

Summary Minutes of the
U.S. Environmental Protection Agency (EPA)
Superfund Benefits Analysis Advisory Panel
Public Meeting
February 24-25, 2005

Committee Members: Dr. Rick Freeman
Dr. Robin Autienrieth
Dr. Kathleen Segerson
Dr. Anna Alberini
Dr. Jim Boyd
Dr. Horace Keith Moo-Young
Mr. Tim Thompson
Ms. Kate Probst
Dr. Mark Miller
Dr. Ted Gayer

Date and Time: 9:00am – 5:00pm, Feb. 24, 2005
8:30am – 3:00pm, Feb. 25, 2005

Location: 1025 F Street, NW, Washington, D.C. 20460

Purpose: To discuss the *Superfund Benefits Analysis*, a draft report issued by the Office of Solid Waste and Emergency Response

SAB Staff: Dr. Holly Stallworth, Designated Federal Officer

Other EPA Staff: Kelly Maguire, Melissa Friedland, Jee Kim, Glenn Farber, Mike Cook, Elizabeth Southerland

Other: Terry Suomi, E2
Hagai Nassau, E2
Alex Farrell, E2
M. Hancox, E2
Keith Belton, OMB
Glenn Farber, OSWER
Troy Hiller, Policy Navition
Rachel Urdan, Inside EPA
Several attendees whose names could not be discerned from their handwriting.

Meeting Summary

The discussion followed the issues and general timing as presented in the meeting agenda (Attachment A).

Opening of Public Meeting

Dr. Holly Stallworth, Designated Federal Officer (DFO), opened the meeting with a statement that the Superfund Benefits Analysis Advisory Panel is a federal advisory committee whose meetings are subject to the requirements of the Federal Advisory Committee Act. Dr. Vanessa Vu, Director of the Science Advisory Board Staff Office, welcomed the Panel.

Mr. Mike Cook, Director of OSWER's Office of Superfund Remediation, introduced the project to panelists. Mr. Cook explained the context for the project is that there are lots of discussions about the cost of the program and very little discussion of the benefits. OSWER's benefits study is designed to offer answers to questions about the benefits of Superfund.

The members discussed the comparison between costs and benefits and whether the cost side was included in the report. Some concern was expressed about using the report to compare benefits to costs. Discussion also focused on the technical aspects of the charge questions and whether the Panel could comment with a more general opinion of the report. Discussion also extended to the relative merits of a retrospective versus a prospective study.

Dr. Alex Farrell of the University of California at Berkeley working under an OSWER contract with E2, presented an overview of the *Superfund Benefits Analysis* (SBA). Dr. Farrell's presentation is captured in his Powerpoint slides, given here as Attachment B. Panelists asked Dr. Farrell a number of questions about his draft study.

A public commenter followed Dr. Farrell's presentation. Mr. Michael Steinberg, attorney for the Superfund Settlements Project, gave the comments appended here as Attachment C.

Following these public remarks, members proceeded to discuss the charge questions in the sequence shown in the agenda. In discussing charge questions #1 and #7, members talked about the conceptual framework for the study and whether the framework shown in Figure 1.1 captured the right aspects of Superfund's benefits. Some members expressed concern about a benefit cited as "empowerment." Other members expressed reservations about the need for the SBA to conform with EPA guidelines on regulatory analysis. Another member expressed concerns about the weight given to monetized versus non-monetized benefits.

Action items:

- Dr. Segerson, Moo-Young and Ms. Probst will draft a response to questions 1 and 7.
- Dr. Boyd will design a conceptual framework for the study that could possibly replace Figure 1.2 .

After deciding on these action items, members discussed the relative importance of human health versus ecological goals in deciding Superfund cleanups. One member thought ecological risks played a large role in the Superfund sites he had worked on. Another member expressed a desire to see a discussion of the studies on Superfund done to date and where the SBA filled any gaps. Another member expressed a desire to have the risk reduction accomplished by “removals” included in the SBA. Another member expressed a desire to see the case studies relate back to the key points in the SBA.

In discussing charge question #2, members discussed the temporal dimension of the SBA and whether changes in remedial actions over time should effect the analysis. Members also expressed a concern with the SBA using proposed sites as opposed to final and deleted sites. Discussion also occurred over whether state remedial actions should be grouped with federal remedial actions. The issue of whether to use “construction complete” or the Record of Decision (ROD) was also discussed.

Members expressed concerns with whether the SBA would receive a nuanced reading in the press and whether, under such circumstances, it was better to have metrics with lots of caveats or no numbers at all.

Actions items:

- Ms. Probst and Mr. Thompson would draft a response to the first part of question 2.
- Dr. Gayer, Dr. Alberini and Mr. Thompson will draft a response to the second part of question 2.

In discussing charge question #4, one member expressed a desire to look at probabilistic methods for capturing the health effects of Superfund cleanups. This member suggested the SBA highlight some examples, using lead and volatile organic compounds (VOC) from the Lybarger study. This member talked about recent studies on the health impacts of lead exposure. A suggestion was made that the SBA could use the same model for monetizing the effects of blood levels in children as was used in a retrospective cost-benefit analysis for the Clean Air Act, i.e. the “812 study.” Members also discussed the potential for capturing morbidity effects using recent studies, e.g. from Alberini and Rowe. The suggestion was made to use toxicity values in calculating lifetime excess cancer risks and ATSDR’s methods for capturing uncertainty. This member suggested the SBA explain the parameters modified, parameters not modified and the significance of toxicity factors.

Action item:

- Drs. Freeman, Miller and Autenrieth will write up comments in response to charge question #4.

On the second day, February 25, panelists heard a presentation given by Dr. Michael Greenstone of the Massachusetts Institute of Technology. Dr. Greenstone's presentation is appended here as Attachment D. One comment in reference to Dr. Greenstone's presentation was whether state programs and/or removal actions were involved in the 290 sites used as a data set by Dr. Greenstone. Another member suggested that the way to read Dr. Greenstone's study was that, ex poste, Superfund cleanups left no stigma. Members had questions about the cost figures used in Dr. Greenstone's study.

Following Dr. Greenstone's presentation, members turned to charge question #3. Issues covered included perceived versus actual risk, whether a full price recovery can be assumed, treatment of sites not yet cleaned up, omitted variables bias and the relationship between market size and non-marginal changes. Members discussed the need to better justify the studies chosen for the benefits transfer. The issue of whether the sites covered by the 9 studies used for the benefits transfer were truly representative of the universe of Superfund sites was also discussed. One member raised a concern about the inclusion of the McClelland paper of 1990. The issue of including federal sites was discussed and one member suggested that the SBA incorporate EPA's 1988 guidance for RI/FS studies (Remedial Investigation/Feasibility Study). General issues common to all hedonic studies were discussed.

Action item:

- Drs. Gayer and Alberini will write their comments in response to charge question #3.

Members discussed charge question #5 on estimating the ecological benefits of Superfund. One member discussed the difference between the NRDA (Natural Resource Damage Assessment) process and Superfund, with the former including habitat enhancements and the latter omitting such. This member suggested the SBA carefully frame up the differences between NRDA and Superfund. In addition, this member suggested a number of sites where the NRDA might be helpful. Another member said that NRDA's capture replacement costs more so than benefits. Another member raised a concern about the SBA's intent to use a "conversion factor" based on NRDA's from a small number of sites.

Action item:

- Mr. Thompson and Drs. Boyd and Segerson will write comments in response to charge question #5.

Members then turned their attention to charge question #8 on groundwater. One member commented that it might be possible to calculate the total amount of

groundwater affected by Superfund, but that putting a dollar value on that would be questionable. This member suggested a mass balance approach. This member expressed a preference for richly illustrated case studies rather than an attempt to monetize. The general sentiment was that the SBA should use case studies and/or other endpoints where monetization wasn't possible.

Action item:

- Dr. Moo-Young will write comments in response to charge question #8.

Nearly all members participated in the discussion of charge question #6, the non-quantified benefits of Superfund. Concerns were raised about some of the psychological benefits suggested in the SBA, e.g. empowerment. An additional concern was raised about the absence of any discussion of the deterrent effect of liability brought about by Superfund. Other concerns were raised about the "public relations" tone of this particular chapter in the SBA (chapter 6). Different opinions were expressed on whether Superfund had brought about benefits in the area of emergency preparedness.

Action item:

- Ms. Probst, Mr. Thompson and Drs. Gayer, Alberini, Autenrieth, and Segerson will write their comments in response to charge question #6.

The meeting concluded with the following additional action items.

- Panelists will get their write-ups to the Chair by **March 18**.
- The Chair will compile all comments into a single report by **April 1** and send draft to the DFO.
- The DFO will edit/format this document and send a draft out to the Panel by **April 15**.
- The Panel will have a teleconference on **April 29 from 2:15-4:15pm** to discuss the draft.

Respectfully Submitted:

/Signed/

Holly Stallworth, Designated Federal Officer

Certified as True:

/Signed/

A. Myrick Freeman
Chair

NOTE AND DISCLAIMER: The minutes of this public meeting reflect diverse ideas and suggestions offered by the Panel members during the course of deliberations within the meeting. Such ideas, suggestions, and deliberations do not necessarily reflect definitive consensus advice from the panel members. The reader is cautioned to not rely on the minutes to represent final, approved, consensus advice and recommendations offered to the Agency. Such advice and recommendations may be found in the final advisories, letters or reports prepared and transmitted to the EPA Administrator following the public meetings.