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SUBJECT: Comments on CO, O_3 and PM-10 Modeling Plan for El Paso/Juarez

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TO: Dean Wilson

The modeling plan has been reviewed and comments/concerns are listed below.

1. Calculation of mobile source emissions using MOBILE4 will require considerable effort

MOBILE4 has been developed for a United States fleet. In order for it to be used properly in Juarez, the following must be known (for Juarez):

a) age distribution of the fleet
b) tampering rates
c) vehicle miles traveled by speed class/age distribution
d) Reid vapor pressure of the gasoline
e) emission standards and deterioration rates

In addition, to be utilized in UAM, the NMOC emissions must be speciated. This requires tailpipe testing and analysis using a gas chromatograph. Use of default profiles would not be appropriate.

These issues should be discussed with the Office of Mobile Sources to determine what level of resources are needed to carry out the analyses required and what level of confidence can be applied to the results if these analyses can not be conducted.

2. Area source emission methodologies may not be appropriate for Juarez

Many of the area source emission factors have been developed using surveys of practices within the United States. These may not be appropriate for Juarez. For example, for commercial/consumer solvent use EPA-450/4-88-021 recommends a factor of 6.8 lb/capita/year. This assumes use of various amounts of household cleaners, car cleaning, etc.

While it is clear that the resources will not be available to develop local factors for Juarez, some thought should go toward making obvious adjustments to U.S. factors before they are applied in Juarez.

3. Comparison of ambient and predicted precursor levels to validate emission inventories may be difficult

The modeling plan indicates that base model runs will be made so that predicted precursor levels can be compared to ambient levels in order to validate the emission inventory data. Such a comparison can be complicated by the following factors:

a) uncertainty/errors in the windflow model
b) photochemical processes taking place, even in the early morning
c) ambient data may not be representative of large scale conditions such as those from a UAM grid

Such comparisons are not being discouraged. However, before making them, be sure these concerns have been addressed.

4. The windflow model is being developed for winter conditions

The work being done by Sandia National Laboratories to develop an El Paso/Juarez windflow model is using only winter data for development. Will meteorological processes, especially drainage and outflow from the valley, be correctly characterized for summer conditions if the model is developed using only winter data? If not, it will be inappropriate for modeling of ozone peaks. What wind modeling approaches are under consideration (i.e., observations, predictive)?