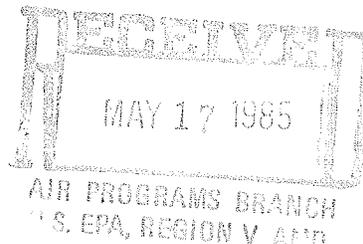




UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Office of Air Quality Planning and Standards
Research Triangle Park, North Carolina 27711

May 13, 1985

Koeben
mk



MEMORANDUM

SUBJECT: Allegheny County SO₂ SIP

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

TO: Alan J. Cimorelli
Source Emissions and Evaluation Section (3AM12)

In response to your request the Model Clearinghouse has reviewed the plan for development and evaluation of a model(s) to be applied to the SO₂ problem in Allegheny County PA and we offer the following comments.

A major and significant concern that we have is that this document bypasses one of the major principles contained in the "Interim Procedures for Evaluating Air Quality Models (Revised)." The Interim Procedures state that before any performance evaluation protocol is designed and before the requisite data base can be defined a preliminary analysis needs to be conducted. This preliminary analysis, among other things, involves a technical comparison of the models to be employed and sets of preliminary estimates of concentration, for all averaging times of concern, over the areas where the model of choice would be ultimately applied. The results of this preliminary analysis provides the necessary information from which a performance evaluation protocol can be designed and the requisite data bases for carrying out the evaluation can be determined. I refer you to the recent protocols for the Warren power plant and the Lovett power plant (Lovett is a better example) as examples of how important that information is.

Lacking this information we can only speculate on the adequacy of the protocol and the proposed data base as defined in the material you provided and discussed with us in telephone conversations:

1. On the protocol, we do not see any performance measures or statistical tests that particularly bother us. However, the preliminary evaluation could suggest a different set. More importantly, there is no logical basis or rationale for the distribution of weighting among the measures. The preliminary estimates should define the averaging times and locations of primary concern, secondary concern, etc.; the weight distribution among performance measures should reflect these results.

Also the protocol should contain "safeguards" against applying the chosen model should that model be shown to underpredict critical concentrations. Such safeguards were built into the Warren and Lovett protocols.

2. On the monitoring network, I expect that the preliminary estimates will point up inadequacies in the monitoring network especially if the chosen model is to be applied on a county-wide basis. The monitors are all located near the Monongahela River but my understanding is that there are many other industries scattered around Allegheny County. We would have difficulty accepting a model for use in a different area from which it is evaluated because the source-receptor relationships are certainly going to be different. Also we have reservations that the monitor coverage in the Monongahela River area will prove to be sufficient, once we have the results of the preliminary estimates.

3. We also have some reservations about the quality of the model input data especially the emissions inventory data. While we recognize that some attempt was made to refine the emissions inventory to specific estimates for the evaluation period, we are concerned that the reliance on quarterly or annual average estimates do not provide very good resolution and may introduce a significant uncertainty or "noise" level in performance data.

If you have any questions, please contact Dean Wilson or myself.

cc: R. Rhoads
G. Helms
S. Reinders
W. Keith

bcc: Regional Modeling Contact, Regions I-II, IV-X

SRAB:TES:DAWilson:jam:rm 836:MU,x5561:5-13-85

ROUTING AND TRANSMITTAL SLIP

Date 5/14/85

TO: (Name, office symbol, room number, building, Agency/Post)	Initials	Date
1. Regional modeling Contacts		
2.		
3.		
4.		
5.		

Action	File	Note and Return
Approval	For Clearance	Per Conversation
As Requested	For Correction	Prepare Reply
Circulate	For Your Information	See Me
Comment	Investigate	Signature
Coordination	Justify	

REMARKS

Since this is a preliminary reply and we expect additional resolution of the issue in the future, please do not distribute outside of the Agency.

DO NOT use this form as a RECORD of approvals, concurrences, disposals, clearances, and similar actions

FROM: (Name, org. symbol, Agency/Post)	Room No.—Bldg.
 Dean Wilson	Phone No. 629-5681

5041-102

OPTIONAL FORM 41 (Rev. 7-76)
 Prescribed by GSA
 FPMR (41 CFR) 101-11.206