

Outline - Reasonable Further Progress Plan¹

(2008 Ozone NAAQS)

Need for RFP Plan

The Metropolitan Washington, DC-MD-VA region is currently classified as Marginal nonattainment area for the 2008 8-hour ozone standard. In case the region is not able to attain the standard by 2015, it will be reclassified as Moderate nonattainment area by EPA. One of the requirements for the Moderate nonattainment area is the submission of a Reasonable Further Progress (RFP) plan. State air agencies decided to develop a RFP plan in advance in anticipation of a possible reclassification (bump-up) to the Moderate designation as part of an agreement in the PM2.5 Redesignation request and maintenance Plan submitted to EPA in 2013.

RFP Plan Submission Deadline

The plan needs to be submitted shortly after redesignation to the moderate classification (due from EPA latest by June 30, 2016).

RFP Plan Components

A. RFP Milestone Years & Emissions Reduction Requirements

- Base Year: 2011
- 15% RFP Milestone Year: 2017
- RFP Emissions Reduction Requirements: 15% VOC emission reduction during 2011 – 2017
 - NOx Substitution: NOx can be substituted for VOC to achieve a total of 15% reduction. (e.g., 10% VOC reduction & 5% NOx reduction). Since the Washington region previously met its 15% VOC emission reduction requirements for RFP purposes under the 1-hour standard, EPA's proposed guidance allows this substitution.

B. Identification of Control Measures to Meet RFP Requirements & Restrictions on Control Measures

Control measures would need to be identified in case existing measures fail to provide enough emissions benefits to meet RFP requirements. However, there are a few restrictions on the control measures that can be employed to meet these requirements. These restrictions are described below.

- a) The Clean Air Act Amendments (CAAA) included restrictions on the use of four federal and state control measures to meet the 15% emissions reduction requirements. Following are the four non-creditable emissions control measures:
 - i. Federal Motor Vehicle Control Program (FMVCP) tailpipe and evaporative standards applicable as of January 1, 1990,
 - ii. Federal regulations limiting the Reid Vapor Pressure (RVP) of gasoline in ozone nonattainment areas applicable as of June 15, 1990;
 - iii. State regulations correcting deficiencies in reasonably available control technology (RACT) rules
 - iv. State regulations establishing or correcting inspection and maintenance (I/M) programs for on-road vehicles.

¹ The outline of the proposed RFP plan is based on EPA's draft 2008 Ozone NAAQS implementation guidance (Federal Register Vol. 78, No. 109, June 6, 2013) and may change when the guidance is finalized.

- b) Additional Restrictions
 - Emission reductions must be from sources located within the nonattainment area
 - Emissions reductions must be enforceable, quantifiable, permanent and surplus

C. Calculation of RFP Emissions Target Levels for 2017

The basic procedures of developing target levels for the 15% Plan are described in EPA's guidance on the *Adjusted Base Year Emissions Inventory and the 1996 Target for the 15% Rate of Progress Plans*. An updated guidance is provided in the Appendix C to Preamble titled "*Methods to Account for Non-Creditable Reductions When Calculating RFP Targets for the 2008 Ozone NAAQS*" of EPA's proposed guidance.

Following are the steps involved in the calculation of emissions target levels for the 15 percent milestone year 2017 to meet the 15 percent emission reduction requirement for RFP.

Step 1 Develop RFP Base Year 2011 Inventories

Calculate actual 2011 base year anthropogenic emissions inventory for VOC and NO_x with all 2011 control programs in place.

Step 2 Calculate Non-Creditable Emissions Reduction for 2011-2017

A. Calculation of non-creditable emissions reduction not required

With the exception of the first non-creditable emission control measure listed above, reductions from the rest three measures were achieved many years ago, so the question of creditability is moot for RFP credit. For the motor vehicle standards, a small amount of reduction is still occurring due to fleet turnover. EPA is proposing as one alternative to eliminate the obligation for states to continue to perform this calculation because these reductions are now very small and will continue to decrease further in future years.

B. Calculation of non-creditable emissions reduction required

In case the calculation of non-creditable emission reductions are required in the final rule, then it will performed as described below based on the Appendix C to Preamble of EPA's guidance.

Step 2a Develop Adjusted Base Year 2011 and Adjusted 15% Milestone Year 2017 Inventories

Develop 2011 and 2017 VOC and NO_x emissions inventories with the following options:

- a) 1990 I/M Program
- b) RVP = 7.8 psi (RVP required according to June 1990 fuel RVP regulations)²
- c) No Post-1990 Clean Air Act Measures
- d) 2011 Vehicle Activity Inputs
- e) 2011 Vehicle Miles Traveled (VMT)

Step 2b Calculate Non-Creditable Emissions Reductions

Non-creditable VOC Emissions Reductions = Adjusted Base Year 2011 VOC emission – Adjusted 15% Milestone Year 2017 VOC emissions (Step 2a)

Non-creditable NO_x Emissions Reductions = Adjusted Base Year 2011 NO_x emission – Adjusted 15% Milestone Year 2017 NO_x emissions (Step 2a)

² The 1990 Phase II regulations specify 7.8 psi as the maximum RVP of gasoline being sold in the Washington, DC-MD-VA ozone nonattainment area in 1992.

Step 3 Calculate RFP Adjusted Base Year 2011 Emissions

RFP Adjusted Base Year 2011 VOC emissions = RFP base year 2011 VOC emissions (Step 1) – non-creditable VOC emissions reduction between 2011 and 2017 (Step 2b)

RFP Adjusted Base Year 2011 NOx emissions = RFP base year 2011 NOx emissions (Step 1) – non-creditable NOx emissions reduction between 2011 and 2017 (Step 2b)

Step 4 Calculate 15% Milestone Year 2017 Emissions Target Levels

The target for VOC and NOx emissions in the 15 percent milestone year 2017 needed to meet the 15 percent milestone year RFP requirement is any combination of VOC and NOx emissions which result in a combined total of 15 percent reductions when compared to the adjusted VOC and NOx inventories calculated in Step 4. For example, the target level of VOC emissions in the 15 percent milestone year could be 90 percent of the adjusted VOC inventory calculated in Step 4, which would be a 10 percent reduction. Similarly the target level of NOx emissions could be 95 percent of the adjusted NOx inventory calculated in Step 4, which would be a 5 percent reduction. The actual projected 15 percent milestone year VOC and NOx inventories for all sources with all control measures in place as of the milestone year and including projected 15 percent milestone year growth in activity must be at or lower than the target levels of VOC and NOx emissions.

2017 VOC Target level = (2011 RFP Base year VOC emissions (Step 1) – non-creditable VOC emissions reduction between 2011 and 2017) * 0.90 (10% VOC reduction)

2017 NOx Target level = (2011 RFP Base year NOx emissions (Step 1) – non-creditable NOx emissions reduction between 2011 and 2017) * 0.95 (5% NOx reduction)

D. RFP Demonstration

In order to demonstrate RFP for the period 2011-2017, the Washington region must show that expected emissions in 2017 are equal to or less than the 2017 target levels.

E. RFP Contingency Emissions Reduction Requirements

A total of 3% reduction using a combination of VOC and NOx reductions are needed to comply with the RFP contingency emissions reduction requirements; however, a minimum of 0.3% VOC is required. Therefore, minimum reduction requirements are as follows:

VOC Reduction Required = (2011 RFP Base Year VOC emission – non-creditable emission reduction between 2011 and 2017)* (0.3% VOC reduction)

NOx Reduction Required = (2011 RFP Base Year NOx emission – non-creditable emission reduction between 2011 and 2017)* (2.7% NOx reduction)