

Attachment B

Charge to the CASAC SO_x Review Panel for Review of the draft Risk and Exposure Assessment for the Review of the Primary NAAQS for SO_x

The draft Risk and Exposure Assessment (REA) includes six chapters. Charge questions for the Panel's consideration are presented below for each of these chapters.

Introduction and Background for the Risk and Exposure Assessment (Chapter 1)

1. Does the Panel find the introductory and background material, including that pertaining to previous SO₂ exposure/risk assessments, to be clearly communicated and appropriately characterized?

Conceptual Model and Overview of Assessment Approach (Chapter 2)

2. Does the Panel find the conceptual model summarized in section 2.1 to adequately and appropriately summarize the key aspects of the conceptual model for the assessment?
3. Does the overview in section 2.2 clearly communicate key aspects of the approach implemented for this assessment?

Ambient Air Concentrations (Chapter 3)

4. Does the Panel find the description of the three study areas and their key aspects (section 3.3) to be clear and technically appropriate?
5. Does the Panel find the description of the air quality modeling done to estimate the spatial variation in 1-hour concentrations (section 3.2) to be technically sound and clearly communicated?
6. To simulate air quality just meeting the current standard, we have adjusted model predicted 1-hour SO₂ concentrations using a proportional approach focusing on the primary emissions source in each area to reduce the modeled concentrations at the highest air quality receptor to meet the current standard (section 3.4). Considering the goal of the analyses it to provide a characterization of air quality conditions that just meet the current standard and considering the associated uncertainties, what are the Panel's views on this approach?
7. A few approaches were used to extend the existing ambient air monitoring data to reflect temporal patterns in the study area (section 3.5). Does the Panel find the approaches used below to be technically sound and clearly communicated?
 - a. Data substitution approach for missing 1-hour, 5-minute maximum, or 5-minute continuous ambient air monitor concentrations (section 3.5.1).
 - b. Estimating pattern of within-hour 5-minute continuous concentrations where 1-hour average and 5-minute maximum are known (section 3.5.2).
 - c. Combining pattern of continuous 5-minute concentrations within each hour from monitors in or near the study area with the modeled 1-hour concentrations (section 3.5.3).

Population Exposure and Risk (Chapter 4)

8. Does the Panel find the presentation of, and approaches used for, key aspects of the exposure modeling, including those listed below, to be technically sound and clearly communicated?
 - a. Representation of simulated at-risk populations (section 4.1).
 - b. Estimation of elevated ventilation rate (section 4.1.4.4).
 - c. Representation of microenvironments (section 4.2).
 - d. Derivation of the exposure-response functions (section 4.5.2).

Exposure and Risk Estimates (Chapter 5)

9. This chapter is intended to be a concise summary of exposure and risk estimates, with interpretation with regard to implications in this review largely being done in the PA. Does the Panel find the information here to be technically sound, appropriately summarized and clearly communicated?

Characterization of Uncertainty and Representation of Variability (Chapter 6)

10. What are the views of the Panel regarding the technical appropriateness of the assessment of uncertainty and variability, and the clarity in presentation?
 - a. To what extent has variability adequately been described and appropriately represented (section 6.1)?
 - b. To what extent have sources of uncertainty been identified and their implications for the risk characterization been assessed (section 6.2)?