA issued NO_x substitution guidance initially on December 15, 1993 and clarified the guidance on August 5, 1994.⁷ In each case, the guidance recommended a demonstration that substitution will provide at least equivalent ozone benefits. The 1993 guidance stated that States should "justify substitution by illustrating 'consistency' between the cumulative emission changes emerging from the reasonable further progress/ substitution and the emission reductions in the model attainment demonstration (or comparable modeling analysis)." In the 1994 guidance, EPA recommended either photochemical grid modeling or regional modeling results to show that NO_x control is useful in helping an area to attain the ozone NAAQS.

As described in the 1993 guidance, any combination of VOC and NO_x emission reductions which totals 3% per year, and adequately addresses other SIP consistency elements described in

⁷"Transmittal of NO_x Substitution Guidance," memorandum from John S. Seitz, Director, Office of Air Quality Planning and Standards, to Air Division Directors, December 15, 1993. "Clarification of Policy for Nitrogen Oxides (NO_x) Substitution," memorandum from John S. Seitz, Director, Office of Air Quality Planning and Standards, to Air Division Directors, August 5, 1994.

that document, are appropriate. These elements ensure that the cumulative RFP reductions are consistent with the emission reduction measures identified in the model attainment demonstration. Further, the NOx emission reductions credited toward ROP may be capped by the cumulative reductions dictated by the attainment demonstration. For example, a control strategy emerging from a model demonstration might show reductions of 6% NOx and 40% VOC are needed to attain. Assuming zero creditable NOx emission reductions from 1990 through 1996, NOx reductions averaging 2% per year over the 3 years from 1996 to 1999 represent a cap on the NOx ROP reductions.

In allowing a combination of NOx and VOC controls or the substitution of NOx emissions reductions for VOC emissions reductions, Section 182(c)(2)(C) of the statute states that the resulting reductions "in ozone concentrations" must be "at least equivalent" to that which would result from the 3% VOC reductions required as a demonstration of reasonable further progress (RFP) under Section 182(c)(2)(B). The second sentence of Section 182(c)(2)(C) requires EPA to issue guidance "concerning the conditions under which NOx control may be substituted for [or combined with] VOC control." In particular, the Agency is authorized to address in the guidance the appropriate amounts of VOC control and NOx control needed, in combination, "in order to maximize the reduction in ozone air pollution." Further, the Act explicitly provides that the guidance may permit RFP demonstrations which allow a lower percentage of VOC emission reductions. In light of the entire set of language and Congress's evident intent under this subsection to maximize the opportunity for ozone reductions, EPA believes that Section 182(c)(2)(C) confers on the Agency the discretion to select, for purposes of determining equivalent reductions, a percentage of NOx emission reductions which is reasonably calculated to achieve both the ozone reduction and attainment progress goals intended by Congress. EPA is determining, as a preliminary matter, that the submitted attainment demonstrations are approvable, i.e., will likely demonstrate attainment for the relevant areas. Implicit in making such determinations, is a corollary conclusion that the mix of VOC and/or NOx control measures included in the area's attainment demonstrations are adequate. Based on our review of all the information submitted in support of these attainment demonstrations, it is the Agency's belief that the percentage of ozone reduction benefits achieved by application of NOx controls, for both ozone reduction and attainment progress goals, is "at least equivalent" as that achieved by application of VOC controls. Both the NOx and VOC controls are necessary if the area is to realize ozone reduction benefits and attain the NAAQS.

Comment: We received comments asserting that EPA Guidance allows substitution only if the controls demonstrate that the ozone NAAQS will be attained within time periods mandated by the Act and then claim that condition is plainly not met here because the plan does not demonstrate timely attainment of the ozone NAAQS.

Response: The issue of whether the plan demonstrates timely attainment of the ozone NAAQS is specifically addressed in other comment/responses. Regarding NOx substitution, "timely attainment" relates to the concern that "NOx reductions may not be substituted for VOC reductions in a manner that delays attainment of the ozone standard or that results in lesser annual reductions in ozone concentration than provided for in the attainment demonstration."

H.R. Resp NO. 490, 101st Cong., 2d Sess. 239 (1990). This concern is addressed in the NOx substitution guidance by requiring any NOx substitution to be consistent with the control strategy (i.e., a particular mix of NOx and VOC emission reductions) that demonstrates attainment.

Comment: We received comments asserting that EPA's January 10, 2000, memorandum on NOx substitution for out-year conformity budgets requires 1.6 tons of NOx reductions to offset 1 ton of VOC reductions. The comments further assert that the States' 9% demonstrations do not use this more recent ratio.

Response: As noted above, EPA allows a 1% to 1% substitution and does not require specific tonnage ratios. The methodology⁸ referred to in the January 10, 2000 guidance was not intended for use in ROP demonstrations; the methodology was developed for use in strengthening weight of evidence arguments for attainment demonstrations. The January 10, 2000 guidance contemplates use of the methodology for establishing conformity budgets for the out-years of an attainment demonstration; i.e., post-ROP years.

Comment: We received comments asserting that all the Phase II Plans fail to demonstrate emission reductions of 3% per year over each 3 year period between 1999 and 2005 as required by 42 U.S.C. §7511a(c)(2)(B). The comments that we received further assert that EPA has no authority to waive the statutory mandate for the 3% per year reduction requirement.

Response: In the case of Pennsylvania, the ROP budgets which are the subject of this adequacy determination are for the milestone years of 1999, 2002 and 2005 and thus cover all years after 1996 through the 2005 statutory attainment date for the Philadelphia-Wilmington-Trenton area. EPA has not proposed to waive the 3% per year reduction requirement through 2005 for the Philadelphia-Wilmington-Trenton area.

Comment: We received comments asserting that the Post-1996 ROP plans do not contain a demonstration to show the reductions will be achieved by November 15, 1999 and that the plans rely on reductions that are not creditable, credited too soon, or overstated. The comment raises three categories of objection: 1) a claim that that EPA cannot credit unapproved State measures nor credit State measures until specific emission limits are adopted; 2) a claim that the deadlines and limits in the national rules (AIM, autobody and consumer products) will result in fewer reductions than claimed by 1999; 3) a claim regarding inaccurate model assumptions.

Response: As previously discussed, the process of making adequacy findings for budgets is separate from the detailed review of the technical analyses provided by a state when EPA is conducting rulemaking to approve or disapprove submitted ROP and attainment plans as SIP revisions. For a finding of adequacy, approval of the underlying State rules is not a prerequisite.

⁸“Guidance for Improving Weight of Evidence Through Identification of Additional Emissions Reductions, Not Modeled” EPA, November 1999.

Furthermore, all of the State measures upon which Pennsylvania is relying for the Post-1996 ROP SIP for the Philadelphia-Wilmington-Trenton area consist of adopted measures that have emission limits for sources and that have been submitted as SIP revisions. EPA proposed approval of the Pennsylvania Post-1996 plan for the Philadelphia-Wilmington-Trenton area on this basis. (See 64 FR 46325, August 25, 1999).

Comments regarding the national measures and modeling assumptions are specifically addressed in other comment/responses elsewhere in this document.

Comment: We received comments asserting that it is illegal to provide credit towards an attainment demonstration for measures that have not been approved by EPA into the SIP.

Response: EPA agrees that it can not credit measures towards approval of an attainment demonstration unless the measures themselves or an enforceable commitment to adopt the measures are approved into the federally enforceable SIP, or measures are promulgated as required federal measures. However, EPA is not approving the attainment demonstration at this time. EPA will ensure that all measures are approved, promulgated, or enforceably committed to prior to approval of the attainment demonstration. The conformity rules specifically 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). Because EPA believes that it will be able to approve the attainment demonstration as all measures will be approved into the SIP in a timely fashion, EPA concludes that it is appropriate to find the budgets adequate at this time based on the commitments in the submitted SIPs to all of the necessary measures. EPA finds that the budget is consistent with attainment and all of the measures meet the requirements of the conformity rule.

Comment: We received comments asserting that budgets can not take credit for measures which have not been adopted and are not enforceable, including measures to comply with the NOx SIP call.

Response: As noted above, EPA agrees that it can not credit measures towards approval of an attainment demonstration unless the measures themselves or an enforceable commitment to adopt the measures are adopted and approved into the federally enforceable SIP, or measures are promulgated as required federal measures. However, EPA is not approving the attainment demonstration at this time. EPA will ensure that all measures are adopted and approved, promulgated, or enforceably committed to, and thus that they are enforceable under the SIP, prior to approval of the attainment demonstration. As also noted above, the conformity rules specifically 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).

Furthermore, the conformity rule has always provided for SIPs to be used for conformity purposes even where all measures are not fully adopted in enforceable form, provided there are written commitments to such measures. For example, 40 CFR 93.120(a) allows the budgets in a disapproved SIP to be used for conformity purposes if the disapproval is accompanied by a protective finding, i.e., if the SIP includes written commitments to adopt control measures sufficient to satisfy the emissions reductions requirements for attainment, even if the control measures are not already adopted in enforceable form. See 62 FR 43796, first column, for more details. Because the conformity rule clearly envisions that budgets can be used for conformity even if they are based on commitments rather than fully adopted and enforceable measures, EPA believes it is appropriate to find the budgets in Pennsylvania's SIP adequate for conformity purposes.

In summary, because all measures which have not yet been adopted are either required as federally promulgated measures or included in written commitments in the SIP, EPA believes that it can find the budgets adequate consistent with the conformity rule requirements on crediting measures.

With specific reference to measures to comply with the NOx SIP call, EPA found that current SIPs in 22 states and the District of Columbia (23 jurisdictions) were insufficient to provide for attainment and maintenance of the 1-hour standard because they did not regulate NOx emissions that significantly contribute to ozone transport. 63 FR 57356 (October 27, 1998). This rule called on the 23 jurisdictions to revise their SIPs to require NOx emission reductions within the state to a level consistent with a NOx emissions budget identified in the final rule. This final rule is commonly referred to as the NOx SIP Call. Although the NOx SIP submittal date has been indefinitely stayed by a three-judge panel of the Court of Appeals for the District of Columbia Circuit, the rule itself requiring emission reductions to be implemented by May 1, 2003, continues to be in effect. In a March 3, 2000 decision the court upheld the NOx SIP call in most significant respects. The court remanded and vacated the rule as it applied to three states -- Wisconsin, Georgia and Missouri, and remanded two relatively small portions of the budget. Michigan v. EPA, No. 98-1497 (D. C. Cir., March 3, 2000). To enable areas to promptly proceed with SIP adoption, EPA has since moved the court to lift the stay of the SIP submittal deadline that the court entered in May 1999. This motion is pending before the court. In the meantime, the rule requiring SIPs to provide for emission reductions by May 1, 2003, remains a federal requirement. Therefore, EPA believes it is appropriate to allow states to continue to assume that reductions from the NOx SIP Call in areas outside the local 1-hour ozone modeling domain would be in place by that date for purposes of finding budgets adequate.

Comment: We received comments asserting that Pennsylvania's SIP revision relies on EPA guidance memoranda to calculate emission reductions associated with the AIM coatings control measure, autobody refinishing rule, and consumer products rule. The comments further assert that the EPA memoranda were based on the proposed federal regulations and that the final rules that were ultimately adopted did not produce the level of emission reductions estimated in the proposed rule and the memoranda. The comments further assert that, as a result, the credits claimed in the proposed SIP revision need to be recalculated to reflect changes that resulted with the final adoption of the rules, specifically in the VOC content for certain coatings and extended

compliance dates.

Response: Architectural and Industrial Maintenance (AIM) Coatings: EPA's March 22, 1995 memorandum⁹ allowed states to claim a 20% reduction in VOC emissions from the AIM coatings category in ROP and attainment plans based on the anticipated promulgation of a national AIM coatings rule. In developing the attainment and ROP SIPs for the Philadelphia-Wilmington-Trenton nonattainment area, Pennsylvania 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 level as those estimated in the March 1995 EPA policy memorandum. In accordance with EPA's final regulation, Pennsylvania has assumed a 20% reduction from AIM coatings source categories in its attainment and ROP plans.

The estimated emission reductions for the rule are from a 1990 baseline. We believe that in recent years, many companies have reformulated products in anticipation of the final rule and are already marketing the products. Some companies also may have reformulated products to comply with State rules and marketed those products in broader regions than the State that regulates the product. Therefore, products produced before the 9/13/99 compliance deadline are not necessarily noncompliant. During the period of development of the rule, several states converted to use of waterborne traffic marking paints that meet the VOC content limit in the rule, thus significantly reducing emissions from this large category. For reasons such as these, we believe that it is unlikely that non-conforming products will be in wide use throughout most or all of 1999.

Autobody Refinish Coatings Rule: According to EPA's guidance¹⁰ 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 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

⁹"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

¹⁰"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 29, 1994, John S. Seitz, Director OAQPS, to Air Division Directors, Regions I - X.

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. In the proposed rule, the estimated percentage reduction for areas that were unregulated before the national rule was about 40%. If an area were unregulated before the national rule, the 40% would be our estimate except for one rule change made between proposal and final: the exemption of lacquer topcoats. As a result of that exemption, the estimated percentage reduction for previously unregulated areas is about 36%. Therefore, most areas will need to make up the approximately 1% difference in the reductions to be achieved from the final program and those assumed based on the proposed program. Pennsylvania claimed a 37% reduction from this category in the ROP and attainment plans. For the ROP plans, the claimed reductions range from 6.01 tons per day (tpd) in 1999 to 6.12 tpd in 2005. Adjustment of Pennsylvania's claim from 37% to 36% will create a shortage of less than 0.2 tpd. The State ROP plans with NOx substitution show a surplus of reductions relative to ROP for all milestone years after 1996 in excess of 50 tpd. In a February 25, 2000 letter to EPA, Pennsylvania committed to adopt additional measures necessary to achieve the reductions needed for the attainment test as called for in our December 16, 1999 Notice of Proposed Rulemaking (64 FR 70428).

Consumer Products Rule: According to EPA's guidance¹¹ and proposed national rule, States have 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: We received comments asserting that 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. The comments further assert that EPA and the states have not followed a consistent practice in updating SIP modeling to account for changes in vehicle fleets. The comments also assert that EPA cannot rationally approve SIPs that are based on such materially inaccurate assumptions. The comments also assert continued use of out-dated assumptions is inconsistent with the duty imposed by Clean Air Act section 182(a)(3) to triennially update the emission inventory. The comments also assert that if the motor vehicle inventory has not been updated to prepare the current SIP submission, it should be disapproved.

Response: The Philadelphia-Wilmington-Trenton Ozone Nonattainment Area (Southeast Pennsylvania) SIP is based on vehicle registration data from 1993, which is the most recent data available at the time the SIP was submitted.

In the November 3, 1999, "Guidance on Motor Vehicle Emissions Budgets in One-Hour Ozone

¹¹"Regulatory Schedule for Consumer and Commercial Products under Section 183(e) of the Clean Air Act", June 22, 1995, John S. Seitz, Director OAQPS, to Air Division Directors, Regions I - X.

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. We are satisfied that the attainment SIP is based on the latest available information and therefore meets the existing guidance.

Comment: We received comments asserting that the SIP’s motor vehicle emissions budgets are inadequate because the SIP does not provide for attainment. The comments further assert that the SIP does not provide for sufficient emissions reductions.

Response: As described in the November 3, 1999 memorandum entitled “Guidance on Motor Vehicle Emissions Budgets in One-Hour Ozone Attainment Demonstrations,” there are circumstances in which we could find a SIP’s motor vehicle emissions budgets adequate even though additional emission reductions are necessary in order to demonstrate attainment.

Specifically, we indicated that motor vehicle emissions budgets could be adequate for conformity purposes if the area commits to adopt measures that will achieve the necessary additional reductions, and the area identifies a menu of possible measures that could achieve the reductions without requiring additional limits on highway construction. Pennsylvania’s SIP for the Philadelphia-Wilmington-Trenton area contains such commitments and such a menu. A commitment letter was submitted to EPA on February 25, 2000 which includes the list of measures.

We believe that we can find Pennsylvania’s budgets for the Philadelphia-Wilmington-Trenton area adequate because the budgets will not interfere with the area’s ability to adopt additional measures to attain. Because the additional measures do not involve additional limits on highway construction, allowing new transportation investments to proceed consistent with the budgets will not prevent the area from achieving the additional reductions it needs. 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.

Comment: We received comments asserting that 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: Our adequacy criteria in 40 CFR 93.118(e) do not require that the SIP include reasonably available control measures in order for the motor vehicle emissions budgets to be adequate for conformity purposes. Our adequacy review, which is a cursory review process prior to the full approval/disapproval of the SIP, is focused on whether the motor vehicle emissions budgets are part of an overall strategy that is consistent with attainment, and whether the emissions budgets are calculated correctly. As long as the motor vehicle emissions budgets are consistent with attainment, we believe they are adequate for conformity’s purpose of preventing new or worsened violations. The area’s choice of measures to reach attainment does

not affect whether the motor vehicle emissions budgets are adequate for conformity purposes.

Furthermore, our adequacy criteria do not require that EPA definitively conclude that motor vehicle emissions budgets provide for attainment as expeditiously as practicable. In order for the budgets to be adequate for conformity purposes, EPA must simply conclude that the SIP appears to provide for timely attainment, and could meet this test where the SIP provides for attainment by the statutory date or the date provided by bump-up or extension. The cursory adequacy review does not provide an opportunity for us to review and consider all possible measures that could have been adopted to achieve attainment more expeditiously. For the purposes of the adequacy review, which is less extensive than our approval/disapproval action, we consider that the motor vehicle emissions budgets do not delay timely attainment as long as they are consistent with a control strategy that provides for attainment by the statutory date or the date provided by bump-up or extension.

Further, EPA believes that the magnitude of measures associated with the attainment demonstration and the time needed for state adoption and implementation of such measures makes it practically unlikely that the attainment date could be advanced. EPA preliminarily concludes that the SIP provides for attainment as expeditiously as practicable because a significant number of measures in the attainment demonstration can not practicably be adopted and implemented prior to the identified attainment date. For example, the states in the OTR are considering the following measures for adoption: Architectural and Industrial Maintenance (AIM) Coatings, Consumer Products, Mobile Equipment Refinishing, Solvent Cleaning, and Low Sulfur Fuels. EPA preliminarily concludes that no group of additional measures could practicably be adopted and implemented in sufficient time to advance that attainment date.

Therefore, EPA concludes that the budgets in the attainment demonstration are adequate because they are consistent with a demonstration that EPA preliminarily concludes includes sufficient RACM to provide for attainment as expeditiously as practicable.

III. Evaluation of the Budgets

Table 1 - The Budgets

Clean Air Act Requirement	Milestone Year	Mobile Vehicle Emissions Budget for NOx- Tons Per Day	Mobile Vehicle Emissions Budget for VOC- Tons Per Day
Reasonable Further Progress	1999	109.60	88.66
Reasonable Further Progress	2002	93.13	69.52
Reasonable Further Progress	2005	86.42	61.76
Attainment	2005	86.42	61.76

Table 2

Adequacy of the Motor Vehicle Budgets in the Revised Attainment Plan for the Philadelphia-Wilmington-Trenton Ozone Nonattainment Area

Transportation Conformity Rule 40 CFR Part 93, § 93.118	Review Criteria	Was the criterion satisfied? If “Yes” how was i Satisfied? (Reference SIP document / comments if required)
Sec. 93.118(e)(4)(i)	Was the submitted Phase II plan endorsed by the Governor (or his or her designee) and subject to a State public hearing?	Yes. The submitted Phase II plan was endorsed by the Governor (or his or her designee) and a public hearing was held.

Sec. 93.118(e)(4)(ii)	Before the Phase II plan was submitted to EPA, did consultation among federal, State and local agencies occur; was full implementation plan documentation provided to EPA, and were EPA's stated concerns, if any, addressed?	Yes. Full documentation was provided to EPA and consultation has occurred between all required federal, state and local agencies.
Sec. 93.118(e)(4)(iii)	Were the budgets clearly identified and precisely quantified?	Yes.
Sec. 93.118(e)(4)(iv)	Are the budgets, when considered together with all other emission reductions, consistent with applicable requirements for attainment demonstrations?	Yes, as per the November 3, 1999 guidance from Merrylin Zaw-Mon referenced in Section I, the budgets can be declared adequate based upon the commitments to additional measures made by Pennsylvania in a SIP submittal dated February 25, 2000 . Those commitments were reaffirmed in a February 25, 2000 letter from Pennsylvania to EPA.
Sec. 93.118(e)(4)(v)	Are the budgets consistent with and clearly related to the emissions inventory and the control measures in the submitted attainment demonstration?	EPA believes that the budgets can be declared adequate as long as the effects of the Tier 2/Sulfur-in-fuel rule are not used to demonstrate conformity against these budgets. The budgets do not include EPA's Tier2/Sulfur-in-fuel rule that will be in effect in 2005, but they do include all other controls in effect in 2005.

Sec. 93.118(e)(4)(vi)	Revisions to previously submitted attainment demonstrations: explain and document any changes to previously submitted budgets and control measures; impacts on point and area source emissions; any changes to established safety margins (see Sec. 93.101 for definition); and reasons for the changes (including the basis for any changes related to emission factors or estimates of vehicle miles traveled).	Yes. The plan explains that the budget changes are due to application of additional mobile source controls, namely, NLEV and the HDDE 2 gram standard.
Sec. 93.118(e)(5)	Did the state provide opportunity for public comment and did we review the State's responses to those comments with the submitted SIP?	Yes. Opportunity for public comment was provided and there were public comments. We reviewed the comments and the State's responses and determined that the State adequately responded to those comments.

Table 3

Adequacy of the Motor Vehicle Budgets in the Revised ROP Plans for the Pennsylvania Portion of the Philadelphia-Wilmington-Trenton Ozone Nonattainment Area

Transportation Conformity Rule 40 CFR Part 93, § 93.118	Review Criteria	Was the criterion satisfied? If "Yes" how was it satisfied? (Reference SIP document / comments if required)
Sec. 93.118(e)(4)(i)	Was the Phase II plan endorsed by the Governor (or his or her designee) and subject to a State public hearing?	Yes. The Phase II plan was endorsed by the Governor (or his or her designee) and a public hearing was held.

Sec. 93.118(e)(4)(ii)	Before the Phase II plan was submitted to EPA, did consultation among federal, State and local agencies occur; was full implementation plan documentation provided to EPA, and was EPA's stated concerns, if any, addressed?	Yes. Full documentation was provided to EPA and consultation has occurred between all required federal, state and local agencies.
Sec. 93.118(e)(4)(iii)	Are the budgets clearly identified and precisely quantified?	Yes.
Sec. 93.118(e)(4)(iv)	Are the budgets, when considered together with all other emission reductions, consistent with applicable requirements for the control strategy implementation plan?	Yes. .
Sec. 93.118(e)(4)(v)	Are the budgets consistent with and clearly related to the emissions inventory and control measures in the submitted control strategy implementation plan?	Yes. That the 2005 ROP does not reflect EPA's Tier 2/Sulfur-in-fuel rule is moot because the ROP budget need only be consistent with ROP and because EPA will prohibit the use of credits from the Tier 2/Sulfur-in-fuel in conformity determinations until the 2005 attainment budgets are changed to include the Tier 2/sulfur-in-fuel rule. Once this occurs, the 2005 ROP budget will be higher than the attainment budget and all conformity determinations for 2005 and later will be controlled by the attainment budget.

<p>Sec. 93.118(e)(4)(vi)</p>	<p>Revisions to previously submitted control strategy implementation plan: explain and document any changes to previously submitted budgets and control measures; impacts on point and area source emissions; any changes to established safety margins (see Sec. 93.101 for definition); and reasons for the changes (including the basis for any changes related to emission factors or estimates of vehicle miles traveled).</p>	<p>Yes. The plan explains that the budget changes are due to application of additional mobile source controls, namely, NLEV in 2002 and 2005, and the HDDE 2 gram standard in 2005.</p>
<p>Sec. 93.118(e)(5)</p>	<p>Did the state provide opportunity for public comment and did we review the State's responses to those comments with the submitted SIP?</p>	<p>Yes. Opportunity for public comment was provided and there were public comments. We reviewed the comments and the State's responses and determined that the State adequately responded to those comments.</p>

IV. Additional Issues

Tier 2 Considerations

The November 8, 1999 memorandum, "1-Hour Ozone Attainment Demonstrations and Tier 2/Sulfur Rulemaking" from Lydia Wegman, Office of Air Quality Planning and Standards and Merrilyn Zaw-Mon, Office of Mobile Sources and the December 16, 1999 Proposed Rulemaking on Pennsylvania's attainment plan for the Philadelphia-Wilmington-Trenton Ozone Nonattainment Area clearly indicate that if Tier 2 reductions are needed for demonstrating attainment, which is the case for this ozone nonattainment area, we must include a condition in our adequacy findings that conformity determinations may not take credit for Tier 2 until the budgets of the SIP is are revised to reflect Tier 2 benefits. EPA believes that the budgets do not need to be revised immediately to include Tier 2 benefits in order for us to find the budgets adequate. However, since the Tier 2 Rule is now final, without this condition, all the Tier 2 reductions could be used for increase in vehicle miles traveled above those already provided for in the SIP. The Tier 2 reductions needed for attainment would not be available. Therefore, we are including a condition in our adequacy findings which prohibits the use of Tier 2 emission

reductions in conformity determinations until the budgets of the SIP are revised to reflect Tier 2 benefits.

SIP-Approved Enhanced I/M Program - Cut Points Issue

Pennsylvania's Phase II plan for the Philadelphia-Wilmington-Trenton Ozone Nonattainment Area take credits for reductions from the Commonwealth's fully SIP-approved Enhanced Motor Vehicle Inspection & Maintenance Program as though subject vehicles for all model years covered by the program were being tested at the program's final cut points. Currently this is not the case. Therefore, on May 26, 2000, Pennsylvania submitted a letter to EPA stating that the Commonwealth is committed to a schedule whereby all model year vehicles subject to the Philadelphia-area inspection and maintenance program will be required to meet final cutpoints by the start of the 2005 ozone season. The letter also states that the Philadelphia area will also meet its 2002 ROP emission reduction milestone. The measures in the Philadelphia ROP plan achieve this milestone with a very large margin of safety. About 60 percent of the reductions achieved are from mobile source control measures.

V. Recommendations

Based upon our review and evaluation of the budgets contained in the revised attainment demonstration plan (attainment plan) for the Philadelphia-Wilmington-Trenton Ozone Nonattainment Area submitted by Pennsylvania on February 25, 2000, and the letters submitted by Pennsylvania on February 25, 2000 and May 26, 2000, we recommend that these motor vehicle budgets be found adequate subject to a condition which prohibits the use of Tier 2 emission reductions in conformity determinations until the budgets of the SIP are revised to reflect Tier 2 benefits.

Based upon our review and evaluation of the budgets contained in the revised ROP plans for the Pennsylvania portion of the Philadelphia-Wilmington-Trenton Ozone Nonattainment Area (Philadelphia, Delaware, Chester, Montgomery and Bucks Counties) submitted by Pennsylvania on February 25, 2000 and the letter submitted on May 26, 2000, we recommend that these motor vehicle budgets be found adequate.