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

cc: Ray

APR 18 1995

MEMORANDUM

SUBJECT: Selection of Intersections for Modeling in Regulatory Application of UAM/CAL3QHC

FROM: Joseph A. Tikvart, Group Leader
Air Quality Modeling Group, EMAD (MD-14)

TO: Kevin Golden, Regional Meteorologist
Region VIII

Larry Svoboda, Chief
Assessment, Modeling, and Emissions Section
Region VIII

We have reviewed your 3/22/95 memorandum concerning a modeling issue associated with the Denver Area CO State implementation plan (SIP) attainment demonstration. Specifically, you requested our review to determine if the Region's position on this issue is consistent with national modeling policy for CO and the requirements under the 1990 Clean Air Act Amendments.

Preliminary State modeling analyses using the CAL3QHC model indicated higher predicted CO concentrations at two urban intersections (i.e., Speer and Auraria Boulevard; Broadway and Colfax) compared to CO monitoring data at a nearby urban intersection (i.e., CAMP monitor at Broadway and Champa). You noted several uncertainties in the data input to the model which question the validity of the predicted concentrations at these two intersections. These included, among others, uncertainties in emissions characterization and CAL3QHC predictions due to inclusion of questionable wind speed data input to the model. Also, you noted that saturation monitoring conducted in 1993-1994 showed measured concentrations at these two intersections similar to concentrations measured at the CAMP monitor at Broadway and Champa.

The Region believes that a control strategy based on the State's preliminary modeling results at these two intersections is inappropriate and unnecessary. Therefore, the SIP control requirements would be based on the State's predictions at the intersection of Broadway and Champa in the urban area and at the other six outlying intersections. However, to ensure that the CO NAAQS is protected, the Region is requiring the State to continue

saturation monitoring at these two urban intersections during the 1994/1995 winter season. Additionally, the Region is requiring that if saturation monitoring data indicate higher worst-case concentrations at these intersections than measured at the CAMP monitor, the State would need to develop appropriate measures to mitigate these higher CO values.

The Model Clearinghouse agrees with the Region's position that uncertainties in the model input data limit the reliability of concentration estimates at the two intersections indicated in your 3/22/95 memorandum (i.e., Speer and Auraria Boulevard; Broadway and Colfax). Our concurrence is further supported by your requirement that additional saturation monitoring be conducted by the State at these two intersections to further assess the ambient CO concentrations.

We also note that the State followed the criteria contained in the "Guideline for Modeling Carbon Monoxide from Roadway Intersections" (EPA-454/R-92-005) in identifying the six busiest intersections for the SIP analysis. State modeling of these intersections showed compliance of the CO NAAQS using the currently planned control strategies. Thus, the Region's original request to the State to model an additional urban intersection in fact goes beyond the usual requirements for a SIP CO attainment demonstration analysis.

In summary, your position appears consistent and reasonable regarding national modeling policy and the intent of the requirements of the CAAA. If you have any questions or comments on our concurrence, please contact Tom Braverman at (919) 541-5383 or Dennis Doll at (919) 541-5693.

cc: T. Braverman
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