



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

MAR 25 2014

Cecily M. Beall, Associate Director
District of Columbia Department of the Environment
1200 First Street, NE, 5th Floor
Washington, DC 20002

Dear Ms. Beall:

Thank you for the June 3, 2013, 2013, submittal of the maintenance plan for the District of Columbia portion of the Metropolitan Washington, D.C., (DC-MD-VA) 1997 Fine Particulate (PM_{2.5}) National Ambient Air Quality Standard (NAAQS) Nonattainment Area (hereafter, the Washington Area) as a State Implementation Plan (SIP) revision. This letter addresses the U.S. Environmental Protection Agency's (EPA) review of the adequacy of the motor vehicle emissions budgets (MVEBs) for direct particulate matter (PM) and nitrogen oxides (NO_x) for the Washington Area.

Pursuant to 40 CFR 93.118(e)(4) of the Transportation Conformity Rule (40 CFR part 93, subpart A), EPA has reviewed the Washington Area's Maintenance Plan as well as the MVEBs contained in the maintenance plan, which were developed with the use of the Motor Vehicle Emission Simulator (MOVES). EPA has determined that these MVEBs are adequate for transportation conformity purposes. However, this adequacy finding does not relate to the merits of the SIP submittal nor does it indicate whether the submittal meets the requirements for approval.

The Washington Area Maintenance Plan includes a Tier 1 and Tier 2 approach for MVEBs and will be applied to all future transportation conformity determinations and analyses for the 1997 annual PM_{2.5} NAAQS. The Tier 1 MVEBs shown in Table 1 will be the applicable motor vehicle emissions budgets after the adequacy findings are effective. The Tier 2 MVEBs shown in Table 2 add a twenty percent (20%) transportation buffer to the mobile emissions inventory projections for PM_{2.5} and NO_x in 2017 and 2025. The Tier 2 MVEBs will become effective only if it is determined that technical uncertainties due to model changes and to vehicle fleet turnover, which may affect future motor vehicle emissions inventories, lead to motor vehicle emissions estimates above the Tier 1 MVEBs. The determination will be made through the interagency consultation process and fully documented within the first conformity analysis that uses the Tier 2 MVEBs.



Table 1. Tier 1 On-Road MVEBs Contained in the Washington Area Maintenance Plan for the 1997 PM_{2.5} NAAQS

Year	Motor Vehicle Emissions Budget for PM _{2.5} On-Road Emissions (tons per year)	Mobile Vehicle Emissions Budget for NOx On-Road Emissions (tons per year)
2017	1,787	41,709
2025	1,350	27,400

Table 2. Tier 2 On-Road MVEBs Contained in the Washington Area Maintenance Plan for the 1997 PM_{2.5} NAAQS

Year	Motor Vehicle Emissions Budget for PM _{2.5} On-Road Emissions (tons per year)	Mobile Vehicle Emissions Budget for NOx On-Road Emissions (tons per year)
2017	2,144	50,051
2025	1,586	32,880

EPA opened the public comment period on the adequacy of the submitted SIP by posting to the EPA Office of Transportation and Air Quality's adequacy review website (<http://www.epa.gov/otaq/stateresources/transconf/adequacy.htm>) on February 5, 2014. The comment period closed on March 7, 2014, and no comments were received. EPA will soon publish a notice in the Federal Register announcing this adequacy finding. The Federal Register will also announce the date that the adequacy finding becomes effective. The MVEBs will be available for use on the effective date.

EPA has concluded the MVEBs for the 1997 annual PM_{2.5} NAAQS are consistent with maintenance of the 1997 annual PM_{2.5} NAAQS. The District of Columbia has demonstrated in their submittal that attainment of the 1997 annual PM_{2.5} NAAQS will be maintained in the Washington Area without the implementation of the Clean Air Interstate Rule (CAIR) or Cross-State Air Pollution Control Rule (CSAPR). The District of Columbia does not rely on either CAIR or CSAPR in the Washington Area's maintenance plan for the 1997 PM_{2.5} NAAQS, and demonstrates that emission reductions from CAIR or CSAPR are not needed to maintain the standard. In addition, modeling conducted by EPA during the CSAPR rulemaking process also demonstrates that the counties in the Washington Area will have PM_{2.5} levels below the 1997 annual PM_{2.5} standard in both 2012 and 2014 without taking into account emissions reductions from CAIR or CSAPR. See "Air Quality Modeling Final Rule Technical Support Document," App. B, B-18, B-19. This modeling is available in the docket for this proposed redesignation action at www.regulations.gov, Docket ID No. EPA-R03-OAR-2014-0148. Therefore, neither the current status of CAIR nor the current status of CSAPR affects any of the criteria for an adequacy finding for the Washington Area.

The District of Columbia did not provide emission budgets for sulfur dioxide (SO₂), volatile organic compounds (VOCs), or ammonia for the Washington Area's Maintenance Plan because it concluded that emissions of these precursors from motor vehicles are not significant contributors to the area's PM_{2.5} air quality problem. The transportation conformity rule provision at 40 CFR 93.102(b)(2)(v) indicates that conformity does not apply for these precursors, due to the lack of motor vehicle emissions budgets for these precursors and state's conclusion that motor vehicle emissions of SO₂, VOCs, and ammonia do not



contribute significantly to the area's PM_{2.5} nonattainment problem. This provision of the transportation conformity rule predates and was not disturbed by the January 4, 2013 decision in the litigation on the PM_{2.5} implementation rule.¹ EPA has preliminarily concluded that the State's decision to not include budgets for SO₂, VOCs, and ammonia is consistent with the requirements of the transportation conformity rule. That decision does not affect EPA's adequacy finding for the submitted direct PM and NO_x MVEBs for the Washington Area's Maintenance Plan.

EPA has concluded that MVEBs satisfy the requirements of 40 CFR 93.118(e)(4)(iv), which requires that the budget(s), when considered together with all other emissions sources, is consistent with applicable requirements for attainment/maintenance. These MVEBs serve to strengthen the SIP through continued attainment and ensure that motor vehicle emissions remain consistent with the emissions levels provided for in the SIP.

If members of your staff have any questions regarding this finding, they may direct them to Mr. Gregory Becoat, at (215) 814-2036.

Sincerely,



Cristina Fernandez, Associate Director
Office of Air Program Planning

Enclosure

cc: Ram Tangirala (DDOE)
Robert Griffiths (TPB)
Sunil Kumar (MWAQC)

¹ EPA issued conformity regulations to implement the 1997 PM_{2.5} NAAQS (69 FR 40004, July 1, 2004 and 70 FR 24280, May 6, 2005, respectively). Those actions were not part of the final rule recently remanded to EPA by the Court of Appeals for the District of Columbia in *NRDC v. EPA*, No. 08-1250 (January 4, 2013), in which the Court remanded to EPA the implementation rule for the PM_{2.5} NAAQS because it concluded that EPA must implement that NAAQS pursuant to the PM-specific implementation provisions of subpart 4 of Part D of Title I of the CAA, rather than solely under the general provisions of subpart 1.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION III

1650 Arch Street

Philadelphia, Pennsylvania 19103

SUBJECT: Technical Support Document (TSD) - Adequacy Findings for the Motor Vehicle Emissions Budgets in the 1997 Fine Particulate Matter (PM_{2.5}) National Ambient Air Quality Standard (NAAQS) Maintenance Plan for the Metropolitan Washington, D.C. 1997 PM_{2.5} Nonattainment Area (DC-MD-VA).

FROM: Gregory Becoat
Office of Air Program Planning (3AP30)

Asrah Khadr
Office of Air Program Planning (3AP30)

TO: Administrative Record for the Adequacy Findings for the Motor Vehicle Emissions Budgets in the 1997 Fine Particulate Matter (PM_{2.5}) National Ambient Air Quality Standard (NAAQS) Maintenance Plan for the Metropolitan Washington, D.C. 1997 PM_{2.5} Nonattainment Area (DC-MD-VA).

THRU: Cristina Fernandez, Associate Director
Office of Air Program Planning (3AP30)

I. Background

On January 5, 2005 (70 FR 944, 1014), the Environmental Protection Agency (EPA) published air quality area designations for the 1997 PM_{2.5} NAAQS. In that rulemaking action, EPA designated the Metropolitan Washington, D.C. Area as nonattainment for the 1997 annual PM_{2.5} standard. The Metropolitan Washington, D.C. Area includes the entire District of Columbia; Arlington, Fairfax, Loudoun, and Prince William Counties and the cities of Alexandria, Fairfax, Falls Church, Manassas, and Manassas Park in Virginia and Charles, Frederick, Montgomery, and Prince George's Counties in Maryland. See 40 CFR 81.309, 81.321, and 81.347. Additional background information about the Metropolitan Washington, D.C. 1997 PM_{2.5} Nonattainment Area (DC-MD-VA) (hereafter, the Washington Area) is available in the notice of proposed rulemaking (NPR) in this docket.

By transmittal letters dated as shown in Table 1, the State of Maryland, the Commonwealth of Virginia, and the District of Columbia each formally submitted as a State Implementation Plan

(SIP) revision a combined 1997 PM_{2.5} NAAQS Maintenance Plan (hereafter the Maintenance Plan) that included motor vehicle emissions budgets (MVEBs) for PM_{2.5} and nitrogen oxides (NO_x) for the Washington Area.

Table 1. State SIP Submission Dates

Jurisdiction	Submittal Date
Maryland	July 10, 2013
Virginia	June 3, 2013
District of Columbia	June 3, 2013

II. Transportation Conformity Requirements

Transportation conformity is required under section 176(c) of the Clean Air Act (CAA) to ensure that federally supported highway, transit projects, and other activities are consistent with (conform to) the purpose of the State Implementation Plan (SIP). The CAA requires federal actions in nonattainment and maintenance areas to “conform to” the goals of SIP. This means that such actions will not cause or contribute to violations of a NAAQS; worsen the severity of an existing violation; or delay timely attainment of any NAAQS or any interim milestone. Actions involving Federal Highway Administration (FHWA) or Federal Transit Administration (FTA) funding or approval are subject to the Transportation Conformity Rule (40 CFR part 93, subpart A). Under this rule, metropolitan planning organizations (MPOs) in nonattainment and maintenance areas coordinate with state air quality and transportation agencies, EPA, FHWA, and FTA to demonstrate that their metropolitan transportation plans and transportation improvement plans (TIPs) conform to applicable SIPs. This is typically determined by showing that estimated emissions from existing and planned highway and transit systems are less than or equal to the MVEBs contained in a SIP.

For MVEBs to be approvable, they must meet, at a minimum, EPA’s adequacy criteria found at 40 CFR 93.118(e)(4). EPA’s adequacy criteria are: (1) the submitted control strategy implementation plan was endorsed by the Governor or designee and was subject to a State public hearing; (2) consultation among Federal, State, and local agencies occurred; full implementation plan documentation was provided to EPA; and EPA’s stated concerns, if any, were addressed before the control strategy implementation plan was submitted; (3) the MVEBs are clearly identified and precisely quantified; (4) the MVEBs, when considered together with all other emissions sources, are consistent with applicable requirements for maintenance; (5) the MVEBs are consistent with and clearly related to the emissions inventory and the control measures in the submitted control strategy implementation plan; and (6) revisions to previously submitted maintenance plans 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; and reasons for the changes (including the basis for any changes related to emission

factors or estimates of vehicle miles traveled).

III. Review of the Submitted Modeling Utilizing the Motor Vehicle Emission Simulator (MOVES2010)

To run the MOVES2010 model, a run specification (hereafter referred to as “RunSpec”) must be created so the appropriate parameters are selected for the modeling run. The RunSpecs were reviewed against the following EPA document: *Technical Guidance on the use of MOVES2010 for Emission Inventory Preparation in State Implementation Plans and Transportation Conformity*. This guidance document provides guidance on the use of the MOVES model to develop inventories for SIPs as well as analysis of emissions for transportation conformity determinations.

MVEBs were submitted for the years 2017 and 2025 for the 1997 PM_{2.5} NAAQS which are consistent with the rest of the emissions inventory in the Washington Area Maintenance Plan. The ten counties/cities which comprise the Washington Area were modeled using an individual RunSpec for each county/city. The Virginia counties/cities include Alexandria City, Arlington County, Fairfax County, and Loudon County. The Maryland counties include Charles County, Frederick County, Montgomery County, Prince George’s County, and Prince William County. The District of Columbia was modeled as its own individual area. The submitted RunSpecs, input files and output files were reviewed and found to have followed the applicable EPA guidance provided in the *Technical Guidance on the use of MOVES2010 for Emission Inventory Preparation in State Implementation Plans and Transportation Conformity*. Table 2 presents the RunSpec parameters that were reviewed and each parameter’s respective component in the submittal.

Table 2. RunSpec Reviews for the 1997 PM_{2.5} NAAQS for Years 2017 and 2025 for the Washington Area	
Domain/Scale	County scale was selected. County scale also accommodates independent cities, which were present in these modeling runs. Selection of county scale is acceptable for this air quality analysis.
Calculation Type	Inventory was selected which is acceptable for this analysis.
Time Aggregation Level	Hourly time aggregation was selected. Selection of hourly time aggregation level is acceptable for this analysis.
Calendar Year Of Evaluation	The appropriate calendar years were selected for each RunSpec; each RunSpec had 2017 or 2025 as the selected calendar year. MOVES2010b can model years 1990 and 1999-2050.
Month of Evaluation	All 12 months were selected for evaluation.
Type of Day of Evaluation	Weekdays and weekends were selected, which is appropriate for the evaluation of pollutant emissions related to PM _{2.5} .
Hours of Evaluation	Starting and ending hours create a whole day (from 0-24 hours).
Geographic Bounds	The appropriate county/city were selected for each Runspec.

	The following counties/cities were selected: Alexandria City, Arlington County, Fairfax County, Loudon County, Charles County, Frederick County, Montgomery County, Prince George's County, Prince William County, and the District of Columbia.
Vehicles/Equipment: On-Road Vehicle Equipment	Appropriate combinations of fuels and source use types were made.
Road Type	Selection included all necessary road types.
Pollutants and Processes	NO _x , sulfur dioxide (SO ₂) and all forms of primary PM _{2.5} were selected. Only emissions of NO _x and PM _{2.5} are necessary for the analysis of PM _{2.5} emissions.
On-Road Retrofits	N/A
ROP	N/A
Output Database/Unit Selection	Mass units selected to be U.S. Tons; energy units selected to be Joules; distance units selected to be miles.
Output Emission Detail in Emission Rate Calculations	Emission detail was selected via user preference. The output emissions detail does not affect the results of the modeling runs, therefore user preference is acceptable.
Advanced Performance Features	N/A

IV. Administrative Requirements for Making Adequacy Findings

EPA followed the process for determining the adequacy of the submitted SIP MVEBs in accordance with the procedures listed in the January 2008 Conformity Regulations contained in 40 CFR part 93, 118(f) "Adequacy review process for implementation plan submissions." EPA will be issuing a notice of proposed rulemaking (NPR) for a 30-day public comment period soliciting public comment for the approvability of the State of Maryland's, the Commonwealth of Virginia's, and the District of Columbia's SIP submission. The NPR also proposes approval of the MVEBs for milestone year 2017 and the out-year 2025 for the Washington Area for PM_{2.5} and NO_x.

On February 5, 2014, notices were posted on EPA's web site located at:

<http://www.epa.gov/otaq/stateresources/transconf/currships.htm>, for the purpose of opening EPA's 30-day public comment period on the adequacy/approvability of the budgets in the Washington Area Maintenance Plan. The notices were posted separately for the State of Maryland, the Commonwealth of Virginia, and the District of Columbia. The purpose of the notices is to inform the public of the availability of the Washington Area Maintenance Plan on its own website. EPA's website notice provides a link where interested members of the public could access the Washington Area Maintenance Plan. Following EPA's public comment period, responses to any comments received on the proposed mobile budgets will be addressed in an amendment to this TSD.

This TSD will be an enclosure to the letters from EPA to the Maryland Department of the

Environment (MDE), the Virginia Department of Environmental Quality (VADEQ), and the District of Columbia Department of the Environment (DCDOE) informing the jurisdictions of EPA's findings on MVEBs of the Washington Area Maintenance Plan. EPA will publish a Federal Register notice announcing the adequacy findings. The effective date of the adequacy findings will be 15 days after the publication date of that notice. Once EPA has published the Federal Register notice, the letters sent to MDE, VADEQ, and DCDOE, and this TSD will also be posted at the EPA website.

Shown in Table 3 and Table 4 are the budgets from the Washington Area Maintenance Plan. The Washington Area Maintenance Plan includes a Tier 1 and Tier 2 approach for MVEBs and will be applied to all future transportation conformity determinations and analyses for the 1997 annual PM_{2.5} NAAQS. The Tier 1 MVEBs shown in Table 3 will be the applicable motor vehicle emissions budgets after the adequacy findings are effective. The Tier 2 MVEBs shown in Table 4 adds a twenty percent (20%) transportation buffer to the mobile emissions inventory projections for PM_{2.5} and NOx in 2017 and 2025. The Tier 2 MVEBs will become effective only if it is determined that technical uncertainties due to model changes and to vehicle fleet turnover, which may affect future motor vehicle emissions inventories, lead to motor vehicle emissions estimates above the Tier 1 MVEBs. The determination will be made through the interagency consultation process and fully documented within the first conformity analysis that uses the Tier 2 MVEBs.

Table 3. Tier 1 On-road MVEBs Contained in the Washington Area Maintenance Plan for the 1997 PM_{2.5} NAAQS

Year	Motor Vehicle Emissions Budget for PM _{2.5} On-Road Emissions (tons per year)	Mobile Vehicle Emissions Budget for NOx On-Road Emissions (tons per year)
2017	1,787	41,709
2025	1,350	27,400

Table 4. Tier 2 On-road MVEBs Contained in the Washington Area Maintenance Plan for the 1997 PM_{2.5} NAAQS

Year	Motor Vehicle Emissions Budget for PM _{2.5} On-Road Emissions (tons per year)	Mobile Vehicle Emissions Budget for NOx On-Road Emissions (tons per year)
2017	2,144	50,051
2025	1,586	32,880

V. Evaluation of the Adequacy of the MVEBs in the Washington Area Maintenance Plan for the 1997 PM_{2.5} NAAQS

In this TSD, we are evaluating the MVEBs associated with the Washington Area Maintenance Plan for conformity purposes. We are using the evaluation criteria detailed in the Transportation Conformity Rule, 40 CFR part 93.102(b)(2)(v), 93.102(b)(2)(v), 93.102(b)(3), and part 93, 93.118(e)4 through 93.118(e)5. The evaluation is presented in Table 5, below.

Table 5. Adequacy of the MVEBs Contained in the Washington Area Maintenance Plan for the 1997 PM_{2.5} NAAQS		
Transportation Conformity Rule 40 CFR Part 93, 93.118	Review Criteria	Was the Criterion Satisfied? If Yes How was this Criteria Satisfied?
93.102(b)(2)(iv)	Have EPA and the States made a finding that NO _x is an insignificant contributor to the direct mobile PM emissions?	Neither EPA nor the States have made such a finding.
93.102(b)(2)(v)	Has EPA or States made a finding that VOCs, Sulfur Oxides (SO _x) or Ammonia (NH ₃) as precursors to be a significant contributor to the mobile PM _{2.5} emissions?	Neither EPA nor the States have made any findings that VOCs or NH ₃ are significant contributors to the PM _{2.5} mobile emissions, and therefore, they have not been included in the SIP. The States have requested that SO ₂ be found an insignificant contributor to the mobile PM emissions. This request is based on the States finding that onroad mobile source SO ₂ constitutes less than two percent (2%) of the area's total SO ₂ emissions in the 2017 and 2025 horizon years. Although the State requested insignificance, SO ₂ isn't considered to be a significant contributor to mobile PM and therefore does not have to be part of a PM _{2.5} maintenance strategy.
93.102(b)(3)	Has the EPA or the States made a finding that re-entrained road dust is a significant contributor to the PM mobile emissions?	Neither EPA nor the States have made such a finding.

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 Washington Area Maintenance Plan were endorsed and submitted as a SIP revision by the Governor's designee, the Secretaries of Maryland Department of the Environment and Virginia Department of Environmental Quality and the Director of District of Columbia Department of the Environment. A public hearing on the SIP proposal was held in all three jurisdictions.
Sec. 93.118(e)(4)(ii)	Before the maintenance plan was submitted to EPA, did consultation between 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 among 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, the budgets are clearly identified on pages 8-12 of the Washington Area Maintenance Plan prepared by the Metropolitan Washington Council of Governments and submitted by the State of Maryland, the Commonwealth of Virginia, and the District of Columbia.
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 maintenance?	EPA believes the budgets can be declared adequate because in conjunction with the other emission reductions, they demonstrate continued maintenance for years 2017 and 2025.

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 Plan?	EPA believes that the budgets are clearly related to the emissions inventory and the control measures in the SIP submittal.
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 Washington Area Maintenance Plan provides new MVEBs for years 2017 and 2025. The addition of safety margins to the MVEBs is consistent with continued attainment.
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

VI. Findings

Based upon our review and evaluation of the MVEBs contained in the three jurisdictions submittals of the Maintenance Plan for the Metropolitan Washington, D.C. 1997 PM_{2.5} Nonattainment Area, EPA finds the MVEBs adequate for conformity purposes and recommends that the MVEBs be SIP approved.