



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

*K. Kember*

March 21, 1988

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Air & Radiation Branch  
U.S. EPA Region V

MEMORANDUM

SUBJECT: Modeling Protocol for Dayco

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

TO: Bruce Miller, Chief  
Air Programs Branch, Region IV

In response to your request, we have reviewed the Dayco protocol and the Region IV comments on the protocol. We have no particular problems with the protocol or your concerns. However, it might be desirable for your Region to clarify a few additional items with the State.

1. On page 1-2, the protocol states that receptors between stack height and plume height will be modeled with both a simple terrain model and a complex terrain model, with the higher of the two values used. This is indeed our guidance. However, since at least two stacks are involved, the modeling procedure is not completely straightforward and the details should be worked out with the State. We have discussed the issue with Lew Nagler who will work out an acceptable approach.

2. On page 3.1, the third paragraph states that "vertical wind speed data" will be used to determine stability. We assume that they have collected the data, calculated the standard deviation of the vertical wind speed ( $\sigma_w$ ), and will use techniques recommended in the Guideline on Air Quality Models (Revised) to determine stability. You may wish to clarify this assumption with the State, since data for  $\sigma_w$  calculations are not usually collected. Instead, data on the standard deviation of the azimuth angle are most commonly used to derive stability from on-site data.

3. One apparent internal conflict in the protocol involves page 2-1, last paragraph, vs page 4-1, last paragraph. Page 2-1 indicates that ISCST will be used for both the short-term and annual estimates while page 4-1 seems to indicate that only short-term estimates will be made. A demonstration that annual standards are attained is necessary.

4. On page 7-1, the last paragraph contains background concentration values. Since we have no knowledge as to whether these values are appropriate

for the Dayco area, your staff should make this technical determination. Similarly, your staff should ensure that Table 6.1 of the protocol is consistent with Table 9.1 of the Guideline on Air Quality Models (Revised).

cc: W. Keith  
W. Laxton  
S. Reinders

bcc: ✓ Regional Modeling Contact, Regions I-X (with incoming memo)

QAR/OAQPS/TSD/SRAB:DWilson:JAJason:629-5561:3-18-98