



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

December 20, 1983

MEMORANDUM

SUBJECT: Proposal to Exclude Certain Meteorological Periods from Modeling Analyses

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

TO: James T. Wilburn, Chief
Air and Waste Management Division, Region IV

In response to your request the Model Clearinghouse has reviewed the subject proposal submitted by Florida DER. Conceptually, the Florida DER makes two points:

(1) When only a limited number of receptors in a narrow geographical sector are in question, it should not be necessary to include wind directions in the modeling analysis that would result in no impact within that sector.

(2) When a distant set of receptors is in question, it would be appropriate to exclude days where the 24-hour travel distance, as computed from transport wind speeds, would be less than the distance to the receptors.

We agree with the concept in the first point. However, the proposal of Florida to use only a 10 degree "buffer" to the sector in question precludes off-centerline concentration contributions from sectors more than 10 degrees away. Such contributions may be significant since under neutral and unstable conditions the lateral plume width is greater than 10 degrees. Recall that for background determination, we recommend not using monitor data that are within 90 degrees of the observed wind direction. Florida should reevaluate the width of the buffer zone with this consideration in mind.

We disagree with the second point of Florida's proposal. While the rationale may seem logical, it does not recognize that emissions from the previous 24-hour period may impact the distant receptors. The only way to adequately cover this situation is to use a trajectory model. While not rigorously addressing the situation, CRSTER, with its inherent assumption of "instantaneous plume transport to all receptors,"

does, in a long term statistical sense, i.e., when 5 years of meteorological data are input to the model, provide adequate protection of standards and increments.

We did not review the hard copy of Florida's program you sent.

If you have any questions, please contact me at 629-5681.

cc: D. Wilson
R. Rhoads
S. Reinders

bcc: Regional Modeling Contacts, Regions I-X
R. Smith

FY 89 MODEL CLEARINGHOUSE MEMORANDA

<u>Date</u>	<u>Region</u>	<u>Subject</u>
10/11/88	VI	Use of ISC UNAMAP 6, Change 7
11/07/88	VI	Compilation of Most Recent, Available 5-Year Meteorological Data By Texas
11/08/88	V	State of Indiana Meteorological Preprocessor Program
11/09/88	VI	Information Regarding Refinery Tank Farms and Their Rural/Urban Designation
11/09/88	VI	Request for Use of ISC 6.2
11/21/88	VI	Request for Use of ISCST and ISCLT Version 6.2 in Twin Oak Steam Electric Station PSD Application
11/28/88	VI	Request for Use of ISCST and ISCLT Version 6.2 in Formosa Plastics PSD Application
01/30/89	VIII	E. Helena Lead SIP
02/08/89	IV	Yates Power Plant GEP SIP