

## Region 3 Plan Summary

**Title: Attainment - Redesignation Requests and Maintenance Plan of the Washington, DC-MD-VA Nonattainment Area for the 1997 Annual Fine Particulate Matter Standard to Attainment**

**Federal Register Dates: October 6, 2014 (final rule) 79 FR 60081; August 6, 2014 (proposed rule) 79 FR 45735**

**EPA Effective date: November 5, 2014**

**State Submittal Dates: June 3, 2013 (DC & VA), July 10, 2013 (MDE)**

**Affected Areas:** 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

### **Key Features:**

EPA approved the requests from the District of Columbia (the District), the State of Maryland (Maryland), and the Commonwealth of Virginia (Virginia) (collectively "the States") to redesignate to attainment their respective portions of the Washington, DC-MD-VA nonattainment area (hereafter "the Washington Area" or "the Area") for the 1997 annual fine particulate matter (PM<sub>2.5</sub>) National Ambient Air Quality Standard (NAAQS or standard). EPA also approved as a revision to their respective State Implementation Plans (SIPs) the common maintenance plan submitted by the States to show maintenance of the 1997 annual PM<sub>2.5</sub> NAAQS through 2025 for the Washington Area. The Washington Area maintenance plan includes motor vehicle emissions budgets (MVEBs) for PM<sub>2.5</sub> and nitrogen oxides (NO<sub>x</sub>) for the Area for the 1997 annual PM<sub>2.5</sub> standard, which EPA approved for transportation conformity purposes.

### **Maintenance Plan:**

As part of the maintenance demonstration the SIP revision includes a 2007 attainment emissions inventory, a 2017 interim emissions inventory, and a 2025 end year maintenance plan emissions inventory. The emissions inventories were subsequently supplemented by the States to provide for emissions estimates of VOC and ammonia as part of the 2007, 2017 and 2025 emissions inventories. The supplemental inventories were submitted to EPA on July 22, 2013 by DDOE, on July 26, 2013 by MDE, and on July 17, 2013 by VADEQ. EPA's analysis for proposing approval of the Washington Area's maintenance plan is provided in this section.

The States use projection inventories to show that the Washington Area will remain in attainment and developed projection inventories for an interim year of 2017 and a maintenance plan end year of 2025 to show that future emissions of NO<sub>x</sub>, SO<sub>2</sub>, and direct PM<sub>2.5</sub> will remain at or below the attainment year 2007 emissions levels throughout the Area through the year 2025. The States used the 2017 and 2025 emissions projections developed through the MARAMA regional planning process as the 2017 interim year and the 2025 maintenance plan end year emissions inventories.

**Monitoring Network:**

The Washington Area's maintenance plan includes the States' commitment to continue to operate and maintain its PM<sub>2.5</sub> air quality monitoring network, consistent with EPA's monitoring requirements, as necessary to demonstrate ongoing compliance with the 1997 annual PM<sub>2.5</sub> NAAQS. In accordance with the requirements of 40 CFR part 58, the States will consult with EPA prior to making any necessary changes to the PM<sub>2.5</sub> monitoring network in the Area and will continue to submit quality-controlled, quality-assured monitoring data.

**Contingency Plan Triggers and Contingency Measures:**

The States' contingency measures will be implemented if any of the following triggering events occur: The total actual annual emissions of NO<sub>x</sub>, SO<sub>2</sub> or primary PM<sub>2.5</sub> exceed the levels of the 2007 attainment year emissions inventory. Should actual emissions inventory data for any future year of the maintenance period indicate that the Washington Area's total emissions of NO<sub>x</sub>, SO<sub>2</sub>, or primary PM<sub>2.5</sub> exceed the levels of the Area's 2007 attainment emissions inventory, the States would commence an audit to determine whether inventory refinements are needed. This audit may include, but would not be limited to, a determination that the appropriate models, control strategies, monitoring strategies, planning assumptions, industrial throughput, and production data were used in the emissions estimates for both the 2007 attainment year and the future year in question. The results of this audit will be provided to EPA. If the States find that this audit does not reconcile the estimated emissions exceedances, then each of the States commit to implement one or more of the contingency measures, as necessary so that the future actual emissions estimates for the Washington Area do not continue to exceed the levels of the 2007 attainment emissions inventory.

Additionally, if an annual exceedance of the standard occurs in the Area, each of the States commit to implementing one of the contingency measures, as described subsequently, which apply to their individual jurisdictions, to garner additional emission reductions for air quality improvement. If a violation of the standard occurs in the Area, each of the States commit to implementing two or more of the contingency measures. The States' contingency measures consist of the following state regulations or control programs: PM<sub>2.5</sub> RACM determination, NO<sub>x</sub> RACM determination, SO<sub>2</sub> RACM determination (for the District and Virginia portions of the Area), nonroad diesel emission reduction strategies, low sulfur home heating oil requirements (for the District and Maryland portions of the Area), alternative fuel and diesel retrofit programs for fleet vehicle operations, and wet suppression upgrade requirements in concrete manufacturing. If a RACM determination is selected as a contingency measure and the analysis shows that no control measures are economically and technically feasible, then the State would consider an alternative contingency measure from the options listed.

The States commit to a schedule for adoption and implementation of any contingency measure following three months from when an exceedance or violation of the 1997 annual PM<sub>2.5</sub> standard is determined, based on the air quality assured data; or an exceedance of actual emissions from the levels of the 2007 attainment emissions inventory is determined, as concluded by an audit. After this 3-month period, the selected contingency measure must be adopted by the State within six months, and implemented within six months of adoption. Compliance with the regulation, or full program implementation, must be achieved within 12 months of adoption.

**Schedule:**

for 10 years, a commitment to maintain the existing monitoring network; verification of continued attainment; and a contingency plan to prevent or correct future violations of the NAAQS.

**Emissions Inventory:**

An attainment inventory is comprised of the emissions during the time period associated with the monitoring data showing attainment. The States determined that the appropriate attainment inventory year for the maintenance plan is 2007, one of the years in the period during which the Area monitored attainment of the 1997 annual PM<sub>2.5</sub> NAAQS. The 2007 attainment emissions inventory contains primary PM<sub>2.5</sub> emissions (including condensables), SO<sub>2</sub>, NO<sub>x</sub>, VOC, and ammonia for point, area, nonroad, and onroad source categories.

For the emissions estimates of the point, area, and nonroad categories of the 2007 attainment emissions inventory, the States submitted version 3 of the 2007 emissions inventory developed through the Mid-Atlantic Regional Air Management Association (MARAMA) regional process. The 2007 onroad source estimates were developed by MWCOG/TBP using EPA's MOVES 2010a model. More information on the development of the onroad emissions can be found on the States' TSD submitted as part of their redesignation request submittals.

EPA has reviewed the inventory and the documentation provided by the States and found the 2007 attainment emissions inventory submitted with the Washington Area's maintenance plan to be approvable.

**Comparison of 2007 Attainment Year and 2017 and 2025 Projected Emissions Inventories for the Washington Area, in tpy**

<b>Pollutants/Year</b>	<b>2007</b>	<b>2017</b>	<b>2025</b>	<b>Reductions 2007-2017</b>	<b>Reductions 2007- 2025</b>
PM <sub>2.5</sub>	20,724	18,654	18,010	<b>-2,070</b>	<b>-2,714</b>
SO <sub>2</sub>	191,441	33,315	33,287	<b>-158,125</b>	<b>-158,153</b>
NO <sub>x</sub>	165,247	90,799	74,504	<b>-74,448</b>	<b>-90,743</b>
VOC	114,235	92,592	84,762	<b>-21,643</b>	<b>-29,473</b>
Ammonia	6,204	5,922	5,670	<b>-282</b>	<b>-534</b>

Point, nonroad, and onroad emission projections for 2017 and 2025 include a variety of control strategies that will reduce emissions of PM<sub>2.5</sub>, NO<sub>x</sub>, and SO<sub>2</sub> in the Area. Many of these programs are Federal programs that are enforced on a regional or national level. In cases where the programs are delegated programs or State programs, the States commit to the continuation of each program to ensure that reductions assumed in 2017 and 2025 will be achieved.

**Transportation Conformity:**

The Washington Area's maintenance plan includes MVEBs for PM<sub>2.5</sub> and NO<sub>x</sub> for the 1997 annual PM<sub>2.5</sub> NAAQS. The MVEBs were submitted for the years 2017 and 2025 for the 1997 PM<sub>2.5</sub> NAAQS, consistent with the emissions inventories in the Washington Area.

**Tier 1 On-road MVEBs for the Washington Area for the 1997 PM<sub>2.5</sub> NAAQS**

Year	MVEB for PM <sub>2.5</sub> On-Road Emissions (tpy)	MVEB for NO <sub>x</sub> On-Road Emissions (tpy)
2017	1,787	41,709
2025	1,350	27,400

**Tier 2 On-road MVEBs for the Washington Area for the 1997 PM<sub>2.5</sub> NAAQS**

Year	MVEB for PM <sub>2.5</sub> On-Road Emissions (tpy)	MVEB for NO <sub>x</sub> On-Road Emissions (tpy)
2017	2,144	50,051
2025	1,586	32,880

**Conclusion:**

(EPA) has approved the requests from the District of Columbia (the District), the State of Maryland (Maryland), and the Commonwealth of Virginia (Virginia) (collectively “the States”) to redesignate to attainment their respective portions of the Washington, DC-MD-VA nonattainment area (hereafter “the Washington Area” or “the Area”) for the 1997 annual fine particulate matter (PM<sub>2.5</sub>) National Ambient Air Quality Standard (NAAQS or standard). EPA has also approved, as a revision to their respective State Implementation Plans (SIPs), the common maintenance plan submitted by the States to show maintenance of the 1997 annual PM<sub>2.5</sub> NAAQS through 2025 for the Washington Area. The Washington Area maintenance plan includes motor vehicle emissions budgets (MVEBs) for PM<sub>2.5</sub> and nitrogen oxides (NO<sub>x</sub>) for the Area for the 1997 annual PM<sub>2.5</sub> standard, which EPA has approved for transportation conformity purposes.

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