Preliminary Comments on the REA Planning Document from Dr. James Ultman

Health Risk Assessment

1. Benchmark levels used in the exposure analysis are apparently based on bronchial constriction measurements made on adult asthmatics (pg 4-33, para 2). Children may have a greater biological sensitivity to SO_x than adults. Perhaps an additional (50ppb) benchmark level should be added for children.

2. In developing an exposure-response relationship, bronchial constriction rather than FEV_1 decrement will be used as the response variable (pg 4-35, para 2). To support this decision, it would be useful to provide regressions, such as those in figure 4-7, comparing the two types of measurements. Which of the two response measurement has lower variability? Which of the two tends to be a more conservative estimate of a modification in lung function?

3. To evaluate how uncertainties in the exposure-response relationship affect the health risk calculation, particularly at exposures below 200 ppm where no data is available, the response of a single exposure bin will be set to zero (pg 4-43, 2nd bullet item). Another approach would be to use the confidence limits of the probit regression to examine upper and lower bounds of the errors in the health risk associated with variability of the data.