



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Office of Air Quality Planning and Standards
Research Triangle Park, North Carolina 27711

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MEMORANDUM

SUBJECT: Use of Allowable Emissions for National Ambient Air Quality Standards (NAAQS) Impact Analyses Under the Requirements for Prevention of Significant Deterioration (PSD)

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This memorandum is in response to recent requests from your offices for clarification of the Environmental Protection Agency's (EPA) policy concerning the implementation of the PSD air quality impact analysis under 40 CFR 51.166(k) [also §52.21(k)]. Of specific concern is the question of whether the required analysis for new major sources and major modifications is to be based on actual or allowable emissions from existing background sources. This memorandum sets forth the position that allowable emissions should generally be used. However, as explained below, certain allowances may be made, primarily with respect to the evaluation of impacts on the long term NAAQS, to consider an existing source's actual annual operations. This position best resolves the inconsistencies between previous written guidance for PSD and the guidance applicable to NAAQS attainment demonstrations for State implementation plans (SIP's).

The PSD regulations at 40 CFR 51.166(k) stipulate that "allowable" emission increases from the proposed source or modification, in conjunction with all other applicable emissions increases... would not cause or contribute to air pollution in violation of [any national ambient air quality standard (NAAQS)]." (Emphasis added.) While this provision clearly requires the use of allowable emissions for the new or modified source, it offers no similarly explicit requirement regarding emissions to be used for existing source contributions.

Nationally, States and EPA Regional Offices have utilized several interpretations which have lead to a consistency problem in implementing the requirement for a NAAQS demonstration under 40 CFR 51.166(k). Some States presently accept the use of actual source emissions for existing background point sources, and reference EPA guidance to support their position. Regions, on the other hand, encourage the use of emissions estimates more closely reflecting legally allowable emissions.

Available EPA guidance for PSD, which dates back to 1980, supports the use of actual emissions to project the air quality impacts caused by existing point sources. Specifically, the "Prevention of Significant Deterioration Workshop Manual" (EPA-450/2-80-081, October 1980) states that "actual emissions should be used... to reflect the impact that would be detected by ambient air monitors" for the PSD NAAQS analysis. However, because many sources typically emit at rates well below their legally allowable emission rate on an annual basis, we now believe that the use of actual emissions to demonstrate NAAQS attainment could substantially underestimate the potential air quality impacts resulting from existing sources.

The EPA's policy for demonstrating stationary point source compliance with the NAAQS for SIP purposes clearly requires the use of emissions which are more closely tied to allowable emissions. The model emission input data requirements for such SIP demonstrations are contained in Table 9-1 of the "Guideline for Air Quality Models (Revised)" (GAQM), EPA-450/2-78-02R, July 1986. For "nearby background sources" an adjustment to the allowable emission rate¹ may be made only for determinations of compliance with the annual and quarterly NAAQS, and only with respect to the annual operating factor. For "other background sources" an adjustment to both the operating level and the operating factor, as explained in Table 9-1, could be made for determinations of compliance with the long term and short term NAAQS.

The referenced model emission input data requirements for existing point sources are contained in the GAQM which has undergone rulemaking and is incorporated by reference in EPA's PSD regulations under Parts 51 and 52. Although a footnote in Table 9-1 indicates that the model input data requirements may not apply to PSD NAAQS analyses, we now believe that such requirements should be applied to PSD rather than using actual emissions as indicated in the 1980 PSD guidance. Thus,

¹Emission rates for model input consist of three components: 1) the emission limit, e.g., #/mmBtu; 2) the operating level, e.g., mmBtu/hour; and 3) the operating factor, e.g., hours/day, hours/year.

compliance demonstrations for PSD and for stationary source control strategies under SIP's will be accomplished in a consistent manner.

In order to apply Table 9-1 in the GAQM to PSD NAAQS analyses, certain clarifications need to be provided. First, the proposed major new source or major modification must be modeled at its maximum allowable emission rate. Second, the existing facility to which a major modification has been proposed, but whose actual emissions (not including emissions from the proposed modification) will remain unchanged, may be considered as the "stationary point source subject to SIP emission limit(s)..." to determine the model emission input requirements. Portions of the existing facility where the emission rate is expected to increase as a result of the proposed modification should be modeled at the allowable emission rate. Finally, background point sources 1) having already received their construction permit but not yet in operation, or 2) with less than two years of operational history, should also be modeled at their allowable emission rate.

Of course, an analysis which demonstrates no contravention of the standards, based entirely on maximum allowable emissions rates (including full operation for the entire year) for all modeled point sources is acceptable. If a violation of any NAAQS is revealed by this type of analysis, then the adjustments described above may be made in cases where it can be shown to the satisfaction of the permit granting agency that historical operating levels and/or operating factors will be representative of future conditions.

This use of Table 9-1 of the GAQM for accomplishing the required PSD NAAQS analysis will supersede the various procedural interpretations presently being applied. Since different procedures are currently in use, we believe that it is necessary to provide a grace period for implementing the required procedure. Consequently, modeling analyses for any PSD application submitted to the reviewing agency on or after October 1, 1989 should be based on legally allowable emissions or must use the model emission input data requirements contained in Table 9-1 of the GAQM as clarified above for PSD purposes.

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