

## **REASONABLE FURTHER PROGRESS**

### **REASONABLE FURTHER PROGRESS DEMONSTRATION REQUIREMENT**

The federal Clean Air Act (CAA), Section 189(c), requires PM10 nonattainment areas to include quantitative milestones, which are to be achieved every three years until the area is redesignated attainment and which demonstrate reasonable further progress (RFP) toward attainment by the applicable date. The District's applicable date is the new attainment date of 2010. Since the District did not attain the standard by December 31, 2001, it is required to achieve reductions of five (5) percent per year of PM10 or PM10 precursors until attainment is reached. The emission inventories for the milestone years of 2005 and 2008 that reflect achievement of the 5 percent requirement will constitute the quantitative milestones for the SJVAB. The SJVAB is the first PM10 nonattainment area nationwide to be subject to the 5 percent requirement. No precedent has been set for interpreting this requirement. The District's interpretation and an alternative interpretation are provided below.

#### **Five Percent Annual Emissions Reduction**

The District was required to submit a new SIP by December 31, 2002; therefore, the annual 5 percent emission reduction requirement becomes effective in calendar year 2003. The basis for the 5 percent annual reduction is the emission inventory for 2002 that is included in this PM10 Plan. The District's interpretation of the 5 percent requirement is summarized as follows:

- a. The annual 5 percent per year emission reduction requirement represents the aggregate of directly emitted PM10 emissions and appropriate precursor emissions.
- b. EPA guidance regarding the 5 percent requirement makes no mention of the relative effectiveness of the reductions, but it would be logical to assume that the reduction must have some effect on the attainment problem, and in fact should be related to efficient progress in the most expeditious manner.
- c. Although no precedent is available for PM10, the CAA includes a 3 percent milestone requirement for ozone that allows NOx substitution and is additive for VOC and NOx reductions. In keeping with the NOx substitution guidance, a PM10 nonattainment area should be able to meet the milestone by reducing either PM10 or the PM10 precursor or both as long as both have an effect on ambient PM10 concentrations.
- d. An area with directly emitted PM10 and precursor problems should be able to reduce zero percent of one pollutant and 5 percent of the other to meet the requirement or some combination in between as long as this is consistent with the attainment demonstration.

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- e. The 5 percent reduction should be demonstrated with a running average for every year until attainment to ensure that every year achieves at least 5 percent.

An even 5 percent per year reduction for each year is not possible nor in the public interest. The District only has the regulatory authority to control a fraction of the total emission inventory. For example, the federal government and the State of California regulate mobile source emissions. Mobile source reductions are predetermined by vehicle fleet turnover and the schedule for adopting new controls. This makes mobile source emissions decline gradually over time and provides little opportunity for additional early reductions due to lengthy regulation development schedules. Stationary source controls implemented by the District often get immediate reductions and then start to lose the benefits due to growth in that source category. In this case, one or two years when the rule is first implemented will show substantial percentage reductions and later years may show growth from the new lower baselines. When regulations impacting large sources are implemented prior to the baseline year, in this case 2002, there is little additional opportunity for reductions when they are needed to demonstrate 5 percent. Artificially delaying rule implementation to a later date to meet the 5 percent in a year short on reductions would be contrary to CAA provisions requiring expeditious implementation.

Table 7-1 displays the percent reduction estimated for directly emitted PM10 and PM10 precursor emissions for each milestone year and the attainment year.

**Table 7-1  
Five Percent per Year Milestone Demonstration  
Annual Inventory with New Controls**

Year	NOx Emissions Tons/day	Percent NOx Reduced %	PM10 Emissions Tons/day	Percent PM10 Reduced %	Percent reduction NOx + PM10 (running average)
<b>2002</b>	<b>519.8</b>		<b>329.4</b>		
<b>2003</b>	493.5	5.1	329.4	0.0	5.1
<b>2004</b>	479.5	2.7	312.1	5.3	6.5
<b>2005</b>	461.8	3.4	285.5	8.0	8.1
<b>2006</b>	441.0	4.0	285.8	-0.1	7.1
<b>2007</b>	420.1	4.0	285.4	0.1	6.5
<b>2008</b>	403.6	3.3	280.1	1.6	6.2
<b>2009</b>	389.1	2.8	284.5	-1.3	5.5
<b>2010</b>	363.7	4.9	283.7	0.2	5.5

Another way to interpret the requirement for 5 percent of PM10 or PM10 precursors is to conclude that it means that in each year you must meet at least 5 percent of one or the other. If a District achieves a 5 percent PM10 reduction in one year, no reduction in precursors is required that year. In a later year, one would claim a 5

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percent reduction in precursors and zero percent reduction in PM10. Table 7-2 provides a demonstration using this alternative methodology.

**Table 7-2  
Five Percent per Year Milestone Demonstration – Alternative Method  
Annual Inventory**

Year	NOx Emissions Tons/day	Percent NOx Reduced %	Percent NOx Carried Forward %	PM10 Emissions Tons/day	Percent PM10 Reduced %	Percent PM10 Carried Forward	Percent reduction NOx + PM10 (running average)
<b>2002</b>	<b>519.8</b>			<b>329.4</b>			
<b>2003</b>	493.5	<b>5.0</b>	<b>0.1</b>	329.4	0.0	0.0	5.1
<b>2004</b>	479.5	0.0	2.8	312.1	<b>5.0</b>	0.3	6.5
<b>2005</b>	461.8	0.0	6.2	285.5	<b>5.0</b>	3.3	8.1
<b>2006</b>	441.0	<b>5.0</b>	5.2	285.8	0.0	3.2	7.1
<b>2007</b>	420.1	<b>5.0</b>	4.2	285.4	0.0	3.3	6.5
<b>2008</b>	403.6	<b>5.0</b>	2.4	280.1	0.0	4.9	6.2
<b>2009</b>	389.1	<b>5.0</b>	0.2	284.5	0.0	3.6	5.5
<b>2010</b>	363.7	<b>5.0</b>	0.1	283.7	0.0	3.8	5.5

Bold percentages indicate the year and the pollutant used to meet the annual 5 percent requirement.

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The five percent calculation is based on directly emitted PM10 and PM10 precursors that contribute significantly toward attainment. SOx, VOCs and ammonia controls make insignificant contributions toward attainment. The entire SOx inventory is very small (32 tons/day) and all SOx reductions after implementing BACM contribute about 1.5 µg/m<sup>3</sup> of reduction for a 24-hour episode. UAM-Aero modeling indicates that a 50 percent reduction of VOCs involved in secondary formation of PM10 are ineffective at changing ambient concentrations of nitrate. Fifty percent ammonia reductions were also modeled with UAM-Aero. The results were inconclusive. Although some areas with relatively low nitrate concentrations modeled reduced ambient concentrations, most of the Valley and areas with the highest concentrations showed little reductions. See Chapter 5 for a discussion of the modeling conducted for the PM10 Plan. The District is committing to revisit potential ammonia control controls pending the results of CRPAQS data analysis that will be accomplished over the next one to two years. The District is pursuing VOC controls as part of its ozone control strategy and the District has concluded that the adopted and proposed measures would comply with the PM10 BACM/BACT requirement, if needed.

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### **MILESTONES/UPDATES**

The CAA (Section 171) defines RFP as the “annual incremental reductions in emissions of the relevant air pollutant as required by this part or may reasonably be required by the Administrator for the purpose of ensuring attainment of the applicable national ambient air quality standard by the applicable date.” In addition, Section 182(g) discusses milestones as reductions in emissions six (6) years “after the date of the enactment of the Clean Air Amendments of 1990 and at intervals of every 3 years thereafter, the State shall determine whether each nonattainment area (other than an area classified as Marginal or Moderate) has achieved a reduction in emissions during the preceding intervals equivalent to the total emission reductions required to be achieved by the end of such interval.”

For the District’s PM10 Plan, the first milestone will be for the period 2003 to 2005. Reductions of PM10 or PM10 precursors must be implemented to achieve the quantities reflected in the inventory for the year 2005. The RFP/Milestone Report is due within 90 days after each milestone date. The first District PM10 RFP Milestone Report is due to EPA on March 31, 2006.

### **CONCLUSION**

The District’s PM10 Plan contains measures sufficient to meet mandated emission reduction requirements. The District commits to expeditiously implement all measures needed to demonstrate RFP.