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

April 25, 1989

MEMORANDUM

SUBJECT: MassPower PSD -- Urban vs Rural for Background Source

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

TO: Susan C. Kulstad, Air Modeling Contact
Region I (ATS-2311)

In response to your request the Model Clearinghouse has reviewed your draft position regarding the appropriate modeling for the subject PSD permit. We agree that your position is a generally accepted interpretation of current guidance. However, as a result of several internal discussions and follow-up telephone calls with you, we agree that it would make sense in this case to provide an alternative interpretation of the guidance.

It is our understanding from conversations with you that the receptor or receptors of interest are located such that the plumes from MassPower and from MMWEC would not impact the same receptor(s) during the same hourly period. It can be reasoned that for those hourly periods for which the MMWEC plume impacts the critical receptor(s), this plume would be experiencing rural dispersion. In contrast, for those hourly periods for which the MassPower plume is impacting the critical receptor(s), this plume would be experiencing urban dispersion. While we do not believe that it is sound technical practice to add impacts together from rural and urban plumes, it can be rationalized that such is really not the case here but that hourly, either rural or urban, impacts are only summed to obtain 3- or 24-hour estimates.

Thus, although it not a generally accepted interpretation of the guidance, the mixed mode modeling of the urban and rural plumes from the two plants is technically supportable and we agree that it may be done in this simple case. Unfortunately, since our guidance is not set up in this way, our models also are not capable of executing such a mixed mode operation. Separate model runs will need to be made for each source and some type of post processing may be necessary to sum the impacts over 3- or 24-hour periods. (We understand that the annual period is not a problem.) Although we have not fully explored this idea, it may be possible to limit the remodeling to critical time periods/

receptors of concern. In any event the circumstances, details, and rationale used in the reanalysis should be fully documented.

If you have any questions, please contact Dean Wilson at 629-5683.

cc: D. deRoeck, SO_2/PMPB (MD-15)
S. Reinders, SRAB (MD-14)
D. Wilson, SRAB (MD-14)