

**SAB Expert Elicitation Advisory Panel 04/10/09 Draft Cover Letter Report to Assist Meeting Deliberations -- Do not Cite or Quote -- This draft is a work in progress, does not reflect consensus advice or recommendations, has not been reviewed or approved by the chartered SAB, and does not represent EPA policy.**

1 The Honorable Lisa P. Jackson  
2 Administrator  
3 U.S. Environmental Protection Agency  
4 1200 Pennsylvania Avenue, N.W.  
5 Washington, D.C. 20460

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7 Subject: Review of EPA's Draft Expert Elicitation Task Force White Paper.  
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9 Dear Administrator Jackson:  
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11 EPA's Office of the Science Advisor requested that the Science Advisory Board  
12 (SAB) review a white paper on expert elicitation (EE) prepared by a task force of the  
13 Agency's Science Policy Council. EPA's draft white paper defined expert elicitation as  
14 "a formal process by which expert judgment is obtained to quantify or probabilistically  
15 encode uncertainty about some uncertain quantity, relationship, parameter, or event of  
16 decision relevance" (p. 5). In response to the Agency's request, an SAB panel conducted  
17 a peer review of the draft white paper. The enclosed advisory report provides the advice  
18 and recommendations of the panel.  
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20 The panel commends the task force for preparing a comprehensive and thoughtful  
21 white paper on the potential use of expert elicitation at the Agency. The white paper was  
22 commissioned by EPA's Science Policy Council "to initiate a dialogue within the Agency  
23 about the conduct and use of EE and then to facilitate future development and appropriate  
24 use of EE methods" (p. 2). The panel judges that the white paper succeeds in providing  
25 much of the information needed for the proposed dialogue and to facilitate future  
26 development and appropriate use of EE. The white paper provides a comprehensive  
27 introduction to EE for readers who may be unfamiliar with it and careful discussion of  
28 many of the issues that must be faced if the Agency is to use EE in the future.  
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30 The panel report offers some comments on the white paper and suggestions for  
31 improvement. In particular, the panel suggests that the white paper:  
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- 33 • Adopt a more neutral, analytic tone. In parts, it reads too much like an advocacy  
34 document for EE.
- 35
- 36 • Distinguish issues particular to EE from issues that arise in any analysis of  
37 environmental intervention (e.g., problem structuring) and those that arise in any  
38 attempt to incorporate expert judgment (e.g., selection of experts to an advisory  
39 committee). Because EE is a comparatively transparent process, its use highlights  
40 many issues that are critical to other processes as well.
- 41
- 42 • Incorporate the findings of more recent scholarly literature, in particular on  
43 cognitive biases and elicitation of quantities and on methods for assessing the  
44 performance of experts and aggregation of judgments across experts.  
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1 The panel believes it is important for EPA to provide a critical analysis of the  
2 strengths and weaknesses of other approaches that might be alternatives to EE in  
3 particular cases, including meta-analysis, peer review, unstructured expert committees,  
4 and additional original research to characterize or reduce the uncertainty of concern. It  
5 understands that EPA is preparing another white paper on the “Hierarchy of Methods for  
6 Characterizing Uncertainty” that will discuss the choice among alternative methods and  
7 recommends that the EE white paper reference this forthcoming document.  
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9 Finally, the panel encourages EPA to continue to experiment with the use of EE and  
10 to support research on EE and alternatives to gain experience and understanding of the  
11 advantages and disadvantages of EE and other methods in diverse applications.  
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13 Thank you for the opportunity to provide advice on this important and timely topic.  
14 The SAB looks forward to receiving your response to this advisory.  
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16 Sincerely yours,  
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Dr. Deborah L. Swackhamer,  
Chair  
Science Advisory Board

Dr. James K. Hammitt,  
Chair  
Science Advisory Board Expert  
Elicitation Advisory Panel

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