

1           **Preliminary Comments on the REA Planning Document from Mr. George Allen**

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4           **Analytical Approach and Study Area Selection:**

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6           *1. The overall analytical approach for the Risk and Exposure Assessment (REA) and its*  
7           *appropriateness for developing spatially and temporally varying 5-minute ambient SO2*  
8           *concentrations, simulating population-based 5-minute peak exposures, and estimating study area*  
9           *health risk based on controlled human exposure study data. [Chapter 4]*

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11           The overall analytical approach in Figure 4-1 (page 4-2) for this REA is sound. Using a simple  
12           linear (proportional) adjustment to just meet existing [and alternative?] standards is appropriate  
13           for SO2, since concentrations of concern are relatively near the sources and on that  
14           spatial/temporal scale, SO2 is reasonably conserved, and expected adjustments are small. The  
15           choice to use modeled ambient SO2 concentrations instead of observed (measured)  
16           concentrations provides more detailed local scale spatial patterns. Modeled hourly SO2  
17           concentrations with AERMOD combined with 5-minute variability information from  
18           observations should provide appropriate input for 5-minute exposure modeling (APEX).  
19           Comments on the approach to risk assessment are not my area of expertise.

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21           *2. The criteria identified and approach used to select potential study areas to evaluate for this*  
22           *REA. [Section 4.1.2, Exposure Domain]*

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24           The process of identifying a “short list” of potential study areas is well described and reasonable,  
25           based on monitor[s] in the area having a design value within 10 ppb of the current standard, 5-  
26           minute data from at least one monitor in the study area, and a population of at least 100,000  
27           within 10 km of relevant monitors. These selection criteria result in the nine areas shown in  
28           Figure 4-1 (page 4-7). Some of these sites have more available data (sites, DV years), resulting  
29           in four “very short list” candidates. Modeling domains would be constrained to within 10 km of  
30           relevant emission sources to limit uncertainty in modeled concentrations. Overall, this approach  
31           should result in optimal exposure domains for this REA.