

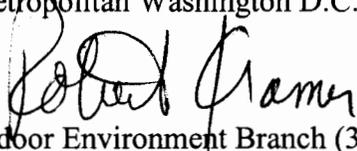
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103

December 8, 2003

SUBJECT: Technical Support Document for Adequacy Findings for the Motor Vehicle Emissions Budgets in the Revised Attainment Plan and Initial 2005 Rate of Progress Plans for the Metropolitan Washington D.C. Ozone Nonattainment Area (DC-MD-VA)

FROM:  Martin T. Kotsch, P.E.
Environmental Engineer (3AP23)

TO: The Administrative Record on the Adequacy findings for the Motor Vehicle Emissions Budgets in the Revised Attainment Plan and Initial 2005 Rate of Progress Plans for the Metropolitan Washington D.C. Ozone Nonattainment Area (DC-MD-VA)

THRU:  Robert Kramer, Chief
Energy, Radiation and Indoor Environment Branch (3AP23)

I. Administrative Requirements For Making Adequacy Findings

The adequacy of the motor vehicle emission budgets (hereafter, "budgets") contained in the revised Attainment Plans for the Metropolitan Washington D.C. Nonattainment Area (DC-MD-VA) were 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 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."

By transmittal letters dated as shown in the table below; Maryland, Virginia and the District of Columbia, each formally submitted State Implementation Plan (SIP) revisions amending the previously conditionally approved Phase II attainment demonstration (68 FR 19106, April 17, 2003), (hereafter, "the attainment plan") for the Metropolitan Washington D.C. ozone nonattainment area (hereafter, "the Washington D.C. area"). This SIP revision contains new MOBILE6 motor vehicle budgets for the attainment year 2005. In addition, the three jurisdictions also submitted initial MOBILE6 mobile vehicle emission budgets in Rate of Progress (ROP) Plans for the milestone years 2002 and 2005.

The attainment plan revision and ROP plans for 2002 and 2005 milestones for all three jurisdictions contained the same attainment plan and area-wide mobile vehicle emissions budgets for the year 2005 of:

VOC: 98.1 tons/day

NOx: 237.4 tons/day

Table 1 State SIP Submission Dates

State	Submittal Date	Attainment Plan SIP Rev #	Rate of Progress Plan SIP Rev #
Maryland	September 2, 2003	MD147	MD148
Virginia	August 19, 2003	VA135	VA136
D.C.	September 5, 2003	DC053	DC054

On September 10, 2003, a notice was posted on EPA's website commencing the comment period on the adequacy of the budgets in the revised attainment plan and initial ROP plans for the Washington D.C. area. That notice also informed the public that the entire revised attainment plan submitted by Maryland, Virginia and the District of Columbia had been posted by the states electronically on their respective websites. EPA's website notice also provided a link to and the address for the website where interested members of the public could access the attainment plan and ROP plans. EPA's adequacy public comment period closed on October 10, 2003. The following public comments were received pursuant to EPA's September 10, 2003 posting.

On October 10, 2003, we received comments from 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 each of the letters from EPA to Air agencies at the Maryland Department of the Environment(MDE), the Virginia Department of Environmental Air Quality (VADEQ) and the District of Columbia Air Resources Management Division, informing them of our adequacy findings on the budgets for the Washington, D.C. Area. 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 for that Federal Register notice. The letters to each of the three areas and the attached TSDs will be posted on EPA's website at <http://www.epa.gov/oms/traq>, once EPA has published the adequacy determination as discussed in item IV, below and published the Federal Register notice announcement of our findings.

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

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 merely determinations that submitted budgets are consistent with attainment, maintenance and/or ROP for conformity purposes. EPA's actual approval or disapproval of the budgets in 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 once EPA finds the budgets adequate 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 attainment plan and ROP plans as required SIP revisions, rather than the adequacy, of the budgets for the time being rather than addressing them in the context of this TSD prepared in support of our adequacy findings on the budgets. EPA will address comments germane to approvability of the attainment plan and ROP plans in our rulemakings to approve or disapprove them as SIP revisions.

Comment: EPA received a comment that said that we cannot set motor vehicle emission budgets (MVEBs) without formal notice and comment rulemaking in the Federal Register, and therefore do not have authority to determine the adequacy of the Washington D.C. MVEBs through a notice published via the internet.

Response: As clarified in the preamble to the conformity rule revision establishing the adequacy process, EPA has held that adequacy findings do not need to be made through APA notice and comment rulemaking. EPA does not believe these actions involve rulemaking. Instead we conduct adequacy determinations through informal adjudications. In the preamble to the 1997 conformity rule (62 FR 43783), we state that "it is appropriate not to provide notice and comment for adequacy determinations for submitted SIPs, since these determinations are only administrative reviews and not substantive rules." Adequacy reviews are carried out on an informal, case-by-case basis and apply existing criteria in the conformity rule (40 CFR 93.118(e)(4)) that were previously subjected to notice and comment rulemaking.¹ Further, case law establishes that agencies have discretion to decide whether to conduct such actions through rulemaking or adjudication.² This aspect of the conformity rule was not affected by the March 1999 court decision.

¹ July 9, 1996, Proposed Rule (61 FR 36112) and August 15, 1997, Final Rule (62 FR 43780)

² See, *NLRB v. Bell Aerospace Co.*, 416 U.S., 267, 294 (1974).

However, EPA believes that providing some opportunity for public involvement even in these adjudications adds value to our adequacy review. Specifically, we believe public comment can assist us in making more informed decisions regarding submitted budgets and their ability to ensure that new transportation activities will not cause or contribute to new violations, worsen existing violations, or delay timely attainment of the air quality standards. As a result, the existing adequacy process provides a minimum 30-day public comment period for each SIP that we review for adequacy. This adequacy public comment period, along with the State's public process during SIP development, allows EPA to make an informed decision on whether a submitted SIP meets the adequacy criteria established under §93.118(e)(4) of the conformity rule.

Comment: EPA received comments asserting that the budgets cannot be found adequate because the underlying SIP is legally deficient in a number of respects. Initially, one comment alleges that the SIP is defective in failing to demonstrate attainment using photochemical grid modeling as required by the federal Clean Air Act (CAA).

Response: This comment challenges EPA's use of a weight of evidence (WOE) analysis for determining that the SIP demonstrates attainment. The comments allege that WOE does not demonstrate attainment or meet CAA requirements for a modeled attainment demonstration using photochemical grid modeling. The comments raise several criticisms of various technical aspects of WOE as applied to the attainment demonstration.

In particular the commenter alleges that WOE does not comply with the statutory requirement that a demonstration of attainment be based on photochemical grid modeling or an equally effective method, and that the WOE analysis relies on a prohibited "proportional rollback," to demonstrate attainment.

These comments are not new to EPA, but rather rehash comments made previously by the commenter with respect to EPA's conditional approval of the Washington area severe area attainment demonstration SIP, which is currently the subject of litigation before the Court of Appeals for the District of Columbia Circuit at *Sierra Club v. U.S. Environmental Protection Agency, et. al.*, No. 03-1084 (consolidated cases).³ Therefore, although we address the particular comments set forth below, we also incorporate by reference in this response our prior responses, set forth at *Approval and Promulgation of Air Quality Implementation Plans; Districts of Columbia, Maryland, Virginia; Post 1996 Rate-of-Progress Plans and One-Hour Ozone*

³ The commenter purports to incorporate by reference their prior comments on EPA's previous proposals to rely on the WOE method in the Washington area. These comments are not identified with any particularity. To the extent that our answer herein does not directly respond to other comments purported to be incorporated by reference, we hereby incorporate by reference our prior responses to any such comment.

Attainment Demonstrations, 68 FR 19106, 19,111-18 (April 17, 2003, as corrected, 68 FR 26495 (May 16, 2003)), as well as arguments made and materials cited in the *Initial Brief for Respondents*, No. 03-1084 (D.C. Cir., filed Aug. 22, 2003) (Resp. Br.), pp 9-18, 34-53. (Attachment 1 to the TSD)

With respect to the allegation that the WOE analysis does not meet the statutory requirement that an attainment demonstration be based on photochemical grid modeling or approved equivalent method, EPA has previously pointed out that CAA section 182(c)(2)(A) provides only that “the 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.” 42 U.S.C. § 7511a(c)(2)(A) (emphasis added).

EPA’s legal justification for the use of WOE was recently upheld in *BCCA Appeal Group v. U.S. EPA*, 348 F.3d 93 (5th Cir. 2003). The *BCCA* court specifically upheld EPA’s assertion that a WOE analysis is consistent with the CAA since “the statute does not require that an attainment demonstration be based solely or directly on photochemical grid modeling.” *Slip. op.* at 14. The requirement is met so long as “modeling results constitute the principle component of EPA’s analysis, with supplemental information designed to account for uncertainties in the model.” *Id.* That is the case with the Washington area attainment demonstration, where, as EPA has stated “photochemical grid modeling is the starting point of the analysis; indeed, the very purpose of the WOE analysis is to determine whether the modeling, in light of all the evidence, demonstrates attainment.” 68 FR 19112; Resp. Br. pp. 36-40, 48-50.

Because EPA considered the WOE analysis to be “based on” photochemical grid modeling, EPA did not employ weight-of-evidence as an “other analytical method” in lieu of photochemical grid modeling. Therefore, EPA never triggered the requirement under CAA section 182(c)(2)(A), that the EPA Administrator determine that weight-of-evidence is “at least as effective” as photochemical grid modeling. 68 FR 19112-13; Resp. Br., n. 22.

With respect to the comment that EPA employed a prohibited “proportional rollback,” the commenter confuses the concept of the proportional rollback with the “relative reduction factor” (RRF) employed by EPA in the WOE analysis. A true “proportional rollback” does not rely on any photochemical grid modeling, but simply assumes that a decrease in precursor emissions will result in a proportional decrease in ozone concentrations. 40 C.F.R. pt. 51, app. W § 6.2.1; 68 FR 19113. That is not what EPA did in analyzing the attainment demonstration for the Washington area. Rather, the RRF of 0.88 applied in the case of the Washington area attainment demonstration equates to a 12% reduction in ozone, whereas the modeled reductions in NO_x and VOC emissions were 26% and 32%, respectively. Thus, there is no proportional relationship between the reduction in emissions and the reduction in ozone concentration. Resp. Br., n. 23.

The RRF accounts for uncertainty in the modeling results, and the WOE analyses uses the relationship between modeled peak predictions in the base year and the attainment year to determine the decrease in ozone concentration predicted to result from the implementation of adopted control measures. The RRF is then applied to the measured base year design value to

estimate the design value in the attainment year.⁴ *Id.* Thus, like the WOE analysis generally, the RRF is “based on” photochemical grid modeling, comports with the requirements of 42 U.S.C. § 7511(c)(2)(A), and is not prohibited by any provision of the CAA or EPA guidance.

Comment: We received a comment that the 9% Rate of Progress (ROP) demonstration assumes that a 1% reduction in NO_x emissions is equivalent in ozone reducing benefit to a 1% reduction in VOC emissions. The commenter asserts that EPA’s NO_x Substitution Guidance (December 1993) is flawed under section 182(c)(2)(C) of the Clean Air Act 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 commenter claims that such a demonstration requires photochemical grid modeling showing equivalency and that EPA’s own guidance (Guidance on the Post-1996 Rate-of-Progress Plan and Attainment Demonstration (corrected version as of 2/18/94) requires such modeling. The states cannot use a 1% NO_x for 1% VOC substitution without proving that a 1% NO_x cut will in fact provide ozone reductions at least equivalent to that resulting from a 1% VOC cut.

Notwithstanding the prior comment, the commenter further asserts that more recent EPA guidance dated January 10, 2000 for NO_x substitution in out-year conformity budgets requires 1.6 tons in NO_x reductions to offset 1 ton of VOC reductions and, the ROP demonstration does not use this ratio.

Response: 1. NO_x Substitution in General The EPA believes States have the opportunity to substitute NO_x reductions for required VOC reductions under certain circumstances. The opportunity for NO_x substitution originates in section 182(c)(2)(C) of the CAA which specifically allows NO_x emissions reductions to be substituted for VOC reductions required under section 182(c)(2)(B) for reasonable further progress (RFP) also called ROP.

EPA issued guidance to the States on how to implement the NO_x substitution provisions for the post-1996 ROP plans in 1993 (Memorandum of December 15, 1993, from John S. Seitz re: “Transmittal of NO_x Substitution Guidance”). The guidance allows States to substitute NO_x emission reductions for VOC emission reductions if such substitution is consistent with the modeled attainment demonstration in the SIP. The modeled attainment demonstration in the SIP establishes the overall reductions of VOC and/or NO_x reductions required for attainment in the attainment year. The ROP plan is basically a tool to phase in emission reductions between the time the plan is prepared and the attainment date.

EPA has approved numerous post-1996 ROP plans pursuant to the NO_x Substitution Guidance. See for example, 66 FR 54143, October 26, 2001; 66 FR 54577, October 29, 2001; 66 FR 54597, October 29, 2001; 66 FR 54666, October 30, 2001; 66 FR 57159, November 14, 2001, 67 FR 5151, February 4, 2002; and 67 FR 5170, February 4, 2002.

⁴ The processes EPA used to derive and apply the RRF in the context of the WOE analysis is described in greater detail at 68 FR 19113-15.

To substitute NOx for VOC in post-1996 ROP's, care must be taken to not substitute so much NOx such that the attainment demonstration is no longer valid. At the extreme case, in an area for which the attainment demonstration that relies totally on VOC emission reductions, it would be inconsistent to substitute NOx for VOC.

The NOx substitution guidance allows substitution on a percentage basis (i.e., one percent of NOx emissions reductions for one percent of VOC emissions reductions) and does not require additional analysis of whether the ozone reduced from the NOx emission reductions is equivalent to that which would result from the foregone VOC emission reductions. It should be noted also that EPA's "Guidance for Improving Weight of Evidence Through Identification of Additional Emission Reductions, Not Modeled,"⁵ references EPA's NOx substitution guidance for purposes of substitution of NOx reduction for additional VOC emission reductions identified as needed for attainment.

EPA continues to believe that these guidance documents are an appropriate interpretation of the CAA and relies on them in this adequacy determination.

2. Technical and Practical Reasons for NOx Substitution Guidance The modeling performed for an attainment demonstration establishes the basic relationship between emission reductions, either of VOC, NOx or both, and ozone reductions. This relationship is established for the attainment year. As noted above, the modeled attainment demonstration establishes the overall VOC and/or NOx emission targets that are consistent with attainment of the standard at the attainment year. When EPA determines that an attainment demonstration is approvable, i.e., will likely demonstrate attainment for the relevant areas, it is making an implicit corollary conclusion that the mix of VOC and/or NOx control measures included in the area's attainment demonstration is appropriate.

The ROP plan is then used to phase in emission reductions between the time of plan adoption and the attainment date. EPA does not require modeling of interim years for the purpose of trying to update the NOx/VOC/ozone relationship for a number of reasons, including the following that are provided in the 1993 NOx substitution guidance:

- a. The strong likelihood that optimum "exchange" rates vary from year to year and across a geographic area as an area's emissions distribution and atmospheric chemistry change over time;
- b. Uncertainty in modeling analyses, particularly when attempting to ascertain responses from small percentage perturbations in emissions; and
- c. Resource limitations associated with modeling specific control measures during interim years before attainment dates.

⁵ 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. Available at <http://www.epa.gov/ttn/scram/>.

The EPA believes these are adequate reasons for maintaining this guidance for purposes of NOx substitution under the ROP plan requirements.

In addition, the "Major Modeling/Air Quality Conclusions" from the Ozone Transport and Assessment Group (OTAG) effort, based on extensive photochemical grid modeling of the Eastern US stated that regional NOx reductions are effective in producing ozone benefits, and that the more NOx reduced, the greater the benefit. (From: "Summary of Ozone Transport Assessment Group Recommendations to the U.S. Environmental Protection Agency as of June 20, 1997." Found at: [http://www.epa.gov/ttn/naaqs/ozone/rto/otag/finalrpt/.](http://www.epa.gov/ttn/naaqs/ozone/rto/otag/finalrpt/))

Recognizing that regional NOx reductions are effective in producing ozone benefits, EPA further encouraged NOx reductions by allowing States to credit certain regional NOx emission reductions outside the nonattainment area for purposes of the ROP plan. See EPA's Interim Implementation Guidance. (Memorandum of December 29, 1997, from Richard D. Wilson re: "Guidance for Implementing the 1-Hour Ozone and Pre-Existing PM₁₀ NAAQS.")

3. Legal Rationale for EPA NOx Substitution Guidance In addition, EPA still stands behind its legal rationale underlying the interpretation of "equivalency" that appears in the 1993 NOx substitution guidance (see section 4 of that guidance). In that guidance, the basis for equivalency is the ability of a given control strategy (i.e., any particular mix of NOx and VOC emission reductions) to affect attainment of the ozone NAAQS by the designated attainment year (NOx substitution guidance at page 2). Further, the NOx emission reductions credited toward ROP may be limited to the amount of NOx reductions required in the attainment demonstration; see the discussion and example above on this matter.

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 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 that allow a lower percentage of VOC emission reductions as long as compensating NOx reductions are achieved. 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 that is reasonably calculated to achieve both the ozone reduction and attainment progress goals intended by Congress.

As noted above, when EPA determines that an attainment demonstration is approvable, it is making an implicit corollary conclusion that the mix of VOC and/or NOx control measures included in the area's attainment demonstration is appropriate.

EPA disagrees with the comments that EPA's Guidance on the Post-1996 Rate-of-Progress Plan and Attainment Demonstration (corrected version as of 2/18/94) requires a different test than EPA's December 15, 1993 NOx Substitution Guidance. In section 4.1 of the Guidance on the Post-1996 Rate-of-Progress Plan and Attainment Demonstration, EPA restated the equivalency test set forth in sections 2 and 3 of our December 1993 NOx Substitution Guidance. With regard to the photochemical grid modeling, section 4.1 of the Guidance on the Post-1996 Rate-of-Progress Plan and Attainment Demonstration reads:

Section 182(c)(2)(C) states that actual NOx emission reductions which occur after 1990 can be used to meet post-1996 emission reduction requirements, provided that such reductions meet the criteria outlined in EPA's December 15, 1993 NOx Substitution Guidance. The condition for meeting the rate-of-progress requirement is that the sum of all creditable VOC and NOx emission reductions must equal 3 percent per year averaged over each applicable milestone period. The percent VOC reduction is determined from the VOC rate-of-progress inventory and the percent NOx reduction is determined from the NOx rate-of-progress inventory. In addition, the overall VOC and NOx reductions must be consistent with the area's modeled attainment demonstration. In other words, the NOx emission reductions creditable toward the rate-of-progress plan cannot be greater than the cumulative reductions dictated by the modeled attainment demonstration.

This portion of the 1994 guidance merely summarizes the guidance provided in our December 1993 NOx Substitution Guidance. With regard to the photochemical grid modeling, section 2 of our December 1993 NOx Substitution Guidance reads:

The provision for NOx substitution recognizes that a VOC-only control pathway may not be the most effective approach for effecting attainment in all areas. Consequently, NOx reductions are placed on a near equal footing with VOC through substitution. This document establishes two conditions pursuant to both the substitution and RFP provisions in the Act. The first condition requires that control strategies incorporating NOx emission reduction measures must demonstrate that the ozone NAAQS will be attained within time periods mandated by the Act. This condition reflects the Title I provision for gridded photochemical model demonstrations (Section 182(c)).

The second condition ... maintains the requirement for periodic emission reductions in order to realize progress toward attainment. Flexibility is introduced by allowing VOC and NOx reductions rather than VOC reductions alone. A third condition exists in which the periodic emission reductions must be consistent with the model attainment demonstration.

For each of the two conditions, the guidance refers to the photochemical grid modeling that is necessary for the modeled attainment demonstration and that establishes the NO_x/VOC/ozone relationship at the attainment date. The NO_x substitution guidance does not require a modeled demonstration of equivalence for the interim period for the reasons discussed above.

As noted above, EPA continues to believe that these guidance documents are appropriate interpretations of the CAA and relies on them in this adequacy determination.

4. January 10, 2000, Guidance on Conformity Budgets in Out-Years The January 10, 2000 guidance (Memorandum from G.T. Helms to Marcia Spink re: "Substitution of Nitrogen Oxide (NO_x) Emission Reduction in Out-Year Conformity Budgets") was developed to address a specific question related to development of an emissions budget for conformity purposes well beyond the attainment date of an area. Transportation planning cycles generally run beyond the attainment year, and a State may establish a budget for conformity purposes in those out years beyond the attainment year if it desires and may substitute NO_x for VOC reductions in that out-year budget. The January 10, 2000 guidance refers to the methodology contained in "Guidance for Improving Weight of Evidence Through Identification of Additional Emissions Reductions, Not Modeled" (EPA, November 1999) and 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 this methodology for establishing conformity budgets for the out-years of an attainment demonstration, i.e., the years after the attainment date for which there are no ROP requirements and EPA's ROP guidance does not apply. The guidance may result in NO_x substitution ratios of other than one-to-one, since it is based on the results of the modeled attainment demonstration. EPA's methodology for use in strengthening weight of evidence arguments for attainment demonstrations was intended to be used for calculating small amounts of emission reductions such that the overall NO_x/VOC/ozone relationship of the modeling used in the attainment demonstration would not be significantly altered. Likewise, the substitution of NO_x for VOC reductions for purposes of setting an emissions budget for conformity in the out-years beyond the attainment date would likely involve relatively small tons/day shifts in the ratio of NO_x to VOC. Thus, EPA's methodology would be appropriate to use for this purpose. It should be noted that this methodology provides most reliable results when used with the best and most recent data.

5. NO_x Substitution in Metropolitan Washington Based on our review of all the information submitted in the attainment demonstration and for the reasons stated below, it is the Agency's belief that the ozone reduction benefits achieved by application of NO_x controls is at least equivalent as that achieved by application of VOC controls.

The modeled attainment demonstration for the Metropolitan Washington, D.C. area calls for more NO_x and VOC emissions control than the 9 percent post-1996 ROP plan. The ROP plan relies on NO_x substitution, but the substitution rate is consistent with the attainment demonstration in that it does not provide any more NO_x reductions than called for in the attainment demonstration. The state's attainment demonstration is based upon local-scale photochemical grid modeling performed on the Baltimore-Washington Urban Airshed Modeling (UAM) domain and upon

EPA's Regional Oxidant Modeling (ROM) results. Both EPA's ROM results and the photochemical grid modeling submitted with the attainment plan show that significant NOx reductions will contribute to attainment in the area. The local UAM modeling also shows that NOx reductions beyond those contained in the Post-1996 plan continue to provide reductions in ozone concentrations. The local photochemical grid modeling submitted with the attainment demonstration contains modeling results that further support the conclusion that on a ton for ton basis, NOx reductions achieve at least equivalent changes in ozone concentrations as an equivalent reduction in VOC emissions. This is consistent with the intended outcome of the NOx substitution guidance document, which requires that substitution be done on a percentage basis: for example, a one percent reduction in NOx from the 1990 ROP baseline adjusted to 2002 of 756.7 tons/day (7.57 tons/day) will thus likely produce a greater reduction in ozone than a 1 percent reduction in VOC from the 1990 ROP baseline adjusted to 2002 of 420.5 tons a day (4.21 tons/day) because the one percent NOx reduction requires more NOx reductions on a tonnage basis and because NOx reductions on a per ton basis produce a higher ozone reduction than VOC reductions. The same holds true for 2005. A reduction of one percent in NOx from the 1990 ROP baseline adjusted to 2005 of 735.6 tons/day equals 7.36 tons per day. This is greater than a reduction of one percent in VOC from the 1990 ROP baseline adjusted to 2002 of 412.1 tons a day, which is only 4.12 tons per day. ⁶

Also, model sensitivity analysis demonstrates that the Metropolitan Washington portion of the Baltimore-Washington modeling domain benefits more from NOx reductions than VOC reductions. See Attachment 4 ("Model Sensitivity Study for Metropolitan Washington Area") of the EPA document, "RACM Analysis for Four Serious Areas Designated Nonattainment for 1-hr Ozone NAAQS." U.S. Environmental Protection Agency; Office of Air Quality Planning and Standards, Research Triangle Park, NC 27711; and Office of Transportation and Air Quality, Ann Arbor, MI 48105. October 12, 2000. An electronic version of EPA's RACM analysis cited above can be downloaded at www.epa.gov/ttn/rto under "What's New." This analysis does not contradict EPA's determination that a one percentage reduction of NOx emissions will likely produce a greater reduction of ozone than a one percent reduction of VOC emissions.

EPA has previously determined that the attainment demonstration is conditionally approvable, i.e., it appears to demonstrate attainment for the Metropolitan Washington, D.C. area. See 68 FR 19106 (April 17, 2003). EPA believes that only the conditions regarding RACM and revising the mobile source emissions budgets have a potential bearing on the modeled demonstration of attainment. As discussed in response to a separate comment the RACM condition does not affect the ability to determine the budgets adequate. In spite of the changes to the motor vehicle

⁶ (Baseline emissions taken from Tables 5-7 and 6-1 of "Plan to Improve Air Quality in the Washington, DC-MD-VA Region, State Implementation Plan, Severe Area SIP, Demonstrating Rate of Progress 2002 and 2005; Revision to 1990 Base year Emissions; and Severe Area Attainment Demonstration for the Washington DC-MD-VA Nonattainment Area", dated August 13, 2003, which was submitted on the dates shown in Table 1 of this TSD (the "August 13, 2003, plan document").

emissions budgets, EPA believes the SIP still shows attainment. In addition, the post-1999 ROP requirements result in a NO_x target level that is one ton per day higher than that modeled (even with substitution of 9 percent NO_x for the 1999-2002 period and 9 percent for the 2002-205 period). That is, the amount of NO_x reductions substituted in the ROP plan is still slightly less than that required for attainment.

The corollary conclusion implicit in making the determination that the SIP demonstrates attainment is: the mix of VOC and/or NO_x control measures included in the area's attainment demonstrations is appropriate. Based on review of all the information submitted in support of the attainment demonstration, it is the EPA's belief that the percentage of ozone reduction benefits achieved by application of NO_x controls, for both ozone reduction and attainment progress goals, is "at least equivalent" as that achieved by application of VOC controls. Both the NO_x and VOC controls are necessary if the area is to realize ozone reduction benefits and attain the NAAQS.

EPA's guidance for NO_x substitution requires that the SIP demonstrate attainment. EPA still disagrees with the assertion that the attainment plan does not demonstrate attainment. The TSD and other documents in the docket support the conclusion that the area will attain.

In our January 3, 2001, final rule (66 FR 586) and our April 17, 2003, final rule (68 FR 19106), EPA placed a document titled "RACM Analysis for Four Serious Areas Designated Nonattainment for 1-hr Ozone NAAQS" in the docket to support our conclusion that all RACM have been adopted for the Washington area as well as the model sensitivity analyses found in the attainment demonstration which shows that the Washington area portion of the Baltimore-Washington modeling domain benefits more from NO_x reductions than VOC reductions. For this adequacy determination, EPA has placed Attachment 4 ("Model Sensitivity Study for Metropolitan Washington Area") of "RACM Analysis for Four Serious Areas Designated Nonattainment for 1-hr Ozone NAAQS" in the administrative record solely for the technical analysis of the model sensitivity analyses found in the attainment demonstration which shows that the Washington area portion of the Baltimore-Washington modeling domain benefits more from NO_x reductions than VOC reductions. A copy of "RACM Analysis for Four Serious Areas Designated Nonattainment for 1-hr Ozone NAAQS" U.S. Environmental Protection Agency; Office of Air Quality Planning and Standards, Research Triangle Park, NC 27711, cited in the response to comments portion of the January 3, 2001 final rule can be obtained by contacting the regional office listed under the ADDRESSES section of that document.

Comment: EPA received comments that assert that the Plan fails to recalculate using MOBILE6 the emission reductions required to achieve a 15% rate of progress (ROP) between 1990 and 1996, and a 9% ROP between 1996 and 1999, and that because MOBILE6 projects higher emissions both in the base year and subsequent years, greater reductions are almost certainly required to meet these ROP targets.

Response: For reasons described in the following paragraphs, EPA disagrees with the comment that the 2002 and 2005 ROP plans do not factor in any changes to estimated emissions due to the use of MOBILE6 in analyzing required reductions.

The plan uses MOBILE6 to determine the reductions in baseline emissions required for the 2002 and 2005 milestone years under the post-1996 reduction requirement of CAA section 182(c)(2)(B). Sections 182(b)(1) and (c)(2)(B) mandate minimum levels of reductions from *baseline* emissions. Baseline emissions do not reflect growth in emissions related to growth in activity in future years. For the 2002 and 2005 milestone years, the only effect of the 15 percent and first 9 percent post-1996 reduction requirements is in the baseline used in the computation of the 2002 and 2005 target levels.

1. 15% Plan and Post-1996 Plan for 1999:

The sufficiencies of the budgets in the 15 percent plan and the first post-1996 plan for the 1999 milestone year, including any alleged need to get further reductions to meet those milestones, are not the subject of this adequacy determination. This adequacy determination relates only to the budgets in the ROP plan for the 2005 milestone year.

2. General ROP Demonstration Requirements:

The following paragraphs describe *generally* how ROP plans are developed. The described process is not dependant upon the version, MOBILE5 or MOBILE6, of the mobile source emissions factor model used.

EPA interprets CAA sections 182(b) and 182 (c) to allow for the 15 percent and post-1996 ROP requirements to be demonstrated by computing a target level of emissions and showing that the measures in the SIP in conjunction with other creditable measures will produce enough reductions in the milestone year to lower the area-wide emissions to a level less than or equal to the target level of emissions⁷. EPA has approved numerous ROP plans that used the approach in these

⁷ The target level of emissions approach was first proposed in "State Implementation Plans; General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990; Proposed Rule," (57 FR at 13507-13510 and at 13516-13518, April 16, 1992) and was further developed in "Guidance on the Adjusted Base Year Emissions Inventory and the 1996 Target for 15 Percent Rate of Progress Plans" (EPA-452/R-92-005), October 1992, and in "Guidance on the Post '96 Rate-of-Progress Plan (RPP) and Attainment Demonstration " (EPA-452/R-93-015), Corrected version of February 18, 1994.

guidance documents⁸. The target level of emissions reflects the effects on *baseline* emissions of the noncreditable programs listed in subparagraphs (C) and (D) to CAA section 182(b)(1) and of the required percent reduction (15 or 9 per three-year period after 1996) in *baseline* emissions. The starting point for the ROP plan is of course the 1990 base year emissions inventory of VOC (and NOx when NOx substitution is used in the post-1996 period) emissions in the area; such inventory is termed the 1990 rate-of-progress (ROP) inventory in EPA's guidance and is the starting point for determining the baseline emissions from which all required ROP reductions are computed. The 1996 VOC target level is computed to reflect a 15 percent reduction in 1990 VOC baseline emissions⁹. This target level incorporates both a 15 percent reduction in 1990 baseline emissions as well as the "noncreditable" reductions from the programs specified in subparagraphs (C) and (D) to CAA section 182(b)(1) ("the noncreditable reductions") which occurred between 1990 and 1996.¹⁰ Hereafter, the phrase "noncreditable reductions" shall have the same meaning as the phrase "noncreditable reductions in baseline emissions."

Applying our guidance, the post-1996 target levels of VOC emissions for 1999 start with the 1996 target level of emissions and are further reduced by the requisite post-1996 reduction percentage and by the noncreditable reductions from the programs specified in subparagraphs (C) and (D) to CAA section 182(b)(1) which occurred between 1996 and 1999.¹¹ In turn, the 2002 VOC target level starts with the 1999 VOC target and reflects further required percent and noncreditable reductions between 1999 and 2002, and the 2005 VOC target level similarly starts with the 2002 target level and reflects further required percent and noncreditable reductions between 2002 and 2005.

⁸ See for example, 64 FR 42629, August 5, 1999; 65 FR 44686, July 19, 2000; 65 FR 59727, October 6, 2000; 66 FR 54143, October 26, 2001; 66 FR 54577, October 29, 2001; 66 FR 54597, October 29, 2001; and, 66 FR 54666, October 30, 2001.

⁹ No NOx target level is required for 1996 because the CAA requires that the first ROP reduction in a moderate or above area be a 15 percent reduction in only VOC baseline emissions. See CAA section 182(b)(1)(A).

¹⁰ In the case of the Washington area these programs are the Stage I RACT correction in Virginia (which affects only VOC emissions), the gasoline vapor pressure regulation specified by section 182(b)(1)(A)(ii), and the Federal motor vehicle control program in place as of January 1, 1990. Of these, only the last produces additional reductions, which in EPA guidance is designated as the "fleet turnover correction," in *baseline* emissions (as that term is defined in CAA section 182(B)(1)) for each ROP milestone year.

¹¹ "Guidance on the Post '96 Rate-of-Progress Plan (RPP) and Attainment Demonstration" (EPA-452/R-93-015), Corrected version of February 18, 1994.

The target level for NO_x, when NO_x substitution is employed, is computed in an analogous manner to those for VOC with minor changes dealing with the 1999 target necessitated by the fact that no target level for NO_x is required for 1996: (1) the starting point for the 1999 NO_x target level is the 1990 base year (because there is no 1996 NO_x target); (2) the 1999 target level reflects the percentage of NO_x reduction substituted for the 1999 milestone and reflects the noncreditable reductions in baseline NO_x emissions (that occurs between 1990 and 1999). Thereafter the NO_x target level computation uses an exactly analogous procedure as that used for VOC if there is further NO_x substitution: the 2002 NO_x target level starts with the 1999 NO_x target and reflects the percentage of NO_x substituted and the noncreditable reductions (between 1999 and 2002), and the 2005 NO_x target level starts with the 2002 target level and reflects the percentage of NO_x substituted and the noncreditable reductions (between 2002 and 2005).

The assessment of whether an ROP plan has met the ROP requirement for the milestone year will be based on whether the SIP (and other creditable reductions and measures) will reduce emissions levels to or below the milestone year target level of emissions. Projections of milestone year emissions (without new controls applied but considering growth in emissions related activity) are used to calculate the *required* emissions reductions by simply taking the difference between the milestone year projection inventory (without new controls applied but considering growth in emissions related activity) and the milestone year target level of emissions. If the plan is projected to achieve at least the required level of reductions needed to lower the milestone year emissions (without new controls applied but considering growth in emissions related activity) to a level equal to or less than the target level, EPA concludes that the ROP plan demonstrates the required ROP.

Because each successive target level of emissions is determined by reducing the prior milestone target level by the specified percent of the baseline emissions and by the noncreditable reductions, the effects of all requirements for reduction in baseline emissions is cumulative. Stated another way, the target level for a post-1999 milestone year incorporates a lowering of allowable emissions from prior target levels. This is true because the CAA states the ROP requirements in sections 182(b)(1) and 182(c)(2) in terms of specified reductions from baseline emissions.

The 2002 ROP plan must provide for enough VOC and NO_x reductions to make the respective 2002 target levels. Conceptually, in order to make the 2002 VOC and NO_x target levels the plan must have:

- (1) enough reductions to account for growth in VOC and NO_x emissions between 1990 and 2002, and to account for the lowering of the target levels due to the noncreditable reductions through 2002;
- (2) enough VOC reductions to meet the 15 percent VOC reduction requirement,
- (3) enough additional VOC reductions to meet:
 - (a) the 1996 to 1999 VOC ROP reduction requirement, and
 - (b) the 1999 to 2002 VOC ROP reduction requirement;

- (4) enough NOx reductions to meet:
- (a) the 1996 to 1999 NOx ROP reduction requirement, and,
 - (b) enough additional NOx reductions to meet the 1999 to 2002 NOx ROP reduction requirement.

Stated another way, the ROP plan for the 2002 target level must first provide for enough NOx emission reductions to reach the 1999 NOx target level, and also provide for the additional ROP reduction in baseline emissions to reach the lower 2002 target level accounting for growth in NOx emissions through 2002 and for the additional noncreditable NOx reductions between 1999 and 2002.

Likewise, the ROP plan for 2005 must provide for enough reduction to:

- (1) reach the 2002 NOx target level; and
- (2) provide the additional NOx ROP reduction through 2005 accounting for growth out to 2005 and further for the effects of the “noncreditable programs,”¹².

Thus, the process in determining the 2002 and 2005 target levels depends upon having determined the following items: (1) the 1990 ROP base year inventory for both VOC and NOx, (2) the 1990 VOC base year inventory adjusted to each milestone year, e.g., to 1996 (this is the basis from which the 15% ROP reduction requirement is calculated), 1999, 2002 and 2005; (3) the 1990 NOx base year inventory adjusted to each milestone year, e.g., to 1999, 2002 and 2005; (4) the noncreditable reductions (also called the “fleet turnover correction”) in VOC and NOx for any milestone year, e.g., between 1990 and 1996 for VOC, 1990 and 1999 for NOx, between 1999 and 2002 for both NOx and VOC, and so forth; and (5) the amount of NOx substituted for the 1999, 2002 and 2005 milestones.¹³ In figuring the 2002 and 2005 milestone targets separately the area need not calculate the 1996 and 1999 target levels at all because the target level process is merely decreasing the 1990 base year by these specified amounts. The 1996 and/or 1999 target levels can be viewed as intermediate results using some but not all of the ROP reductions/noncreditable reductions values needed to determine the 2002 and 2005 target level. The 2005 target could be done without reference to a 2002 target as long as the additional information – the noncreditable reductions between 2002 and 2005 are known, the amount of NOx substituted is specified, and

¹² Likewise, the 2002 and 2005 plans must provide for enough VOC reductions to reach the target level for the prior milestone year (which incorporates the 15 percent requirement as an integral element) accounting for growth through 2002 or 2005 and for the effects of the noncreditable reductions on the target level between 1999-2002 (in the case of the 2002 milestone) and 2002-2005 (in the case of the 2005 milestone).

¹³ The NOx inventory and noncreditable reductions need to be known where NOx substitution pursuant to section 182(c)(2)(C) was used, as is the case in the Washington ROP plan.

the base year inventory adjusted to 2005 (used to determine the magnitude of required VOC and/or NOx ROP reductions) is known. However, in order to approve the ROP plan the 2002 target is needed in a SIP revision that *first* demonstrates how the post-1996 ROP requirement of the section 182(c)(2)(B) ROP requirement is met for the 2002 and 2005 milestone years.

3. ROP Demonstration with 9 Percent NOx Substitution:

The preceding paragraphs discussed ROP requirements in general where NOx and VOC were to be credited towards the ROP requirement. Where the demonstration of ROP is based solely on NOx substitution, EPA concludes that no VOC target level may be required for a milestone year where the full 9 percent NOx is substituted.

As discussed above, the ROP target level for any milestone year can be computed independently of any prior milestone year target level. Thus, irrespective of the ROP demonstration for any other milestone year, EPA can determine that the 2002 target level reflects the mandated percentage reduction in baseline emissions and that the plan will or will not achieve the required ROP reduction by 2002. EPA can do likewise for 2005. Thus, for any milestone year that a ROP plan uses a full nine percent NOx substitution such plan may not need to calculate a VOC target for that year. This would even hold in the case where some non-zero percentage (in baseline emissions) of VOC emissions was used to demonstrate ROP for a subsequent milestone year *because*, as discussed above, each milestone year ROP target level, and hence, the ROP requirement, can be computed independently. Thus, considering a hypothetical case, if the ROP plan had a full nine percent NOx substitution for the 1999 to 2002 period and a mix of VOC and NOx (i.e., any non-zero percentage of the nine percent requirement for each) for the 2002 to 2005 period, then such plan would only need a NOx target level for 2002 and both a VOC and NOx target level for 2005. In the case of the Washington area plan, this plan implements a choice to demonstrate ROP for 2002 and 2005 using only NOx reduction, i.e., the States have substituted a full nine percent NOx for both 2002 and 2005. Thus, no VOC target level ought to be required for 2002 and 2005. While no VOC target level may be required for the 2002 and 2005 milestones, the ROP plan will still set VOC motor vehicle emissions budgets for these years, because the 2002 and 2005 projected on-road mobile source emissions of both NOx and VOC are consistent with and clearly related to the emissions inventory and the control measures in the submitted control strategy implementation plan revision needed to demonstrate ROP for the years 2002 and 2005. That is, the projected VOC inventory must still be met to insure ROP in conjunction with NOx reductions.

In the case of the Washington attainment and ROP demonstration, the attainment demonstration, which is based upon photochemical grid modeling, established area-wide emissions of 359.7 tons

per day VOC and 515.3 tons per day of NOx.¹⁴ The average 3-percent per year ROP requirement is to ensure that a minimum level of progress is made towards attainment. In this case, the Washington area is demonstrating that the post-1999 ROP minimum ROP is being demonstrated using just NOx reductions of nine (9) percent NOx reductions between 1999 and 2002 and a further nine (9) percent between 2002 and 2005. The ROP plan requirement sets a NOx target level of 539.0 (see Table 6-2 of the August 13, 2003, plan document) for 2005 which are the levels needed to demonstrate an average of 3 percent per year of reduction in baseline NOx emissions. The plan projects NOx emissions of 493.0 tons per day for 2005 (including "Round 6.3" growth adjustment – see Table 6-6 of the August 13, 2003, plan document). Thus the ROP plan clearly represents progress towards the need to reduce NOx emissions in the area to under 515.3 tons per day by 2005, the overall allowable NOx emissions set by the attainment demonstration.¹⁵

EPA's preliminary analysis indicates that the States may have mistakenly concluded that they needed to implement additional VOC measures to rectify a shortfall in ROP reductions. EPA believes that the plan does demonstrate that the current SIP contains sufficient measures to achieve sufficient reductions in NOx to meet the 2005 target level by November 15, 2005. Therefore, EPA can conclude the ROP plan demonstrates that the required minimum reductions in baseline emissions by 2005¹⁶.

In order to compute the 2002 and 2005 emissions reduction targets, the states necessarily have recalculated the baseline and required emissions reductions for all of the above years milestones with the MOBILE 6 model. The computations in Chapters 5 and 6 of the August 13, 2003, plan show how the 2002 and 2005 NOx target levels are computed and include a determination of what the 1999 target level, which can be viewed as intermediate results in the 2002 target level

¹⁴ See Table 11-1 Comparison of Photochemical Model and Severe Area SIP Inventories for Base Case and Attainment Years in the August 13, 2003, plan document.

¹⁵ The plan also shows a decline in VOC emissions between 2002 and 2005: for 2002, the plan projects VOC emissions in the area of 347.1 tons per day (when excluding the 30.2 ton per day reduction which will not occur by 2002 from measures 7.4.10 through 7.4.14 and 7.5 of Table A in the August 13, 2003, plan document); for 2005, the plan projects VOC emissions in the area of 328.6 tons per day (including the "Round 6.3" growth adjustment) from Table 6-7 of the August 13, 2003, plan. The 2002 value is derived as follows: for 2002, the 347.1 tons per day controlled 2002 emissions (including the "Round 6.3" growth adjustment) from Table 5-12 of the August 13, 2003, plan plus 30.2 tons per day for measures 7.4.10 through 7.4.14 and 7.5 which will not occur by 2002; for 2005.

¹⁶ Because we are not issuing a finding relative to the 2002 budgets at this time, we need not issue a conclusion regarding the sufficiency of the ROP plan for the 2002 milestone.

calculation, would have been had MOBILE6 been available in 1999 when the plan for the 1999 milestone was prepared. The inclusion of such an intermediate 1999 result merely shows that the plan was developed in a manner that directly follows the applicable EPA guidance, despite the fact that EPA does not need a 1999 target level for the purpose of making this adequacy determination. The table in Appendix A to this document shows that the 2002 NO_x target can be calculated directly without reference to the 1999 target level results by using the process discussed in the last paragraph of the section of this response entitled, "2. General ROP Demonstration Requirements." Once the 2002 NO_x target is computed, the 2005 target can then be computed starting with the 2002 target. The August 13, 2003 plan document contains the necessary information to do the 2005 target level calculations without reference to any prior target.

Therefore, EPA believes the commenter's concern that the 2005 budgets will be inadequate because somehow the higher emissions predictions from MOBILE6 will require more 1996 or 1999 reductions is misplaced; the 2005 target levels do incorporate the prior milestone years' (1996, 1999 and 2002) percent and "noncreditable" reduction requirements when determined through the use of the MOBILE6 model.

EPA has reviewed the information supporting the target level computations found in Chapters 5 and 6 of the SIP revision. These computations correctly apply EPA's guidance for computation of the 1996 and 1999 reduction needs (as expressed by the target levels in Chapters 5 and 6 of the ROP plan) with the MOBILE 6 model which are needed to form the starting-points for the subsequent 2002 and 2005 target levels (i.e. further reduction needs by 2002 and 2005) that are the subject of the plan. The 1999 computation uses the same amount of NO_x substitution (8 percent) as the conditionally approved SIP.¹⁷

For these reasons, EPA concludes that the revised emissions predictions from MOBILE6 are properly reflected in the calculation of 2002 and 2005 target levels. EPA also concludes that the 2005 motor vehicle emissions budgets contained within the August 13, 2000 plan document are consistent with the ROP requirements of the CAA and thus meet the adequacy criteria of 40 CFR 93.118(e)(4) because the ROP plan demonstrates that the SIP contains sufficient measures to

¹⁷ EPA did not condition approval of the entire nonattainment area SIP upon revision of the post-1996 plan for the 1999 milestone except to the extent that approval is conditioned upon each State submitting a SIP revision which "revises the 1996-1999 portion of the severe area ROP plan to include a contingency plan containing those adopted measures that qualify as contingency measures to be implemented should EPA determine that the Washington area failed to achieve the required 9 percent rate-of-progress reductions by November 15, 1999." 68 FR 19129-30; 19131-33 (April 17, 2004). However the ROP plan does not establish a revised target for the 1999 milestone year. The 1996-1999 ROP plan has been previously approved by EPA (66 FR 585, January 3, 2001).

reduce emissions down to or below the 2005 target levels of emissions as expeditiously as practicable.

Comment: We received comments that assert that the budgets are inadequate because the plan cannot move the November 15, 2002, statutory deadline for achieving the 2002 ROP reduction of nine percent between November 15, 1999, and November 15, 2002. The commenter claims that the ROP plan for the Washington area has to demonstrate a nine percent reduction in emissions between November 15, 1999, and November 15, 2002, (as well as nine percent between November 15, 1996, and November 15, 1999, and another nine percent between November 15, 2002, and November 15, 2005). The commenter claims that if the states cannot show a nine percent reduction between November 15, 1999 and November 15, 2002, then the states must implement the only alternative scheme allowed by statute, namely that of section 182(c)(2)(B)(ii).

Response: EPA does not agree with this comment. EPA also believes that this comment is now moot because we are taking no action on the 2002 ROP plan's mobile budgets as part of this adequacy determination. Our reasons are that the states have indicated that they will be revising the 2002 ROP plan to indicate that they do, in fact, show a nine (9) percent reduction between November 15, 1999 and November 15, 2002, and that the 2002 ROP mobile budgets are not necessary for conformity purposes for any future transportation planning efforts. EPA is only taking action today to find the attainment plan budgets and 2005 ROP budgets adequate as they are necessary for conformity and transportation planning.

Comment: EPA received comments claiming that even if EPA can allow an extension from 2002 of the date by which the first post-1999 ROP reduction will occur, the plan does not meet the requirement set forth by EPA to achieve this reduction as expeditiously as practicable. The comment claims the plan makes no attempt to show achievement of the 2002 target earlier than 2005, even though measures are available for implementation as early as July 2004, and compliance with various OTC measures will not be required until approximately 2 years after rule adoption, but does not explain why this is justified, especially when OTC-compliant coatings and products are or will be required sooner in some states.

Response: EPA does not agree with this comment. EPA also believes that this comment is now moot because we are taking no action on the 2002 ROP plan's mobile budgets as part of this adequacy determination. Our reasons are that the states have indicated that they will be revising the 2002 ROP plan to indicate that they do, in fact, show a nine (9) percent reduction between November 15, 1999 and November 15, 2002, and that the 2002 ROP mobile budgets are not necessary for conformity purposes for any future transportation planning efforts. EPA is only taking action today to find the attainment plan budgets and 2005 ROP budgets adequate as they are necessary for conformity and transportation planning.

Comment: EPA received a comment where the commenter cites to the issue of the states' protracted rule adoption processes, particularly the Commonwealth of Virginia's, and questions why these processes cannot be expedited, or why additional measures could not be adopted sooner. The commenter goes on to assert that given the growth in motor vehicle traffic in Virginia, and its contribution to the region's air quality problem, the other jurisdictions in the region should insist that the Commonwealth contribute its fair share to the solution, and do so without further delays.

Response: First, EPA notes comments relating to the expedited rule adoption are only relevant to application of the "as expeditiously as practicable" test which EPA is no longer applying in this case. Furthermore, EPA has no authority to require changes to any state's process for rule adoption. Nor may any state dictate to another state that its rule adoption process be amended. Moreover, even if a state were inclined to make changes to its laws governing its rule adoption process, such changes would require action on the part of the state legislature. The legislative sessions for both the State of Maryland and Commonwealth of Virginia convene in January of each year for periods ranging from 2- 4 months. The District of Columbia, State of Maryland and Commonwealth of Virginia (the jurisdictions for the Metropolitan Washington D.C. ozone nonattainment area) all have emergency rule adoption processes which expedite the adoption of rules. However, rules adopted under these emergency adoption processes are generally not acceptable for submittal to EPA as revisions to state implementation plans (SIPs), as described below.

None of the jurisdictions' emergency rule adoption processes call for a public hearing as required under section 110(a) of the Clean Air Act for state submittals to EPA for approval as SIP revisions. Even if the jurisdictions were to hold public hearings on the rules adopted via their emergency rule processes to satisfy section 110(a), such rules pose other problems. In all three jurisdictions, rules adopted via the emergency process sunset. In the District of Columbia, an emergency rule sunsets within a period not to exceed in 120 days and may not be extended or renewed. In the State of Maryland, a joint committee of the State Senate and House of Delegates must first be convened to approve or deny a Department's request to adopt a rule under the emergency adoption process. In cases where a Department's request is approved, that same joint committee of the Maryland legislature, not the Department or the Governor, imposes the duration of any rule adopted via the emergency rule process. In the Commonwealth of Virginia, an emergency rule sunsets within a period of time not to exceed 12 months. EPA cannot grant final full approval, and thereby incorporate into a SIP, an emergency rule that sunsets. It would also be problematic for EPA to consider approving emergency rules with the understanding that the given jurisdiction(s) would commence and complete the normal rule adoption process for those same rules and submit them for approval as SIP revisions to replace the emergency rules prior to sunset. The problems arise from the fact that such emergency rules could sunset before the replacement rules could be adopted via the normal state adoption process and be approved via federal rulemaking as SIP revisions. Moreover, there is no guarantee the versions of the rules adopted by

via the normal process would be identical in either form or substance to the SIP-approved emergency rules they were to replace. For these reasons, it would be neither practical nor appropriate for the jurisdictions to the use, or attempt to use, their expedited emergency adoption processes to adopt rules to submit to EPA as SIP revisions.

Comment: EPA received a comment asserting that ROP demonstrations cannot take credit for measures they have committed to adopt which have not been adopted, but only for measures that have been adopted and are legally enforceable measures.

Response: EPA agrees that it can not credit measures toward 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. 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, 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 Maryland's, Virginia's and the District of Columbia's attainment demonstration SIPs for the Washington area adequate for conformity purposes, based on the commitments made to adopt control measures.

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.

Comment: EPA received a comment asserting that the motor vehicle emissions budgets are inadequate because they do not provide for all reasonably available control measures (RACM) to attain the standard as expeditiously as practicable.

Response: EPA acknowledged in its April 2003 conditional approval of the DC area attainment demonstration that the SIPs do not contain valid analyses of all potential RACM measures, and thus one of the conditions of the approval is that the states must submit such RACM analyses by April 2004. However, EPA's adequacy criteria in 40 CFR 93.118(e) do not require that the SIP necessarily include all 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 specific measures to reach timely 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 outside statutory date for the area's classification or the date provided by bump-up. The adequacy review does not provide an opportunity for us to review in detail 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 and are thus adequate as long as they are consistent with a control strategy that provides for attainment by the outside statutory date or the date provided by bump-up.

Further, EPA believes that the magnitude of measures associated with the revised 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. Based on the record before it at the time, EPA preliminarily concluded in the conditional approval 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. EPA preliminarily concluded that no group of additional measures could practicably be adopted and implemented in sufficient time to advance that attainment date. In addition, EPA notes that the states have now completed their draft RACM analyses pursuant to the conditional approval, and these draft analyses all conclude that there are in fact no additional RACM measures that could advance attainment. See Chapter 8 "Reasonably Available Control Measures (RACM Analysis)" of the "Attainment Plan" dated August 13, 2003.

Therefore, EPA concludes that the budgets in the revised 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.

Comment: EPA received a comment that the plan is deficient in that it does not consider certain transportation control measures.

Response: This comment is essentially the same as the prior comment. As noted above, in judging the adequacy of budgets EPA cannot conduct the detailed review of a SIP necessary to definitely determine if all available and appropriate measures have been included to demonstrate attainment as expeditiously as practicable. For purposes of adequacy review EPA believes that it need only conclude that the budgets are consistent with timely attainment in that the SIP provides for attainment by the outside attainment date for the area's classification, and that EPA preliminarily concludes that the record supports a finding that no additional measures would advance the attainment date, all of which is true in this case as explained above. EPA will make a final determination on whether the SIP contains all appropriate TCMs and other measures when it concludes rulemaking on the approvability of the SIP.

Comment: EPA received a comment that the plan is legally deficient because it does not contain in legally adopted form, for all states in the region: a) the lower major source emission thresholds and higher offset requirements mandated for severe areas; b) NOx Reasonably Available Control Technology requirements extended to sources emitting 25 tons or more of NOx per year; and c) the emission fee requirements mandated by §185 of the Act.

Response: EPA acknowledges that the states must submit all of the mandatory requirements for severe areas now that the DC area has been reclassified. Consequently, one of the conditions of the recent conditional approval is that all severe area requirements must be adopted and submitted by April 2004. However, EPA does not believe that the absence of these requirements prevents the agency from finding the submitted budgets in the revised attainment demonstration adequate for use in conformity determinations prior to submission of such measures. Similar to EPA's conclusions with respect to additional RACM measures described above, EPA believes that for purposes of the limited adequacy review the agency need only conclude that the budgets are consistent with attainment in that the SIP provides for attainment by the outside statutory date for the area's classification, the plan includes all measures necessary to attain by that date, the budgets are consistent with the measures in the plan, and EPA has preliminarily concluded that no additional measures will advance the attainment date. Finally, none of the measures identified by the comments here would effect the mobile source budgets since they are all stationary source measures.

Comment: EPA received a comment asserting that the states did not provide sufficient rationale for rejecting certain RACM.

Response: As noted above, EPA agrees that the states did not submit approvable RACM analyses with the attainment demonstration, and has made submission of these analyses including adequate rationales for rejecting any measures a condition of the conditional approval. However, the sufficiency of the rationales for rejecting certain RACM measures is not an issue for the adequacy

determination, but rather for SIP approval. So long as the SIPs demonstrate attainment by the outside date for the area's classification and EPA preliminarily concludes that additional measures will not advance attainment as it has done here, EPA believes that it can find budgets consistent with the revised attainment demonstration adequate.

Comment: EPA received a comment that said the plan's VMT offset provision discussion addresses only growth in VOC emissions - not NOx - and is therefore deficient.

Response: As first explicitly articulated in the notice proposing the General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990, 57 FR 13,498 at 13,521 (Apr. 16, 1992), EPA has consistently interpreted the Vehicle Miles Traveled (VMT) offset requirements of the Act, set forth in section 182, to apply only to emissions of VOCs. See, e.g., 60 FR 38,718 at 38721, July 28, 1995; 60 FR 48896 at 48898-99, September 21, 1995. EPA therefore disagrees with the commenter's assertion that the plan VMT offset provisions are deficient by not addressing growth in NOx emissions.

Section 182(d)(1)(A) of the Act provides that "any growth in emissions" from growth in VMT must be offset. EPA believes that Congress clearly intended that this offset requirement be limited to VOC emissions. First, section 182(d)(1)(A)'s requirement that a State's VMT transportation control measures (TCMs) comply with the "periodic emissions reduction requirements" of subsections 182(b) and (c) the Act indicates that the VMT offset SIP requirement is VOC-specific.

Section 182(c)(2)(B), which requires reasonable further progress demonstrations for serious ozone nonattainment areas, provides that such demonstrations will result in VOC emissions reductions; thus, the only "periodic emissions reduction requirement" of section 182(c)(2)(B) is VOC-specific. In fact, it is only in section 182(c)(2)(C)--a provision not referenced in section 182(d)(1)(A)--that Congress provided States the authority to submit demonstrations providing for reductions of emissions of VOCs and NOx in lieu of the SIP otherwise required by section 182(c)(2)(B).

Moreover, the 15 percent periodic reduction requirement of section 182(b)(1)(A)(i) applies only to VOC emissions, while only the separate "annual" reduction requirement applies to both VOC and NOx emissions. We believe that Congress did not intend the terms "periodic emissions reductions" and "annual emissions reductions" to be synonymous, and that the former does not include the latter. In section 176(c)(3)(A)(iii) of the Act, Congress required that conformity SIPs "contribute to annual emissions reductions" consistent with section 182(b)(1) (and thus achieve NOx emissions reductions), but does not refer to the 15 percent periodic reduction requirement. Conversely, section 182(d)(1)(A) refers to the periodic emissions reduction requirements of the Act, but does not refer to annual emissions reduction requirements that require NOx reductions. Consequently, we interpret the requirement that VMT SIPs comply with periodic emissions

reduction requirements of the Act to mean that only VOC emissions are subject to section 182(d)(1)(A) in severe ozone nonattainment areas.

Finally, we note that where Congress intended section 182 ozone SIP requirements to apply to NOx as well as VOC emissions, it specifically extended applicability to NOx. Thus, references to ozone or emissions in general in section 182 do not on their own implicate NOx. For example, in section 182(a)(2)(C), the Act requires States to require preconstruction permits for new or modified stationary sources "with respect to ozone"; Congress clearly did not believe this reference to ozone alone was sufficient to subject NOx emissions to the permitting requirement, since it was necessary to enact section 182(f)(1) of the Act, which specifically extends the permitting requirement to major stationary sources of NOx. Since section 182(d)(1)(A) does not specifically identify NOx emissions requirements in addition to the VOC emissions requirements identified in the provision, EPA does not believe States are required to offset NOx emissions from VMT growth in their section 182(d)(1)(A) SIPs.

Furthermore, EPA has consistently explained that the purpose of the VMT offset requirement is to maintain motor vehicle VOC emissions beneath a "ceiling level" established through modeling of mandated transportation-related controls, so that VOC emission reductions resulting from such measures are not cancelled out by growth in motor vehicle emissions. *See, e.g.*, 57 FR 13,498 at 13,521-23, April 16, 1992; 61 FR 51,214, October 1, 1996; 61 FR 53,624, October 15, 1996; and 66 FR 57,247 at 57,247-48, November 14, 2001.

Comment: EPA received a comment that the plan fails to address the Clean Air Act requirement that the SIP include a program to provide for the enforcement of the adopted control measures, which are not self-executing. The comment further alleges that the SIP does not make assurances or commitments for adequate personnel and funding to carry out the plan.

Response: EPA has consistently taken the position in response to similar comments previously made by this and other commenters that once State enforcement program elements are contained in SIP revisions previously approved by EPA under obligations for enforceable emission limitations set out in section 110 of the Clean Air Act, there is no need for states to re-adopt and resubmit their enforcement programs with each and every SIP revision generally required by other sections of the Act.

Once EPA approves a State's SIP as meeting section 110(a)(2), EPA is not required to reevaluate that SIP for each new revision to the plan to meet additional requirements in later sections of the Act. *See BCCA*, 348 F.3d at 105, n. 11 (holding that the "CAA only requires that the states provide 'necessary assurances that the State ... will have adequate ... authority under State (and, as appropriate, local) law to carry out such implementation plan (and is not prohibited by any provision of ... State law from carrying out such implementation plan or portion thereof),' and further that "there is no statutory requirement that the EPA review SIP submissions to ensure compliance with state law Such a requirement would be extremely burdensome and negate the

rationale for having the state provide assurances in the first instance.”) (internal citations omitted). This confirms our position that EPA is entitled to rely on a state's certification unless it is clear that the SIP violates state law, and proof thereof, such as a state court decision, is presented to the EPA during the SIP approval process. The Metropolitan Washington D.C. area States had previously received approval of their section 110(a)(2) SIPs.

In a final rulemaking action published on February 25, 1984 (49 FR 3063), EPA approved Virginia's financial and personnel resource commitments, after having proposed approval of these commitments on February 3, 1983 (48 FR 5124 at 5127).

In a final rulemaking action published on March 8, 1984 (49 FR 8610), EPA approved Maryland's financial and personnel resource commitments, after having proposed approval of these commitments on February 3, 1983 (48 FR 5048 at 5052).

In a final rulemaking action published on October 3, 1984 (49 FR 39059 at 39060), EPA approved the District's financial and personnel resource commitments, after having proposed approval of these commitments on December 17, 1983 (48 FR 54833 at 54836).

Nothing in the comments we have received would lead EPA to separately analyze whether it should call on the states to revise their section 110(a)(2) SIPs regarding enforcement, personnel, and funding. *BCCA Appeal Group v. U.S. EPA*, 348 F.3d 93 (5th Cir. 2003).

Comment: EPA received a comment that said the budgets are not adequate because the plan does not contain the required contingency measures to make up for any emission reduction shortfall, either in achievement of milestones or attainment. These measures could well reduce motor vehicle emissions, and therefore the budgets could well be lower.

Response: We also disagree with the comments' assertions that the motor vehicle emissions budgets (MVEBs) in the attainment demonstration do not reflect the potential to lower the MVEB through transportation related control measures should the area fail to attain or to meet ROP requirements. With respect to those contingency measures that would be triggered by the failure to attain, the attainment year MVEB would never account for these contingency measures because such measures would never be triggered until after the attainment year. Should those contingency measures be triggered, it would be appropriate at that time for the state to revise the budgets to reflect implementation of such measures in future years, but this cannot be done in advance of implementation of the measures as it is unclear whether the measures would ever in fact be implemented.

Similarly, with respect to contingency measures triggered by the failure to meet ROP, the obligation to account for those contingency measures is not triggered until it has been determined that the area has failed to meet its ROP requirements. EPA is allowing the Washington area jurisdictions to demonstrate the first required post-1999 nine percent ROP (which was due under

the statute by November 15, 2002), as expeditiously as practicable, if control measures currently in the SIPs, or already promulgated by EPA, did not achieve the required nine percent reduction by November 15, 2002. (See 68 FR at 3418, January 24, 2003). Therefore, the date for fulfilling the first post-1999 ROP requirement lies in the future, and the requirement to implement any needed contingency measures for failure to meet that ROP has not been, and may not ever be, triggered. This is true, too, for the 1999 ROP requirement. It has not yet been determined that the Washington area did, or did not, meet its 1999 ROP requirement and the requirement to implement contingency measures for failure to meet the 1999 ROP requirement has not yet been (and may not ever be) triggered. As with any contingency measures that would be implemented for a future failure to attain, because the obligation to implement contingency measures for failure to meet the post-1999 ROP requirements has not arisen, the area has no obligation to account for these measures in the attainment demonstration MVEB.

With regard to comments that the contingency measures are long overdue, or that the contingency measures which are fully implemented already to address failures to attain in 1999 and achieve required rates of progress in 1999 and 2002 or that a commitment to contingency measures is insufficient, EPA believes that these comments do not affect the adequacy of the budgets: (1) because for the reasons discussed above, the ROP and failure to attain by 2005 contingency measures have not been triggered and thus need not be reflected in the budgets before us; (2) with respect to the failure to attain by 1999 contingency measure, as discussed in the following comment summary and response, either the plan on its face has adequate contingency measures reflected in any post-1999 year budget or the requirement is not due.

Comment: EPA received a comment that the plan cannot rely on RFG for contingency measure already being used for ROP.

Response: EPA believes that this comment has no bearing on whether EPA can determine the budgets in the submitted SIP revision adequate. EPA envisions only two potential alternatives:

(1) If EPA were to support the use of RFG as a contingency measure for failure to attain by 1999, then the benefits the measure achieves in 2002 and 2005 would have to be reflected in the motor vehicle emissions budgets in order to meet the requirement that the budgets are consistent with and clearly related to the emissions inventory and the control measures in the submitted control strategy implementation plan revision. See 40 CFR §93.118(e)(4)(v). The benefits of RFG are already reflected in the motor vehicle emissions budgets for these two years, and thus would be adequate under this alternative.

(2) If EPA were to agree with the comment, then EPA believes that the area would have to implement additional measures from the contingency plan within a reasonable period of time after EPA notifies the States of such failure. EPA believes that a reasonable period would allow the additional emission reductions to be achieved in the year following the year in which the failure has been identified. See, e.g., 57 FR 13498, April 16, 1992. In the case of the Washington area,

the failure was identified effective March 25, 2003 (see 68 FR 3410, January 24, 2003). But EPA recognizes that the area has a deficient contingency plan and conditioned approval of the entire nonattainment area SIP on fixing the contingency plan. Specifically, we conditionally approved the plan on each State submitting a SIP revision that revises the Washington area severe attainment demonstration to include a contingency plan that contains among other things “those adopted measures that qualify as contingency measures to be implemented for the failure of the Washington area to attain the one-hour ozone standard for serious areas by November 15, 1999.” See 68 FR 19106 at 19129-19130, and at 19131-19133, April 17, 2004. The deadline for such submission is April 17, 2004. Under this alternative the adoption and implementation of the contingency measures is still in the future. The motor vehicle emissions budgets are adequate if among other things: (1) the motor vehicle emissions budgets, when considered together with all other emissions sources, are consistent with applicable requirements for reasonable further progress, or attainment (whichever is relevant to the given implementation plan submission); and, (2) the budgets are consistent with and clearly related to the emissions inventory and the control measures in the submitted control strategy implementation plan revision. See 40 CFR §93.118(e)(4)(iv) and (v). EPA believes the budgets in the submitted plan meet these requirements (specifically ROP for 2002 and 205 and attainment in 2005) even though the 1999 failure to attain contingency measures *may* or *may not* subsequently lower the budgets at some time in the future. EPA has always anticipated that motor vehicle emissions budgets may change between the initial adequacy determination and final approval.

Comment: EPA received a comment that the proposed motor vehicle emission budget for NO_x in 2005 is more than 70 tons per day higher than allowed in the previous attainment SIP budget for the same year. The comment further states that the plan does not demonstrate, with photochemical grid modeling as required by the Act, how it can assure attainment in 2005 with such a major increase in allowable motor vehicle emissions.

Response: Although the proposed motor vehicle emission budget for NO_x in 2005 is more than 70 tons per day greater than the previous motor vehicle emission budget for NO_x, EPA believes that the State Implementation Plan (SIP) submittal entitled, “Plan to Improve Air Quality in the Washington, DC-MD-VA Region, State Implementation Plan, Severe Area SIP, Demonstrating Rate of Progress 2002 and 2005; Revision to 1990 Base year Emissions; and Severe Area Attainment Demonstration for the Washington DC-MD-VA Nonattainment Area”, dated August 13, 2003, (the “August 13, 2003, plan document”) successfully demonstrates attainment by the 2005 attainment year.

The above referenced SIP contains an analysis that examines the motor vehicle emission budget changes in context of the analyses in the August 13, 2003, plan document and the previous analyses presented in the April 10, 1998, attainment plan submittal entitled “State Implementation Plan (SIP) Revision, Phase II Attainment Plan for the Washington DC-MD-VA Nonattainment Area -Appendices,” and in the appendices to “State Implementation Plan (SIP) Revision, Phase II Attainment Plan for the Washington DC-MD-VA Nonattainment Area,” dated

February 3, 2000. (For a history, refer to the rulemaking docket for 68 FR 19106, April 17, 2003, or refer to 68 FR 19106; 68 FR 5246, February 3, 2003; 66 FR 586, January 3, 2001; and 64 FR 70460, December 16, 1999.) Using the emission sensitivity modeling results contained in the above referenced plans, the States performed an analysis to calculate the impact that emission changes resulting from the use of the MOBILE6 model and the use of the latest emission information for other source categories will have on peak modeled concentrations in both the base case and the attainment year. Using guidance¹⁸ issued by EPA in 1999, the revised peak modeled concentrations were then used to calculate a new Relative Reduction Factor (RRF) that can be applied to the ozone design value representative of the base year modeling period to calculate a new attainment year design value reflective of the changes to the base year and attainment year inventories. This analysis is contained on pages 11-4 to 11-6 of the August 13, 2003, plan document. The result is a new RRF of 0.856. When the new RRF is multiplied by the design value representative of the base year modeling period (136 ppb) the result is a predicted attainment year design value, based on photochemical grid modeling, that is 116.4 ppb. Since this value is below 125 ppb (Monitored 1-hour ozone NAAQS) the analysis indicates attainment of the standard by the 2005 attainment year.

A comment was made that criticized the analysis described in the above paragraph for estimating ambient improvement because it does not incorporate complete modeling of all of the changes to the emission inventory. EPA regulations do not mandate, nor does EPA guidance necessarily require that States must model in the photochemical grid modeling 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 adjunct to an attainment demonstration based upon “photochemical grid” modeling and are consistent with Section 182(c)(2)(A) as discussed in response to other comments.

The above referenced August 13, 2003 plan document also contains an analysis that compares the rate of reduction of mobile emissions between 1990 and the attainment year for the Severe Area SIP and the April 10, 1998, February 3, 2000 and August 13, 2003, plan documents referenced above. The results of the analysis show that the Severe Area SIP mobile budget has a greater rate of reduction from the base year to the attainment year. A similar analysis was performed using the total emission inventory with the analysis results again showing a greater rate of reduction from the base year to the attainment year using the emission inventories in the Severe Area SIP. The attainment year inventory presented in the Severe Area SIP is actually less than the attainment year inventory contained in the April 10, 1998, February 3, 2000 and August 13, 2003 plan

¹⁸ “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>.

documents referenced above by approximately 31 tons per day for VOC and 22.3 tons per day for NOx. The results of these analyses further strengthen the case for attainment. These analyses can be found on pages 11-8 through 11-11 of the August 13, 2003 plan document.

EPA believes that air quality responds not only to changes in mobile source emissions but to change in all portions of the inventory. The analyses documented above have shown that the Severe Area SIP inventory not only shows greater rates of reduction over time but contains total attainment year emissions that are lower than the total emissions contained in the April 10, 1998, February 3, 2000 and August 13, 2003, plan documents referenced above. Furthermore, it has been demonstrated, based on photochemical grid modeling, that the emission inventory contained in the Severe Area SIP will result in an attainment year design value well below the ozone NAAQS. EPA believes that the current attainment year emission inventory, including the current on-road mobile source emission budget are consistent with attainment and therefore that the attainment plan and 2005 ROP budgets are adequate.

III. Evaluation of the Budgets

Table 2

Adequacy of the Budgets for the Attainment Plan Submitted for the Washington, D.C. area Ozone Nonattainment Area

Transportation Conformity Rule 40 CFR Part 93, § 93.118	Review Criteria	Was the Criterion Satisfied? If "Yes" How was this Criteria Satisfied? (Reference SIP Document/Comments if required)
Sec. 93.118(e)(4)(i)	Was the submitted revised plan endorsed by the Governor (or his or her designee) and subject to a State public hearing?	Yes. The submitted attainment demonstration was endorsed by the Governor (or his or her designee) for all three jurisdictions and public hearings were held.

Sec. 93.118(e)(4)(ii)	Before the attainment demonstration 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. Consultation has occurred between all required federal, state and local agencies.
Sec. 93.118(e)(4)(iii)	Was the motor vehicle emissions budget(s) clearly identified and precisely quantified?	Yes.
Sec. 93.118(e)(4)(iv)	Is the motor vehicle emissions budget(s), 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, and the responses to comments in Section II, the budgets can be declared adequate .
Sec. 93.118(e)(4)(v)	Is the motor vehicle emissions budget(s) consistent with and clearly related to the emissions inventory and the control measures in the submitted attainment demonstration?	Yes, the motor vehicle emissions budgets are consistent with and clearly related to the emissions inventory and the control measures in the submitted attainment demonstration.

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 changes to the attainment plan budgets are due to recalculation of mobile emissions due to the use of the new EPA mobile model MOBILE6, addition of new mobile source controls and new TCMs.
Sec. 93.118(e)(5)	Did they provide and we review public comments and the State's responses to those comments with the submitted control strategy SIP?	Yes

IV. Recommendation -

Based upon our review and evaluation of the revised attainment demonstration plan submitted on September 5, 2003 by the District of Columbia, August 19, 2003 by the Commonwealth of Virginia, and on September 2, 2003 by the State of Maryland for the Metropolitan Washington D.C. and after consideration of the public comments received, we recommend that the motor vehicle emissions budgets (MVEBs) contained in the 2005 Rate of Progress (ROP) Plan and in the revised 2005 Attainment Demonstration Plan be found adequate. We recommend taking no action with regard to the adequacy of the MVEBs of the 2002 Plan as the states have indicated they intend to revise the 2002 ROP plan and because MVEBs for 2002 are not necessary for future transportation conformity and planning purposes.

APPENDIX A: TABLE SHOWING DIRECT CALCULATION OF 2002 TARGET LEVEL AND SUBSEQUENT 2005 TARGET LEVEL		
Row	Description	NOx Emissions/Target (Tons per day) Reference (refer to Note 2 below)
1	1990 Rate-of-Progress Base-Year Inventory	869.3 "(V1) (N1)'
	1990 Inventory Adjusted to 1996	Not Applicable No NOx Reduction required by 1996
2	Reduction Required for 15% VOC Rate-of-Progress	0.0 No NOx Reduction required by 1996
3	Fleet Turnover Correction 1990 to 1996	Not Applicable No NOx Reduction required by 1996
4	RACT Rule Correction (Stage I)	0.0 Affects VOC baseline only
	1990 Inventory Adjusted to 1999	778.5 "(V8), (N8)'
5	Reduction Required for Rate-of-Progress to 1999: 1% VOC and 8% NOx	-62.3 "(V10) = (V8) * (V9), (N10) = (N8) * (N9)'
6	Fleet Turnover Correction 90 to 99	-90.8 "(N11) = (N1)-(N8)
	1990 Inventory Adjusted to 2002	756.7 "(V13), (N13)'
7	Reduction Required for Rate-of-Progress: 0% VOC and 9% NOx	-68.1 "(V15) = (V13) * 0, (N15) = (N13) * 9%/100'
8	Fleet Turnover Correction 1999 to 2002	-21.8 "(V16) = (V8)-(V13), (N16) = (N8)-(N13)'

	1990 Inventory Adjusted to 2005	735.6	(V25), (N25)
9	Reduction Required for Rate-of-Progress: 0% VOC and 9% NOx	-66.2	"(V27) = (V25) * (V26), (N27) = (N25) * (V26)'
10	Fleet Turnover Correction	-21.1	"(V28) = (V13)-(V25), (N28) = (N13)-(N25)'
11	2005 Target Level	(87.3)	Row nine plus rows ten and eleven
NOTES:			
1. Inventories are shown as positive numbers; required reductions as Negative numbers.			
2. These formulae identifications are the same used in Chapters 5 and 6 of the August 13, 2003, plan document.			