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

13 JAN 1992

MEMORANDUM

SUBJECT: NHARD Modeling Guide

FROM: Dean A. Wilson, Meteorologist
Techniques Evaluation Section (MD-14)

TO: Ian D. Cohen, Regional Meteorologist
Region I

In response to your request the Model Clearinghouse has reviewed your position with respect to the New Hampshire Air Resources Division (NHARD) Guideline. We agree with your position and your comments. We have also attached some additional comments of our own on the Guideline.

It is a bit unclear to us what the role of the Guideline is once it is incorporated by reference into the State Implementation Plan (SIP). For example, does that mean that the State can use the Guideline as part of their Prevention of Significant Deterioration (PSD) program, in place of adopting the Guideline on Air Quality Models? There is probably a need to discuss this further with the regulatory people in your Region and in OAQPS.

Also, we note that historically there have been fairly frequent revisions to the NHARD Guideline. How do future revisions get handled with respect to their incorporation into the SIP?

If you have any questions, please contact me.

Attachment

cc: D. Atkinson
G. Blais
D. deRoeck

Specific Comments on April 19, 1991 Version of NHARD Policy and Procedure for Air Quality Impact Modeling.

Page 3, Item C. By interactive modeling we assume that NHARD is referring to the explicit modeling of background sources according to the material in Section 9.1 of the Guideline on Air Quality Models. The guidance in Section 9.1 does not involve the consideration of significant air quality impacts but instead a significant concentration gradient. The two concepts are very different; we disagree with the rationale in Item C. The same comment applies to page 15, Item A8, page 16, Item B4 and Page 18, Item C13.

Page 6, Item B.2.

The definition of simple terrain should read "any elevation that exceeds stack base but is below stack height." This definition may necessitate the State also defining intermediate terrain as "all receptors between stack height and plume height."

Page 11, Item F.

It is not clear why the State refers to the EPA Guideline to select models for visibility, reactive plumes and long-range transport, since the Guideline does not make specific recommendations for models to be used in such circumstances.

It is not clear how ISCST is to be implemented in a screening mode. The normal use of the model requires the input of at least one year of meteorological data.

Page 13. ISW(27) and ISW(28) switch positions are in conflict with EPA guidance. EPA could not support analyses conducted with these options.

Page 16, Items A9 and B5. It is not clear why only two wind directions would allow one to determine the maximum combined concentration resulting from multiple sources.

Page 17, Item C. The complex terrain screening is less conservative than the EPA method described in the Screening Procedures for Estimating the Air Quality Impact of Stationary Sources. It also does not address receptors between stack height and plume height (intermediate terrain).

Appendix B. As new ambient data is gathered, this Appendix should be updated.

Appendix C, Page C-2, Step 3. For long buildings, add an "=" sign to the relationship (Y/H > 2). Also, add W = crosswind building dimension (m), to definitions.

Appendix C, Page C-4.

It is questionable whether 5 m/s should be included with stability class F as a worst case meteorological condition.

ATTACHMENT