



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

15 MAR 1991

MEMORANDUM

SUBJECT: Use of CTDMPLUS in the Virgin Islands Water and Power Authority PSD Application

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

TO: Raymond Werner, Chief
Impact Assessment Section, Region II

In response to your memorandum of February 27, 1991, the Model Clearinghouse has reviewed the protocol you attached and offers the following comments. As you know, the general outlines of the protocol were discussed by the TTW-CTDM Work Group during a conference call on February 28 in which Desmond Bailey and Jim Dicke participated. Our comments should complement what Annamaria Colecchia heard then.

In general we believe the Work Group's main concern was that the 100m tower might not be tall enough to provide the necessary data at plume heights of concern. The suggestion was made that the source (VIWAPA) run CTSCREEN to determine the plume height(s) associated with maximum impacts and use these results to determine the appropriate tower height. In addition, it was implied that, depending on the magnitude of the estimated concentrations, it may not be necessary to run CTDMPLUS. It was also unclear whether the calculated final stable plume height of 151.7m for the unit 16 gas turbine is representative of plume heights of interest, i.e. associated with the important meteorological conditions for this site; these should be determined using CTSCREEN. The Work Group also noted that cloud cover, a variable needed by CTDMPLUS, is not mentioned in the protocol. The importance/necessity of observing this variable should be discussed with Steve Perry, ASMD. With regard to the measurements of delta-T, the Work Group suggested that the 10 to 40-meter delta-T should be determined and archived along with the delta-T's for 2 to 10-meters, 10 to 100-meters and 40 to 100-meters.

We concur with the Work Group's comments and add that some "tightening" on QA/QC may be appropriate, e.g. page 10, line 4 from bottom should state that procedures from the QA Handbook will be used whenever possible and deviations shall be

documented/justified. In addition, we strongly encourage VIWAPA to use the solar radiation/delta-T (SRDT) method for determining on-site stability as proposed in Supplement B and the Addendum to the On-Site Meteorological Program Guidance document. The SRDT method is discussed very briefly on page 8 of the protocol.

If you have questions regarding these comments, please contact Jim Dicke at 629-5682.

cc: D. Bailey
J. Dicke
S. Perry
✓ D. Wilson