

June 25, 2012

**VIA E-MAIL**

Dr. Diana M. Wong  
USEPA Headquarters  
Ariel Rios Building  
1200 Pennsylvania Avenue, N. W.  
Mail Code: 1400R  
Washington, DC 20460

Re: SAB Panel Report on Draft Libby Amphibole Asbestos IRIS Assessment

Dear Dr. Wong:

On behalf of an interested party, we have closely reviewed the draft Science Advisory Board (“SAB”) Panel peer review report on the proposed Libby Amphibole Asbestos (“LAA”) IRIS assessment and observed the Panel’s public deliberations. In order to assist the Panel as it further deliberates, this letter provides the following brief comments. In particular, this letter points out a few significant instances in which the draft report does not appear consistent with statements of Panel members during the Panel’s May, 2012 teleconferences, and where the Panel’s draft letter to EPA Administrator Jackson regarding that report does not reflect principal conclusions the Panel appears to have reached in its report and/or deliberations. I request that you forward these comments to the Panel for its consideration as it finalizes its draft report and letter, and confirm to me when you have done so.

**1. The Panel’s Report and Letter Should Address Clearly and Thoroughly Significant Scientific Concerns Expressed by the Panelists.**

**a. The Panel’s Final Report Should Clarify That the Non-Cancer Endpoint Is Not Known to Be on a Disease Pathway.**

The cover letter and draft report both indicate, without support, that localized pleural thickening (“LPT”) has a measurable relationship to altered lung function, i.e., that LPT is on the disease pathway. However, the Panel has not reached any such determination. During the May 1, 2012 telephone conference, Dr. Salmon clarified that the Panel is *not* determining that LPT is on a disease pathway. Dr. Salmon said that “we are looking at these radiographic changes as an adverse effect in their own right. We are not necessarily arguing whether or not

Dr. Diana M. Wong  
June 25, 2012  
Page 2

they progress to some other disease entity. And that it needs to be considered as an adverse effect in its own right.” Dr. Salmon went even further, asserting that expert commenters’ testimony explaining the absence of any relationship between LPT and disease is therefore not pertinent. No one on the Panel challenged Dr. Salmon’s comment.

Despite Dr. Salmon’s clarification that the Panel is not finding a relationship between LPT and disease, the Panel’s draft report inaccurately conveys the opposite message: that LPT itself leads to adverse lung function. Such a finding conflicts with the weight of scientific evidence. For instance, Dr. Lawrence Mohr, Professor of Medicine, Biostatistics and Epidemiology and the Director, Environmental Biosciences Program at the Medical University of South Carolina, with particular expertise in pulmonary medicine and lung disease, observed that the large body of literature pertaining to LPT demonstrates that there is no statistically significant or clinically significant reduction in lung function associated with LPT per se. Also, Dr. John DeSesso, Adjunct Professor of Biochemistry and Molecular & Cellular Biology at Georgetown University School of Medicine, testified on how LPT differs structurally from those asbestos-related diseases that are symptomatic. The Panel did not disagree with, or otherwise address, these comments or that substantial body of scientific opinion during the teleconference.

In its draft final report and letter to the EPA Administrator, the Panel should clearly state that it has not concluded that LPT causes, or progresses to, reduced lung function, if that is the case. If, on the other hand, the Panel actually disagrees with Dr. Mohr, Dr. DeSesso, and the considerable body of scientific evidence that supports their conclusions, then the Panel should explain clearly the basis for its view, rather than simply disregard the testimony of these experts. The upcoming July 25 teleconference would provide a timely and transparent forum in which to do so, and we request that you put this item on the Panel’s agenda for that teleconference.

**b. The Panel’s Draft Letter to EPA Administrator Jackson Fails to Reflect the Panel’s Rejection of the Michaelis-Menten Model.**

Panel deliberations have been highly critical of EPA’s choice of the Michaelis-Menten model, one of EPA’s key modeling tools used to support its conclusions. For example, in the May 1 teleconference, Dr. Peto reinforced the deficiencies of the model selection for deriving the proposed Reference Concentration (“RfC”), noting repeatedly that that model is simply “wrong,” and a “scientifically preposterous” basis upon which to base the RfC. The Panel’s draft report embraces this concern, noting that this model should be “replaced.” Despite the fundamental importance of that recommendation, the draft letter to Administrator Jackson fails to even acknowledge this issue. Given the model’s critical role in the derivation of the RfC, this recommendation should be set forth clearly in the Panel’s cover letter.

Dr. Diana M. Wong  
June 25, 2012  
Page 3

**c. The Panel's Report and Letter to the Administrator Should Advise That EPA's Data Sets Are Too Small to Serve As a Defensible Basis for the RfC and IUR Proposed.**

During the teleconference, several members of the Panel acknowledged the severe limitations of the data sets chosen, noting that "there's not much data support" (Dr. Sheppard), "we know these data sets are limited" (Dr. Walker), and "you can't develop a model for mesothelioma based on seven cases or whatever it is [as to do so is "completely disreputable"]" (Dr. Peto). Also, expert commenters have explained why the data sets selected by EPA for deriving the RfC and Inhalation Unit Risk ("IUR") are too small to serve as a scientifically defensible basis for the RfC or the IUR.

The Panel's draft report does not address this fundamental shortcoming. Instead, the current draft only obliquely recognizes the importance of using a larger data set, e.g., by noting that a "larger population over a lifetime should be considered when selecting the models with which to characterize exposure-response relationships" and that because there are "285 [additional] workers with at least some information [, p]ossibly some additional analysis could be done on that group" to derive the IUR. The draft report fails, however, to convey clearly Panel members' concern over the inadequacy of the data sets chosen by EPA. Moreover, the draft cover letter to the Administrator fails to even acknowledge this significant issue and the resulting weakness and uncertainty of both the RfC and IUR if derived from the extraordinarily small amount of data employed by EPA. The Panel's report and letter should directly address these data limitations.

**2. The Panel Should Recommend Consideration of Toxicology Data From a Range of Other Amphiboles.**

During its deliberations, Panel members discussed that Libby amphibole likely acts in ways comparable to other amphiboles. As observed by panelists, the results of modeling the exposure-response relationship of a full range of other amphiboles should be taken into account by EPA in its final assessment. This recommendation should be stated in the Panel's report and cover letter.

The current draft report only touches upon this issue, finding that in light of the similarity between amphiboles in composition, physical properties, and biological effects, "it appears reasonable, and indeed necessary, to at least debate the question of whether the available data on non-cancer health effects of amphiboles are sufficient to mitigate the acknowledged data shortage for Libby amphibole itself." (p. 31). To the extent the Panel has determined that EPA should rely upon, or at least consider, data regarding other amphiboles, e.g., to address in part the data set shortcomings identified above, the Panel should clearly say so.

Dr. Diana M. Wong  
June 25, 2012  
Page 4

We understand that there is credible scientific evidence that the carcinogenic potency of LAA lies somewhere in the middle of the range of carcinogenic potencies of amphiboles. For example, at least one expert commenter referenced evidence that Libby amphibole is less reactive and therefore less toxic than some other amphiboles. The Panel should recommend explicitly that EPA acknowledge and consider, as scientifically appropriate, this available toxicity information in any final LAA toxicity assessment.

### **3. The Panel Should Avoid Policy Recommendations.**

The Panel's discussion at the May 8 teleconference demonstrated that certain proposed revisions to the Panel's draft report were informed by policy preferences rather than science. For example, both Dr. Balmes and Chairwoman Kane seemed to suggest that the Panel's report should advocate a "more conservative approach" that was "more protective of public health." The questions before the Panel concern which hypotheses or findings are supported by the weight of scientific evidence. Policy choices regarding the level of human health protection EPA should provide for are beyond the purview of the SAB, as noted by the SAB Staff Office itself in its recent enunciation of additional practices designed to enhance SAB panel activities.

Another example of a public policy question that the Panel should decline to address is whether a biological marker should serve as an endpoint for purposes of a toxicological assessment. The scientific question for the Panel is whether EPA's draft findings as to symptoms associated with LPT are supported by the weight of the scientific evidence, not whether from a policy perspective this particular biological marker is an appropriate endpoint even without symptoms. Accordingly, the SAB Panel should omit policy recommendations, and in its report and cover letter limit itself to the scientific evaluation of EPA's draft document.

### **4. The SAB Panel Should Consider and Respond to the Important Scientific Points Raised by Expert Commenters.**

The Panel has yet to openly and thoroughly discuss the informed public comments offered by highly qualified experts, even though these experts raised legitimate and important questions about the Panel's draft conclusions and recommendations. We urge the Panel to discuss these important scientific issues and opinions. Unless the Panel does so, it will not have demonstrated thoughtful and transparent consideration of external expert scientific opinion being offered to enhance the Panel's deliberations. Moreover, in the absence of such a discussion, interested members of the public will be left without an understanding as to the Panel's reaction to fundamental comments regarding, among other things, the data sets and models chosen. We request that at its July teleconference the Panel discuss the points addressed in this letter, and the expert comments related to them, to provide the public with a clear explanation of the Panel's analysis of them.

Dr. Diana M. Wong  
June 25, 2012  
Page 5

In closing, we ask that the SAB Panel address the above-described inconsistencies between panelist and/or expert comments and the Panel's draft report and cover letter. We also encourage the Panel to supplement and clarify its draft report and cover letter with clear, specific, and objective advice to EPA, with the goal of EPA issuing a final assessment that more fully reflects the weight of scientific knowledge and accepted scientific methods.

Sincerely yours,

(b) (6)

A large black rectangular redaction box covers the signature area, with the text "(b) (6)" in red to its left.

Karl S. Bourdeau

cc: Dr. Vanessa Vu