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Dear CASAC Panel Members:

As former Chair of CASAC, I feel the "reconsideration" process that CASAC is being asked to follow ignores the procedures that have been established to comply with the requirements of the Clean Air Act (CAA). The purposely anachronistic process that EPA is using will result in policy decisions being made based on outdated 7-year old science.

Despite being instructed that CASAC panel members cannot be informed by the new science in composing their responses to EPA's questions, a number of panel members (7) have cited more recent studies anyway. I sympathize with the members who feel the latest science should not be ignored. I would like to call the panel's attention to one comment on Policy Relevant Background (PRB) that I feel underscores the importance of using the latest science. In her comments, Dr. Zielinska appropriately points out:

> The newer versions of the GEOS-Chem model that are currently being used are greatly improved over the version used by Fiore et al (2003) for the 2001 simulation. They predict higher PRB levels and are more consistent with observational analysis. In addition, Parrish et al. (2009) found that ozone from Asia entering the US west coast increased at a rate of 3-5 ppb during the past decade.

She further goes on to say:

> During the 2005 -2007 CASAC Ozone Panel deliberations, the uncertainties and inconsistencies of this model (Fiore et al., 2003) were discussed. The model did not agree with observations that indicated higher background ozone levels (often exceeding 50 ppb), and evidence of stratospheric intrusion events during the winter and spring seasons. *Since EPA's ozone risk estimates are sensitive to the assumed PRB level, it is important to recognize and reflect these model uncertainties in the risk analysis.*(emphasis added).

Dr. Zielinska's comments are also consistent with those submitted to the panel by a number of public commenters. In particular, the PRB comments were submitted by Allen Lefohn and Samuel Oltmans, Albert Hendler, Nicole Downey, Dana Wood and Doug Blewitt, Christopher Emery and Dan Jaffe. What this means is that the risk assessment that is one of the pillars used by the panel to justify their preferred range for the ozone NAAQS is *obsolete.*

Another example of the dangers of relying on obsolete science is found in the panel's draft letter to the Administrator. In response to Question 6 posed by EPA, the panel states:

> Similarly, health care utilization for asthma has been shown to decrease when ozone concentrations decreased. For example, when traffic density was decreased during the Summer Olympic Games in Atlanta in 1996, there was significantly decreased use of pediatric care for asthma that correlated best with a reduction in peak ozone concentrations (Friedman et al., 2001). In this study, the relative risk of asthma events increased stepwise at cumulative ozone concentrations 0.060 to 0.089 ppm and 0.090 ppm or more compared with ozone concentrations of less than 0.060 ppm. The reduction of the adverse effects on asthma in this study was dependent on reduction of ozone exposures to levels below 0.060 ppm.

The problem with these statements is that they are based on the Freidman et al. paper which has been the subject of a recent Health Effects Institute (HEI) reanalysis.[1] In a much more comprehensive study, Peel et al. did not find any significant reduction in the number of emergency department visits for respiratory health outcomes for either children or adults in Atlanta during the Olympics.

The background ozone issue and the new results from Atlanta are two examples of why EPA and CASAC should abandon the "reconsideration," and instead focus on the current review on the ozone NAAQS. CASAC has an obligation to make sure the latest ozone ISA contains an accurate depiction and critical evaluation of the current scientific information.

The new ISA[2] was released last Monday (March 7, 2011) and my quick skim of it reveals that EPA has not incorporated all of the latest science. For example, they do not even cite HEI's Peel et al. (2010) report. More disturbing, however, is their treatment of the background issue. The ISA acknowledges that there is a new version of GEOS-Chem as Dr. Zielinska pointed out, but does not include the new modeling results and instead uses the old Fiore et al. (2003) results. They rationalize this by saying:

> Wang et al. (2009, 622281) recomputed PRB concentrations for 2001 using GEOS-Chem at higher spatial resolution (1°×1°) and not only for afternoon hours but for the daily maximum 8-h $O_3$ concentration (the base and PRB results for the 2001 model year simulation are shown in Figure 3-9 for spring and Figure 3-10 for summer). These GEOS-Chem calculations represents the latest results documented in the literature. However, all models undergo continuous updating

[1] Peel, J.L., Klein, M., Flanders, W.D., Mulholland, J. A. and Tolbert, P. E. (2010), *Impact of Improved Air Quality During the 1996 Summer Olympic Games in Atlanta on Multiple Cardiovascular and Respiratory Outcomes,* HEI Research Report 148.

[2] US EPA (2011), *Integrated Science Assessment for Ozone and Related Photochemical Oxidants,* EPA/600/R-10/076A.

> of inputs, parameterizations of physical and chemical processes, and inputs and improvements in model resolution. Inputs that might be considered most relevant include emissions inventories and meteorological fields. However, the model's results may not be particularly sensitive to changes in model inputs, especially in the current context. For example, as noted above, increases in Asian emissions only accounted for an increase of 1-2 ppb in background $O_3$ even though Asian emissions have increased by about 44% from 2001 to 2006. To the extent that results from an updated model become available, they will be presented and used in the next draft of the ISA. In that case, the results shown here are to be viewed more as illustrating the type of calculations that will ultimately be used for informing NAAQS setting.[3]

After reading this paragraph, I have concluded that EPA is well aware of the newer modeling results and the implications that they have on PRB. In addition, EPA must be aware of the implications of these modeling results on the risk assessment being used in this "reconsideration." Consequently, it appears that EPA is delaying the inclusion of these results until a subsequent ISA draft so they will not be used to inform the "reconsideration" process.

I again urge CASAC and EPA to abandon the "reconsideration" and instead focus on the new ozone NAAQS review so that it adheres to the requirements of the Clean Air Act and takes into account all the relevant science.

Sincerely,

George T. Wolff, Ph.D.

[3] Ibid, p 3-32 to 3-33.