

US EPA ARCHIVE DOCUMENT

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MEMORANDUM

SUBJECT: Clarification of Policy for Nitrogen Oxides (NO<sub>x</sub>)  
Substitution

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The purpose of this memorandum is to clarify past guidance issued by the Environmental Protection Agency (EPA) on NO<sub>x</sub> substitution<sup>1,2</sup> for the post-1996 rate-of-progress (ROP) plans. Specifically, this memorandum clarifies what the EPA will accept as evidence that NO<sub>x</sub> substitution for volatile organic compounds (VOC) reductions is a viable approach for meeting post-1996 ROP requirements prior to completion of modeling supporting an area's attainment demonstration.

Background

When the NO<sub>x</sub> substitution guidance was developed, it was assumed that required modeling attainment demonstrations would

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<sup>1</sup>"Transmittal of NO<sub>x</sub> Substitution Guidance," memorandum from John S. Seitz, Director, Office of Air Quality Planning and Standards, to Air Division Directors, December 15, 1993.

<sup>2</sup>"Guidance on the Post-1996 Rate-of-Progress Plan and the Attainment Demonstration," U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, EPA-452/R-93-015, January 1994.

generally be completed in a timely manner. Consequently, the policy assumes that information produced by the demonstrations would be, in most cases, available to assist decision makers to reach sound decisions concerning NOx substitution to meet post-1996 ROP requirements.

Recent information from Regional Office modeling contacts indicates that it is likely that some areas may not complete their attainment modeling analyses by November 1994. Perhaps even more significant, very few modeling demonstrations are expected to be completed appreciably before the Act's November 15, 1994 deadline for submitting State implementation plan revisions reflecting ROP requirements and additional measures needed to attain the national ambient air quality standards (NAAQS). This latter possibility raises the likelihood that there may be insufficient time prior to November 1994 to take full advantage of information generated in the attainment demonstration modeling to support a ROP plan reflecting partial or full substitution of NOx for VOC reductions.

#### NOx Substitution Policy

The December 1993 NOx substitution guidance identifies several prerequisites for NOx to be substituted, in part or in full, for VOC reductions to satisfy ROP requirements. For purposes of this discussion, the most pertinent of these appears on pages 2 and 3, "States are required to justify substitution by illustrating 'consistency' between the cumulative emission changes emerging from the reasonable further progress/ substitution and the emission reductions in the model attainment demonstration (or comparable modeling analysis)." The guidance goes on to say on page 3 that, "The EPA will approve substitution proposals on a case-by-case basis. Generally speaking, any reasonable substitution proposal will be approved."

In the absence of a complete modeled attainment demonstration, the following prerequisites are consistent with the intent of the guidance on NOx substitution.

1. The NOx reasonably available control technology (RACT) regulations should be adopted and submitted to the EPA by the State seeking to substitute NOx for VOC to meet ROP requirements; EPA will have to approve the NOx RACT rules no later than the date of approval of the ROP plan featuring NOx substitution.

2. At least one of the two following conditions should be met: (a) modeling of at least one episode should have been completed with photochemical grid modeling which shows that NOx reductions are useful in reducing ozone concentrations; or (b) a

regional modeling analysis supporting use of NOx controls to reduce ozone within the area under consideration for use of NOx substitution should be available.

The first prerequisite shows that, indeed, NOx controls are a part of the area's strategy to attain the ozone standard. The prerequisite in 2(a) is preferable to that in 2(b), and will take precedence, because it is more likely to reflect assumptions and inputs to be used in the attainment demonstration. In any event, either photochemical grid modeling or regional modeling results are needed to show that NOx control is useful in helping an area to attain the ozone NAAQS. It is only necessary to show this for one of the episodes selected for the attainment demonstration. This follows because the attainment strategy ultimately selected must show predicted ozone to be less than or equal to 120 parts per billion for all selected episodes.

Questions on this clarification may be directed to John Silvasi at (919) 541-5666, or Ned Meyer at (919) 541-5594.

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