

Modification of Enclosure A (provided by Richard Poirot)

## Enclosure A

Critical Needs in the further revision of the *Policy Assessment for the Review of the Secondary National Ambient Air Quality Standard for NO<sub>x</sub> and SO<sub>x</sub>: Second Draft*

- 1) The final PAD needs to include clearer descriptions of and rationales for the recommended ranges of each of the four elements (indicator, averaging time, level and form) of the proposed NAAQS. The implications of choosing specific combinations from within these ranges of elements should be thoroughly discussed, with justifications provided for the specific options or range of options that staff recommends. It would also be useful to see map and/or tabular estimates of the spatial extent and degree of severity of NAAQS exceedances expected to result from the recommended combinations of the elements of the standard.
- 2) The final PAD needs to provide clearer descriptions of and rationales for the proposed optional approaches for landscape categorization of inherent sensitivities to acidification, and of how these different characterization approaches relate to the different target fractions of water bodies that would be protected at different ANC thresholds. The implications of choosing specific landscape categorization approaches combined with specific fractions of water bodies to be protected should be thoroughly discussed, with justifications provided for the specific combinations or range of combinations that staff recommends.
- 3) The APPI is a novel and innovative approach for linking acidic deposition effects in aquatic ecosystems to the combined ambient air concentrations of the SO<sub>x</sub> and NO<sub>x</sub> pollutants which ultimately cause these effects. The APPI calculations are also unavoidably complex and dependent on critical assumptions and model calculations, which are characterized by various levels of uncertainty. The final PAD needs to provide a more detailed analysis of the cumulative uncertainties associated with the entire APPI calculation, and of the relative sensitivities of the APPI to uncertainties in its individual components.
- 4) The final PAD would also benefit from added analyses and discussion in several areas, including:
  - Comparison of APPI calculations and ANC concentrations using available historical data,
  - Assessment of potential bias in APPI introduced by not considering sulfur retention effects,
  - Assessment of CMAQ model performance for estimates of key APPI components, including reduced nitrogen deposition and the T<sub>SO<sub>x</sub></sub> and T<sub>NO<sub>y</sub></sub> deposition transfer ratios,
  - Discussion of unintended consequences (positive or negative) of changes in S or N deposition.