



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

JUN 13 1994

MEMORANDUM

SUBJECT: Good Engineering Practice (GEP) Stack Height Credit for
Montana Sulfur Company Sulfur Recovery Unit

FROM: Joseph A. Tikvart, Chief *John J. [unclear] for JAT*
Source Receptor Analysis Branch, TSD (MD-14)

TO: Kevin Golden, Regional Meteorologist
Assessment, Modeling and Emissions Section, Region VIII

Larry Svoboda, Chief
Assessment, Modeling and Emissions Section, Region VIII

In response to your request, the Model Clearinghouse has reviewed the basis for your intention to disapprove a GEP stack height analysis submitted by Montana Sulfur and Chemical Company for a 100-meter stack recently constructed in Billings, MT. Based on discussions within the Office of Air Quality Planning and Standards, we concur with your intent to disapprove the analysis. Also, we agree with your assessment that only through a valid fluid modeling demonstration could a stack taller than the de minimis 65 meters be credited toward GEP stack height.

As you noted in your May 11, 1994 memorandum, the Technical Support Document for the Stack Height Regulations (EPA 450/4-80-023R) indicates that as the building height to width ratio becomes larger the increase in maximum ground-level concentrations due to the building is reduced. Also, page 7 of the Technical Support Document further states: "The area of influence becomes diminishingly small as the height to width ratio of the structure increases. Thus structures such as stacks and radio or TV transmission towers should not be considered in GEP stack height determinations." Therefore, your recommendation seems appropriate that a fluid modeling study be conducted to demonstrate the need for a stack height greater than the de minimis 65 meters.

If you have any further questions or comments, please contact me at (919) 541-5562 or Dennis Doll at (919) 541-5693.

cc: G. Blais
D. Doll
J. Irwin

FY-94 MODEL CLEARINGHOUSE MEMORANDA

<u>Date</u>	<u>Region</u>	<u>Subject</u>
11/18/93	X	Building Wake Effects on Volume Sources at FMC Corporation
11/24/93	IV	CP&L Stack Height Increase
12/07/93	VI	Revised Technical Comparison Document--Phelps Dodge
01/19/94	IV	Test Proposal for Wind Tunnel Modeling of Plume Impact Under Stable Stratification for the Cane Run Station (CRS) in Louisville, Kentucky
02/02/94	IV	Wind Tunnel Report for Determining Equivalent Building Height Determinations for the Cape Industries Facility of Wilmington, North Carolina
03/16/94	V	Air Quality Model Evaluation Protocol for Cyprus Northshore Mining Company
03/21/94	VIII	Denver Carbon Monoxide Attainment Demonstration
03/31/94	II	Green Island Resource Recovery Facility - Modeling Emission Inventory
05/17/94	V	Calculating Good Engineering Practice (GEP) Stack Height Due to Terrain Induced Downwash
06/13/94	VIII	Good Engineering Practice (GEP) Stack Height Credit for Montana Sulfur Company Sulfur Recovery Unit