

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF AIR QUALITY PLANNING AND STANDARDS
Research Triangle Park, North Carolina 27711

February 22, 1992

MEMORANDUM

SUBJECT: Distribution of Report on Procedures to Estimate
Nitrogen Oxides (NOx) Emission Increases from Mobile
and Area Sources for Prevention of Significant
Deterioration (PSD) Increment Analyses

FROM: Eric Noble
Operating Permits Policy Section (MD-15)

TO: New Source Review (NSR) Contacts

Attached is a copy of the final report on estimating NOx emissions from mobile and area sources for PSD nitrogen dioxides increment analyses. Additional copies may be had by downloading from either the NSR bulletin board, which has been renamed the Permits Programs Bulletin Board System, or the Technology Transfer Network.

This report differs from the draft report distributed for review last fall. The primary change is the removal of lookup tables for determining worst case NOx impacts of mobile and area sources. The tables made it appear that, for even small increases in NOx emissions, the estimated ambient NOx impacts were so high that very few sources would be able to use them to avoid a full ambient air quality dispersion analysis. Other changes were made to incorporate comments and suggestions you made during the review process. I appreciate the time and effort you took to provide me with those comments.

As you may have noted from my new byline, I am no longer directly involved in the NSR program. I recently transferred into the Operating Permits Policy Section so, while this may be my final act as a representative of the NSR Section, it is probably not my last contact with you. In any event, I want to express my appreciation for all the support I've received (both internally and from the Regions), since I joined the NSR Section.

If you have any questions or comments on this report, you can give me a call at (919) 541-5362.

Attachment

ABSTRACT

This report presents simple methods that may be used by reviewing agencies and permit applicatns to estimate the increase in NOx emissions from mobile and area sources for PSD NO2 increment applications. This study is not intended to provide the complete methodology for estimating NO2 increment impacts, but only to provide the basis for a screening analysis to estimate those impacts and to determine if a detailed analysis of NOx emissions is required.

A three-step screening framework is presented, as follows:

Step 1 - define the study area;

Step 2 - estimate the emissions change in the study area; and

Step 3 - distribute the emissions change throughout the study area.

Techniques are presented that may be used to relatively easily estimate NOx emissions increases from area and mobile sources. Based on these emissions increases, NO2 impacts can be estimated using air quality screening models that provide worst-case impacts from line sources and area sources. These impacts can then be compared with significant impact levels to determine whether a more detailed analysis is required.

The methods presented in this report will not be appropriate in many situations. An analysis of the limitations of the methods is presented so that these situations may be identified.

