

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION III

841 Chestnut Building
Philadelphia, Pennsylvania 19107

SUBJECT: Request for Review of Proposed Modeling for
Weirton Steel Bubble

DATE: MAR 27 1987

FROM: Jesse Baskerville, Chief
Air Programs Branch (3AM10) *JB*

TO: Joseph A. Tikvart, Chief
Source Receptor Analysis Branch (MD-14)

This is to request a Model Clearinghouse review of Region III's comments on material submitted to us related to modeling for a proposed TSP bubble for Weirton Steel in West Virginia. This is a non-guideline approach since non-traditional and traditional sources of TSP will be modeled together in a complex terrain setting.

Attached is a copy of the letter that West Virginia sent to us with Weirton's proposal, as well as a letter from me to West Virginia containing our comments. We are continuing to talk to the State and the company to obtain additional information and to develop a modeling protocol. While it is premature to request your review of some issues that will not be settled until additional information is received, the following issues can be singled out for your review at this time:

1. Use of the ISC model with a modification to allow for full plume impaction at receptors above stack top. Our position is that this is an acceptably conservative way of modeling, with the following caveats:

- o The area must be shown to be rural based on the Auer technique (it is obvious to us that this is the case based on looking at topo maps of the area, but the company should document this).
- o For "increasing" sources that would otherwise be modeled with Valley or Complex I, it must be shown that the modified ISC produces higher predictions under all meteorological conditions (specifically A and B stability). If this cannot be shown, then a demonstration must be made that these conditions are not critical to the determination of the maximum delta concentrations.

2. On-site meteorological data collected by the company must be used for the analysis, as long as it can be shown that the tower is suitably sited and is representative of the sources being modeled, and that the data has been adequately quality assured. The most recent year of data available should be used, unless quality assurance or data capture problems indicate that another year is preferable.

If the criteria for use of the existing data cannot be met, then it may be necessary to require the collection of additional site-specific meteorological data for use in modeling for the bubble. Alternatives to the collection of additional on-site data may be considered if they demonstrate that Level II criteria will not be violated.

3. The use of the particulate gravitational settling option in ISC is not appropriate for elevated sources in complex terrain since concentrations are reduced disproportionately for elevated receptors. For flat-terrain receptors near the sources, however, gravitational settling should be used for sources with large particle sizes. This may result in breaking up the modeling domain into two separate areas: one flat terrain and one complex terrain.

This position relates to sources that are "increasing"; the opposite approach would be acceptable for "decreasing" sources since it would lead to higher delta concentrations.

While we welcome your review of any of the material contained in the attachments, we specifically ask for your review and concurrence (or disagreement) with the three issues mentioned above. We ask that you provide us with a response by April 24, 1987.

If you have any questions, please give me a call at (215) 597-9075 or Al Cimorelli at (215) 597-6563.

Attachment