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Review of the International Joint Commission AQA Progress Report, 2008

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Comments Overall

1. The report is a very attractive document overall to the reader. I like the layout and use of color. Further, the document is very well edited and laid out, and format, etc. are extremely consistent throughout the document. So it is clear that time has gone into the document.
2. I think that the graphics are particularly well presented.
3. The document needs more conclusions. Many will just read the conclusions, as we all know, and I think that the conclusions are too short and fairly weak. They read like updates or accomplishments rather than conclusions. You can conclude much, much more than this. Weakest part of the document in my opinion.

Specific Comments

1. Page 3 Para 1, "further efforts". Very true. The problem is still with us, which is clear from our data. A very important point to start with.
2. Page 4 Para 1, "A critical load". I am certainly no expert in critical loads, but I am beginning to learn something about them. There would seem to be several different definitions of critical loads. The problem comes down to the idea of "without significant damage". I have heard it defined as, and think of it as "without a significant change" which is distinctly different. Nitrogen addition is a good example of this.
3. Page 7, Figure 4. This figure is confusing to me. What exactly does it say or contribute? First, is this for the U.S.? Only coal fire units? It seems to imply to me that it is otherwise. Is it necessary? Clearly most sulfate comes from coal fire units with monitoring.
4. Page 8, Para 2 "Figure 5 to 8". I am not sure who corrected for sea salt.
5. Page 8/9, Figure 5 to 8: & Figure 9 to 12. I would argue that these maps and statements would be more correct if they were averages over several years, perhaps. Then you would remove more of the inter-annual depositional differences due to inter-annual precipitation differences. Additionally, statistical trends analysis on these depositions are available, which may be a better way to show this

point.

6. Page 12, SVR. I think this is a rather loose definition of SVR. It seems that this is a definition of visual range, but the differences are small (assumed threshold contrast).
7. Page 13, Para 3 "Following". I don't really follow this paragraph, and why the transition into the ESA example.
8. Page 14, Para 2 "emission rates". You might want to give the units here for clarity (lbs per ton, rather than lbs per hour), so that the reader is more clear on the meaning.
9. Page 15, Para 2 "regulating sulfur content". not sure why regulating sulfur content of gas/diesel will have an impact upon NOx and VOC emissions.
10. Page 24 Para 1 and 2 "will be available later in 2008", "beginning as early as 2008". In many instances, it seems that the report was written very early. I don't know when this document was written, but there are many instances of language like this, and given that we are now 6 months into 2009, they seem very out of place.
11. Page 25, Figure 18, Note. Again, the assumption is now past.
12. Page 27, Table 1.
 - a. Biogenic emission. I find it hard to believe that these VOC emissions are "0" given how much biogenic emissions are produced by forests. True they may be smaller vs. anthropogenic emissions, but 0?
 - b. There are no VOC emissions in a forest fire? Same as above.
 - c. I think at the very least, IF the information is correct and presented, that both of these entries should be <1 rather than 0.
 - d. PEMA. Could not find a PEMA map of Canada, nor the definition of the region.
13. Page 31, Para 1. I would suggest using the terms highest (or fourth highest) in the description of Figure 24. Highest annual levels vs. annual levels are very different impression to someone who does not know how the ozone regulations read.
14. Page 32, Figure 26. I would think first that the two graphs should be overlaid to be consistent with the previous graphs. Why is the US lower? Emissions of precursors are 10X those in Canada, and given figure 23, I would expect the opposite.
15. Page 33, Figure 27. Just a note: I would think that you would show the West and the lower number of sampling locations there.
16. Page 37, bullet #2. I think that you would also want to list ammonia as a precursor, given its particulate forming abilities and its importance on both sides of the border.
17. Page 38, bullet 1 "is similar". I would say that the NOx emissions are more similar than for sulfur, but not similar. Case in point is industrial and EG.

18. Page 41 Para 1 “responsible for ...”. This holds for all pollutants, not just ozone and particulate, correct?
19. page 42 Para 4 “tribal”. You refer to tribal in to locations in this paragraph. It is more appropriate in the first listing, rather than the second.
20. Page 44 Para 3 “on a half week bases”. This preliminary network operates on a two week sampling basis.
21. Page 51 Para 1 “Montieth et al.,”. I think that it needs more discussion, since this is of major interest, particularly for DOC.
22. Figure 34/Critical Loads. I am glad to see this section in here. This is an important way to discuss effects and evaluate how we are progressing.
23. Conclusions, addressed above.