Comments on the First External Review Draft of the Ozone Policy Assessment

Prepared for the CASAC Ozone Panel

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AIR Comments on ISA Drafts 1 & 2

- USB, not NAB, is more appropriate background ozone for most of U.S.
- Latest model runs from GEOS-Chem and CAMx provide more realistic estimates of background ozone
- Analysis of USB on days in high end of ozone distribution needed
- Impact of USB on observed ozone concentrations rather than USB should be considered because of non-linearities in ozone formation processes

AIR Emphasized:

- EPA cannot eliminate or even reduce emissions in Canada or Mexico
- Use of NAB instead of USB penalizes the states affected by Canadian and Mexican emissions
- Use of NAB instead of USB overestimates the risk reduction achieved by lowering the NAAQS

3rd Draft ISA

- Endorsed use of USB
- Included most recent GEOS-Chem and CAMx results
- Included discussion of days in high end of ozone distribution
- Recognized important distinction between "background" and "contributions to background."
- Acknowledged that "Further work is needed …to help determine the contributions of background sources of O_3 to urban concentrations."

There is a Disconnect Between the 3rd Draft ISA and the 1st Draft PA

- PA only mentions USB in passing
- All analyses done using NAB not USB
- No attempt to estimate background ozone impact on urban ozone concentrations

The PA will not reflect the state of our knowledge on background ozone or relative risks until these elements are included

Consistency of epi associations overstated in draft PA

- EPA - consistent positive associations for respiratory mortality in APHENA
- HEI Review Committee - in all-year analyses associations between ozone and respiratory mortality generally close to zero and not significant in any region or in the combined estimate for all three regions
- APHENA investigators
  - Little evidence for an effect of ozone on respiratory mortality in any center
  - While associations generally higher in summer-only analyses, only 2 of 12 model combinations were statistically significant and, when controlled for PM10, none of the 8 model combinations presented in the APHENA report were statistically significant

Dose-plausibility not rigorously evaluated

- Threshold for first physiological effects
- Personal exposures ¼ of ambient levels 90 % of time
- Measurement error can give a false linear result
- Pattern in individual-city associations is biologically impossible
  - When restricted to days with ozone less than 0.02 ppm, the range in individual city mortality associations for a 0.01 ppm increase in ozone was from –20 % to +30 % - Bell et al. 2007