

*Ammanica - 116*



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
Research Triangle Park, North Carolina 27711

AUG 10 1990

MEMORANDUM

SUBJECT: Phoenix CO Design Concentrations

FROM: *J. L. Dicke*  
James L. Dicke, Chief  
Techniques Evaluation Section, SRAB, TSD (MD-14)

TO: John Vimont, Regional Meteorologist  
Air Programs Branch, Region IX (A-2-1)

This memorandum provides a response to your August 1, 1990 memorandum on determining design CO concentrations for the Phoenix FIP. It is also intended to reflect the subsequent discussions with the Model Clearinghouse.

We agreed that a combination of areawide and hot spot modeling ultimately will be used for determining the 1989 design concentration for the Phoenix FIP. Since the Urban Airshed Model (UAM) has already been applied successfully in Phoenix for an October 1985 design day, it should be utilized for the 1989 areawide modeling. The UAM modeling for the December 1989 design day should utilize 1989 meteorological, traffic, and emissions data. The MOBILE4 model should be used to develop the emissions inputs for the modeling. The hot spot modeling could use the modeling technique used for modeling the 1985 design day. In addition to determining the base case 1989 design concentrations, the UAM and hot spot modeling should be used to model control strategies to demonstrate attainment.

As we discussed on the telephone, it is recognized that this modeling cannot be completed in time for the Notice of Proposed Rulemaking (NPRM), but would be completed in time for the FIP promulgation or shortly thereafter. Thus, the NPRM should indicate UAM and hot spot modeling will be used to determine the design concentration and evaluate control strategies for the Phoenix FIP, but this analysis will not be completed until late 1990 or early 1991. In the meantime, the use of a design concentration based on monitoring data is appropriate.

The design concentration based on monitoring data should be normalized to remove the effect of the oxygenated fuels program. Furthermore, the design concentration based on normalized monitoring data would need to be adjusted upward to account for the increase in the design concentration that would result if modeling was performed using a spatial grid of receptors. This upward, spatial adjustment can be estimated using the results of the UAM and hot spot modeling performed for the October 1985 design day.

Since the NPRM is needed in mid-August, rollback can be used to identify control measures to demonstrate attainment for the NPRM. However, as soon as the UAM and hot spot modeling is completed, those results should replace the use of rollback in identifying control measures for attainment.

If you have any questions or need further information, please contact Tom Braverman of my staff at FTS 629-5383.

cc: T. Helms  
W. Laxton  
J. Tikvart  
D. Wilson  
J. Vitas

bcc: Regional Modeling Contact, Region I-VIII, X (with copy of incoming memorandum and list of FY 90 Clearinghouse Memoranda)

FY 90 MODEL CLEARINGHOUSE MEMORANDA

<u>Date</u>	<u>Region</u>	<u>Subject</u>
10/17/89	VI	Ambient Air
11/7/89	II	Interpretation of On-site Meteorological Data Requirements and the Use of RTDM for a PSD Source
11/28/89	VIII	Utah PM-10 Secondary Sulfate and Nitrate Calculations
01/02/90	IV	Effect of Changing Stack Heights on Prevention of Significant Deterioration (PSD) Modeling and Monitoring
01/10/90	VIII	Utah PM-10, Secondary Sulfate and Projections
01/10/90	VIII	Review of The Utah County PM-10 Draft SIP
01/11/90	VI	Alternative Emission Reduction (Bubble) SIP Revision Authorizing Operation of a New Sulfur Recovery Plant at the Conoco Inc. Ponca City Refinery
01/16/90	VI	Recent Texas Air Control Board (TACB) Evaluation of the ISC Area Source Algorithm
01/16/90	V	Refined Metals Lead Modeling Analysis
02/22/90	III	Approval of Equivalence Demonstration Plan Integrated Intermediate Terrain Model
03/01/90	VIII	East Helena Lead SIP
03/23/90	III	Mon Valley SO <sub>2</sub> Study Allegheny County, PA
05/10/90	VIII	Four Billings Montana Modeling Proposals
05/14/90	VIII	Comments on the Overview of Geneva Steel's PM <sub>10</sub> Control Plan

FY 90 MODEL CLEARINGHOUSE MEMORANDA (cont'd)

05/24/90	VI	Review of El Paso/Juarez Modeling Plan
06/04/90	III	Definition of Postapproval Monitoring
06/14/90	VII	Doe Run, Herculaneum Lead SIP
06/18/90	IX	Attainment Demonstration and Modeling Discussion for the South Coast FIP Notice of Proposed Rule-making
06/21/90	IV	Offshore and Coastal Dispersion (OCD) Model
07/27/90	VIII	ASARCO, East Helena Overall Modeling Protocol
08/09/90	IX	Phoenix CO Design Concentrations