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My name is George Thurston. I am a Full Professor of Environmental Medicine at the New York University School of Medicine. I have previously served on the Sulfur Oxides and Nitrogen Oxides CASAC Review Panel, and was the first author of the recent European Respiratory Society (ERS) and American Thoracic Society (ATS) Joint Statement on What Constitutes an Adverse Health Effect of Air Pollution. I am submitting these comments on behalf of the International Society of Environmental Epidemiology (ISEE).

In my review of the CASAC Draft PM Report, I see serious flaws in the overall review approach. It all too often assiduously seeks to “fail to see the forest for the trees” when reviewing the scientific literature on the associations between PM_{2.5} air pollution exposures and adverse human health. Indeed, the review inappropriately combs through the PM report to identify any inconsistencies across specific studies, rather than acknowledging the overall general agreement among the various studies that indicate that PM_{2.5} exposure is associated with increased risk of adverse health outcomes. This includes both acute and chronic exposures, and both morbidity and mortality health outcomes. In fact, the CASAC review’s purported study-to-study inconsistencies are usually just plausible variations in the results across differing health outcomes, exposure populations, or locations considered.

Just one example of an incorrectly cited inconsistency across studies is the statement in the Draft PM Report that “*effects at inconsistent lags can place doubt on the veracity of the results. For example, Strickland 2010 showed early lag effects, and Kim 2012 showed 4-12-day lag effects*”. However, this comparison ignores that Strickland, 2010 considered Pediatric Asthma Emergency Department Visits, while Kim 2010 considered All Respiratory Hospital Admissions. Different health outcomes and different age populations were considered in these two studies. Thus, it is very biologically plausible that they would have differing lags of effects. Indeed, it is actually very likely that hospital emergency visits would have a shorter time delay than outright hospital admission.

Overall, CASAC should stay with EPA’s well established and effective approach for assembling and interpreting the weight of evidence to evaluate the associations between particulate matter air pollution and adverse health effects, and not change to an unproven method. The EPA’s past weight-of-evidence use provided a balanced method of evaluating epidemiological evidence that is based in large measure on the widely accepted approach originated by Dr. A. Bradford Hill, which tested and confirmed associations between cigarette smoking and adverse human health impacts.

I do, however, appreciate that the review acknowledges that the CASAC lacks all the expertise needed to conduct this review, and I agree with the multiple CASAC members who requested the reappointment of the PM panel of experts. I urge EPA to reconvene the disbanded PM review panel, and note that it should be comprised of its original members.

Thank you for this opportunity to speak today.

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Interim chair of the North American Chapter of the ISEE

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