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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5

DATE: MAR 09 1993

SUBJECT: Nonmethane Organic Compounds (NMOC) monitoring required for the Empirical Kinetic Modeling Approach (EKMA)

FROM: Rebecca Calby, Regional Meteorologist RA Calby
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TO: Dean Wilson, Model Clearinghouse Coordinator
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This memorandum is a follow-up to the January 22, 1993, memorandum from G. Czerniak to J. Tikvart concerning guidance on the use of the ratio of nonmethane organic compounds to nitrogen oxides ($NMOC/NO_x$) in the Empirical Kinetic Modeling Approach (EKMA). The January 22, 1993, memorandum is attached. After telephone discussions with E. Meyer of the Office of Air Quality Planning and Standards and staff at the Ohio Environmental Protection Agency (OEPA), Region 5 is modifying our January 22, 1993, request as follows:

The OEPA has requested guidance as to an acceptable methodology to determine $NMOC/NO_x$ ratios for use in the Toledo and Dayton area EKMA analyses. No monitoring data are available for either area. At the time of the January 22, 1993, memorandum, Region 5 had understood that some data were available for Dayton. However, the quality of the 1986 Dayton NMOC and NO_x data precludes their use. The 1987-1989 design values for Toledo and Dayton are 0.140 part per million (ppm) and 0.143 ppm, respectively.

One option for Ohio is to collect NMOC and NO_x data during the summer of 1993. However, the State Implementation Plan (SIP) revisions for moderate ozone nonattainment areas are required by November 1993, and no funds have been allocated to Ohio for additional monitoring. Therefore, Region 5 recommends that for both the Toledo and Dayton EKMA analyses, OEPA employ a default $NMOC/NO_x$ ratio of 9.5/1. This default ratio was recommended by the United States Environmental Protection Agency for the 1982 SIPs.

As noted in the January 22, 1993, memorandum, Ohio can use the default ratio in EKMA to compute volatile organic compound (VOC) control estimates following the guidance in "Procedures for Applying City-Specific EKMA", EPA-450/4-89-012. Without day-specific measurements of NMOC, NO_x, and carbon monoxide, Ohio cannot reliably compare predicted peak ozone concentrations with observed data, and adjustments to the inputs to EKMA would not be allowed. Given the use of the default ratio, OEPA should be able to meet the statutory deadline for both the Toledo and Dayton SIPs.

Region 5 is requesting concurrence on the use of a default $NMOC/NO_x$ ratio of 9.5/1 for Toledo and Dayton, where monitoring data are not available. If you have any questions or comments, please contact me at (312) 886-6065.

Attachment