

Comments on Integrated Science Assessment for Oxides of Nitrogen  
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General Comments.

This well-organized and comprehensive document and its appendices provides a critical analysis of the newest literature as well as highlighting conclusions made in the 1993 Criteria Document. The EPA staff and its consultants are to be congratulated for a job well done.

As a second draft of the ISA, the document has effectively incorporated the most important suggestions of the NO<sub>x</sub> Review Panel including better detailing of the criteria used to judge causality and the means by which studies were selected for inclusion in the document.

Chapter 1.

No comment.

Chapter 2.

The description of emission sources and of the spatial variation of ambient measurements is much improved in this chapter.

I appreciate the inclusion of figure 2-1 that provides basis for organization of the chapter.

The sparseness of monitor sites in Figure 2.4-1 begs the question of how compliance is uniformly enforced in all regions of the country.

Figure 2.4-2 indicates the hourly-average ambient NO<sub>2</sub> concentration at current monitoring sites almost never exceeds the lowest benchmark level of 200 ppb used in the Exposure and Risk Assessment. This underscores the importance of on-road and indoor sources that have a small influence on the ambient air measurements but a strong influence on personal exposure.

In figure 2.4-3 and others like it, the image should be coded in gray-scale (rather than color) before it is printed out.

There is an error in the title of figure 2.4-6d. Weekday→Weekend.

In equation 2.5-5,  $C_{\text{nona}}$  has a subscript that is inconsistent with the subscript on  $C_{\text{na}}$  used in the text.

In the dosimetry section on page 2-59, there is not much progress to report since the 1993 Criterion Document. Because the Exposure and Risk Assessment is based directly on

observations made in clinical experiments, the need to use such models for dose extrapolation is not necessary for the current ISA.

Chapter 4.

No comment.

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This chapter provides an adequate summary of the research that is anticipated to guide the risk assessment.

On page 5-3, the key finding that the NO<sub>2</sub> concentration is overpredicted by 25% by current monitoring methods is probably a good thing since the overprediction is due to other NO<sub>x</sub> and NO<sub>y</sub> that may also induce a health effect.

In the Conclusions on page 5-20, it would be appropriate to provide direct, succinct answers to the framing questions posed on page 5-1.

**Answer to charge question 2.**

I believe that the chapter does meet all the objectives outlined in the charge question. I do suggest, however, that material be added that describes and supports the method of extrapolating ambient monitor measurements to on-road concentrations. This is too important an issue to leave for the brief discussion that currently appears in section 6.2.3 of the Exposure and Risk Assessment document.