

**Preliminary Comments on the ISA from Dr. Farla Kaufman**

**Comments on Chapter 1**

The revisions to the Executive Summary provided much improvement. The Chapter reads quite well with less redundancy and is very accessible for a nontechnical audience.

P 1-20 line 11 exposure error s/b exposure measurement error

P 1-29 line 27-28

More recent NHIS data shows somewhat lower prevalence. For females, those under age 15 years (6.8%). For males, those under age 15 years (9.5%). However, for children under age 15 years, the sex-adjusted prevalence of current asthma was higher among non-Hispanic black children (15.4%) compared with Hispanic children (8.1%) and non-Hispanic white children (6.2%).

**Comments on Chapter 4**

P 4-8 line 30 patters s/b patterns

P 4-28 line 8-13 No mention of mixtures in summary

**Comments on Chapter 5**

Revisions have improved Chapter 5 considerably. The section on respiratory effects is very well-presented and clear. Other sections are not as coherent or integrated (see comments below). Overall, the chapter is still very lengthy and could be more focused and concise in sections.

The characterization of the evidence and rationale for causal determinations of effects of SO<sub>2</sub> outside the respiratory system is consistent with the EPA's causal framework.

The characterization of respiratory effects observed in controlled human exposure and epidemiologic studies, particularly in different populations and lifestages is adequate.

P 5-17 line 21 concentration s/b concentrations

5-24 line 6- 8 Since the sentences above discuss obese children, it should be made clear in the comparison is between normal-weight school-aged children and normal-weight adolescents and adults.

1 Page 5-25 line 1-2 does not seem as if this sentence is actually summarizing the information  
2 presented in this section.

3  
4 5-34 line 4 I am not sure that most of the studies did show correlations above 0.5. Could you  
5 provide references in brackets for the ones that fall into this category. It is not clear what is being  
6 references by “previous studies”.

7  
8 5-36 Table 5-7 should Magnussen be under the “M’s”

9  
10 5-40 line 11 Table 5-2 s/b 5-8

11  
12 line 20-21 Sentence implies that results from Anyenda et al. are included in the  
13 Figure 5S-1, which they are not.

14  
15 line 22 Please specify which studies are referred to here. Does not seem to be referring to  
16 studies mentioned above (Maestrelli et al., Anyenda et al., or Wiwatanadate and  
17 Liwsrisakun) as the correlations in these studies were moderately correlated at most, while  
18 many were weakly correlated.

19  
20 Line 23 Which studies are being referred to here since Anyenda did not report PM metrics.

21  
22 Page 5-44 line 32 Is it less uncertainty or more uncertainty?

23  
24 5-45 Figure 5-2 There are two separate lines for both Delfino et al. and Segala et al., but no  
25 indication of how the two lines for each study differ from each other. Could use at least  
26 footnotes for these.

27  
28 5-48 line 4 I had trouble accessing this Supplemental Table 5S-5

29  
30 Section 5.4

31  
32 This section is improved. However, I find that there still could be more discussion and  
33 integration of studies in terms of strengths and limitations for studies of outcomes such as  
34 preterm birth and fetal growth. Since inconsistent evidence from epidemiologic studies may be  
35 due to differences between studies, adequate consideration and integration of the strengths and  
36 weaknesses of the studies is required to weigh the strength of the body of evidence (as mentioned  
37 in previous comments).

38  
39 Tables and text could be reviewed for accuracy in this section regarding which studies reported  
40 co-pollutant analyses and the adjusted risk estimates (e.g. Liu et al. 2003).

41  
42 P 5-237 Table 5-37 is not referenced in the text on page 5-239 line 25