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

MAY 2 3 1994

MEMORANDUM

SUBJECT: Calculating Good Engineering Practice (GEP) Stack Height Due to Terrain Induced Downwash

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

TO; Pamela Blakley, Air Emissions Expert
RCRA Permitting Branch, WMD (HRPO-8J), Region V

In response to your request to Dean Wilson, the Model Clearinghouse has reviewed the March 22, 1994 memorandum from Dr. William Snyder to you concerning the wind tunnel modeling study of the WTI Incinerator at East Liverpool. You requested that the memorandum be reviewed for consistent interpretation of the appropriate regulations and procedures and whether Dr. Snyder's recommendation stated in the memorandum is appropriate.

We reviewed with Dr. Snyder the contents of his March 22, 1994 memorandum. Overall we agree with Dr. Snyder's interpretation of the procedures for calculating Good Engineering Practice (GEP) stack height in elevated terrain as described in the U.S Environmental Protection Agency's guideline for determination of GEP stack height.[1] Also, we agree with his assessment that following these procedures a significantly taller GEP stack height at the WTI incinerator would likely not be justified. We understand that Dr. Snyder is proposing a wind tunnel study to further assess the terrain effects on the WTI incinerator stack. He will accomplish this by comparing wind tunnel data from a source with full terrain in place with a similar source in flat terrain. As Dr. Snyder noted in his memorandum, large terrain effects are expected to be observed.

If you have any additional questions or comments, please do not hesitate to contact Dennis Doll at (919) 541-5693 or myself at (919) 541-5562.

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[1] U.S. Environmental Protection Agency, 1985. "Guideline for Determination of Good Engineering Practice Stack Height (Technical Support Document for Stack Height Regulations", EPA-450/4-80-023R, Research Triangle Park, NC.

cc: D. Doll
J. Irwin
S. Rothblatt (AR-18J)
Dr. W. Snyder