

Preliminary Comments on the REA Planning Document from Dr. Doug Burns

Comments by Douglas Burns to Charge Questions for REA Planning Document

Comment on the Overall Analytical Approach.

1. The introductory and background information and, in particular, the conceptual model and key technical issues. [Chapter 1]
The conceptual model looks fine to me and is consistent with the logic in the CAA. My only comment is that you consider including microorganisms as well as animals and plants.
2. As the context for the quantitative assessments described in Chapter 4, the identification of limitations and/or uncertainties related to ecological risk and exposure as assessed in the previous NAAQS reviews and the extent to which they may be addressed by currently available information, tools and methods, thus supporting a conclusion that new or updated assessments of risk and exposure may be warranted to provide estimates with appreciably reduced uncertainty to inform decisions in the current review regarding the adequacy of the existing standards in protecting public welfare from adverse effects, and, as appropriate, similar consideration of potential alternatives. [Chapters 2 and 3]
Regarding the evaluation of biogeochemical effects in soils I am not supportive of using the Bc/Al ratio because it is not a very sensitive indicator of risk. Most recent studies have been using base saturation as a more sensitive indicator.
3. The overall analytical approach for the Risk and Exposure Assessment (REA) and its appropriateness for linking ambient concentrations, atmospheric deposition and ecological effects of interest. [Section 4.1]
The air quality approach looks complex and I am most concerned about including a mix of measurement sources that skew towards urban sites (NCore) whereas others skew towards rural sites (CASTNET, NTN). Seems like it will be difficult to evaluate uncertainty given the mix of measurement sources. Also, using annual averages does not seem to be consistent with some of the standards that are based on maximum values.
4. The proposed criteria and approach for selecting case study areas to evaluate potential risks and exposures in freshwater and terrestrial ecosystems. [Section 4.4]
The list of criteria proposed looks sound. The areas with the most abundant data sets will tend to be those that meet the other criteria for sensitivity, public welfare, and influence of current air quality on deposition-related effects.