

U.S. Environmental Protection Agency

Office of Air, Noise, and Radiation

February 17, 1983.

MEMORANDUM

SUBJECT: Emissions Trading Policy --Technical Clarifications

FROM: Sheldon Meyers, Director, Office of Air Quality
Planning and Standards (ANR-443)

TO: Director, Air and Waste Management Division, Regions
II-IV, VI-VIII, X; Director, Air Management Division,
Regions I, V, IX

The proposed emission trading policy was published on April 7, 1982, in the Federal Register. During the initial implementation of the proposal, numerous emissions trading issues have arisen including several relating to the technical requirements of dispersion modeling and control strategy evaluations. To address these modeling issues, a special workshop was held to solicit recommendations from Regional meteorologists/modelers as well as the various Headquarters technical staff. The Standing Committee on Emissions Trading has also considered these issues and the recommendations of the workshop group.

This memo is intended to outline the results of these meetings and to provide interim guidance. It is effective immediately and will be incorporated into the final Agency policy when promulgated. The following revisions or clarifications on modeling for TSP, CO, and SO₂, are intended to supplement the criteria included in the April 7, 1982, emissions trading policy statement.

Level I Analysis

To ensure air quality equivalence under Level I analysis (modeling is not required), trades cannot be approved where complex terrain (terrain greater than any stack with increasing emissions) is within the area of significant impact of the source or 50 kilometers, whichever is less.

Stacks with increasing emissions must be at least good engineering practice (GEP) to prevent downwash.

Fugitive process and stack sources can be traded under Level I (i.e., process for process, process for stack, and stack for stack) as long as the maximum distance between any emitting points is less than 250 meters. (This is true for trades under generic rules as well as for trades implemented by SIP revisions.)

The effective stack height requirement in the April policy remains.)

Since trades involving open dust sources are very difficult to address in a replicable manner, they cannot currently be approved under generic Level I bubble regulations. (Reiteration of April 7, 1982 proposed policy).

Level II Modeling Analysis

In order to satisfy the basic requirement of the emissions trading policy that trades "must demonstrate ambient equivalence," the maximum change in air quality impact (delta) must be determined when performing a Level II analysis. Experience has shown that this requirement is not necessarily met where the April 7 policy says to analyze only the "impact at the receptor of maximum predicted impact after the trade." Therefore, to assure that no degradation of air quality greater than the significance levels would occur at any site, the method of finding the maximum deltas must be determined on both a spatially and temporally consistent basis. This means that you look at each receptor point and determine the change in concentration from the before trade case to the after trade case sequentially for each time period within a full year of meteorological data (time period means the appropriate ambient standard averaging time; e.g., 3-hour, 24-hour, etc.). This appears the most reasonable method of determining ambient equivalence at this time.

Other techniques may be approved where they can be demonstrated to be equally protective of the standards and PSD increments. Also, a Level III analysis may be used to supplement those cases where level II analysis shows a few receptors registering deltas greater than the significance values. This limited Level III analysis would involve only the geographical area containing the high deltas and would include all contributing sources to that area.

Use of refined models (e.g., MPTER, ISC) with at least one year of meteorological data is acceptable for a Level II analysis.

To ensure replicability, only trades involving process fugitive emission sources vented through stacks can be approved in generic Level II rules unless the State rule specifically identifies actual facilities between which process fugitive trades would be permitted. In such cases, the State rule must specify the emission points and all associated and pertinent parameters needed to ensure replicability of modeling results.

Since trades involving open dust sources are very difficult to address in a replicable manner, they cannot currently be approved under generic Level II bubble regulations. (Reiteration

of April -7, 1982 proposed policy.)

Trades involving complex terrain cannot be approved under Level II generic rules; however, approval of such trades through individual SIP reviews are possible under Level II. EPA's experience in processing bubbles for such sources has shown that they are exceedingly difficult to address in a replicable manner. They require a considerable number of judgments and negotiations among Agency personnel concerning the models, data bases, and proper source characterization.

All national ambient air quality standards (NAAQS) averaging periods, not just the 24-hour, must be considered when performing the air quality equivalence analysis. This is necessary to assure trades approved under Level II will not have any adverse health and welfare impacts. Therefore, all Level II analyses must test the delta for each receptor site against the following significance levels: TSP--10 $\mu\text{g}/\text{m}^3$ (24-hour), 5 $\mu\text{g}/\text{m}^3$ (annual); SO_2 --13 $\mu\text{g}/\text{m}^3$ (24-hour), 46 $\mu\text{g}/\text{m}^3$ (3-hour), 3 $\mu\text{g}/\text{m}^3$ (annual); CO--575 $\mu\text{g}/\text{m}^3$ (8-hour) 2300 $\mu\text{g}/\text{m}^3$ (1-hour). Implementation of Changes

Implementation of these changes by the Regional Offices in their negotiations with States and individual sources should begin immediately. If there are any on-going bubble activities where the Regions or States and sources have reached firm agreements which do not comport with these changes, please alert Tom Helms (FTS 629-5526) of my staff. Consideration will be given to situations where the source or State has already invested significant resources in a good-faith analysis based on prior methods of demonstrating ambient equivalence. If you have specific questions regarding implementation of these policy changes, please call Tom Helms.

cc: Chief, Air Branch, Regions I-X, Meteorologist, Regions I-X, Mike Levin, Joe Tikvart, Darryl Tyler