

**Summary Minutes of the United States Environmental Protection Agency (U.S. EPA)
Science Advisory Board (SAB) Quality Review Teleconference
July 28, 2011**

Teleconference of the Chartered SAB and SAB Liaisons¹

Date and Time: July 28, 2011, 11:00 a.m. – 2:00 p.m. Eastern Time

Location: By Teleconference

Purpose: to conduct a quality review of a July 11, 2011 draft SAB report entitled *Review of EPA's draft Oil Spill Research Strategy*.²

SAB Members and Liaison Participants:

SAB Members

Dr. Deborah Swackhamer, Chair
Dr. David Allen
Dr. Claudia Benitez-Nelson
Dr. Terry Daniel
Dr. Costel Denson
Dr. David Dzombak
Dr. Elaine Faustman
Dr. Jeffrey Griffiths
Dr. James Hammitt
Dr. Bernd Kahn
Dr. Nancy Kim

Dr. Cecil Lue-Hing
Dr. Lee D. McMullen
Dr. James Mihelcic
Dr. Jana Milford
Dr. Horace Moo-Young
Dr. Eileen Murphy
Dr. Duncan Patten
Dr. Stephen Roberts
Dr. James Sanders
Dr. John Vena
Dr. Thomas Zoeller

SAB Staff Office Participants

Dr. Angela Nugent, Designated Federal Officer (DFO)
Dr. Vanessa Vu, Director
Mr. Thomas Carpenter, DFO for SAB Oil Spill Research Strategy Review Panel

Teleconference Summary:

The teleconference was announced in the Federal Register³ and discussion generally followed the issues and timing as presented in the agenda.⁴

Convene the meeting

Dr. Angela Nugent, SAB DFO, convened the advisory meeting and welcomed the group. She noted that the meeting had been announced in the Federal Register, which provided an opportunity for public to provide oral and written comments. She noted that no individuals had

requested to provide oral public comments and that one set of written comments had been provided to SAB members and posted on the website.⁵ She asked members of the public participating by teleconference to contact her so that their names could be listed in the minutes (Attachment A).

Purpose of meeting and review of the agenda

Dr. Deborah Swackhamer, the SAB Chair, welcomed SAB members and reviewed the purpose of the meeting, to conduct a quality review of a draft SAB report entitled *Review of EPA's draft Oil Spill Research Strategy (7/11/2011 Quality Review Draft)*, prepared by an SAB *ad hoc* panel.

Overview of draft report

Dr. David Allen, Chair of the SAB Oil Spill Research Strategy Review Panel, provided an overview of the draft report, which provided a review of EPA's *Draft Oil Spill Research Strategy* (January 12, 2011). EPA participates in an interagency coordinating committee on oil spill-related research pursuant to the Oil Spill Research Act. The interagency committee published its last research strategy report in 1997 and revised the strategy in the wake of the 2010 Deep Water Horizon spill. The SAB panel reviewed EPA's portion of the revised draft strategy.⁶ The panel addressed three charge questions: 1) are the most important research areas addressed; 2) is the research organized properly and coordinated with other agencies' activities; and 3) are key issues identified within the themes identified. EPA's draft strategy contained 4 themes: dispersants, ecosystem impact, innovative strategies and human health.

In regard to the first charge question, the panel found areas where EPA's draft strategy was not comprehensive. The panel found that EPA needed to include more research on prevention of oil spills, risk communication, consideration of environmental justice and several other topics. In addition, the panel noted that the research strategy largely focused on Deepwater Horizon experience and did not address terrestrial and inland spills, as well as potential future polar spills.

In regard to the second question, the panel found that the draft strategy could demonstrate more effective coordination with other research activities. The EPA draft strategy should discuss more substantial coordination with other agencies. It also should be framed in terms of ORD's new strategic directions and discuss linkages with ORDs restructured major research programs.

In regard to the third question, the panel identified additional key questions regarding dispersants, ecosystem impacts, innovation that should be addressed in the report and additional opportunities for integration across the strategy.

Chartered SAB Discussion

Drs. Claudia Benitez-Nelson, the first lead reviewer, noted that her comments were included in the compilation of comments posted on the SAB website.⁷ She commended the report for being clear and well written and for providing detailed info on a wide range of important research topics reflecting the wide variety of impacts oil spills have on communities, including

environmental justice communities. She noted that the draft report called for additional research on interactions among dispersants, the strengths and weaknesses of dispersants, and how decision makers incorporate that information into an effective decision making process. She asked whether the report might highlight more prominently the question of whether oil spills should be cleaned up. This issue is critically important because the Deep Water Horizon Spill illustrated that considerable environmental damage resulted from efforts to clean up the oil rather than the oil itself.

Dr. Swackhamer summarized the written comments from Dr. Judith Meyer, the second lead reviewer, who was unavailable to participate in the call. Dr. Meyer agreed that the draft research strategy should be revised to address both freshwater and terrestrial oil spills. She provided editorial suggestions to clarify the language in the Executive Summary and body of the report. Dr. Swackhamer noted that Dr. Meyer noted that the draft report contains the phrase “SAB believes” and that panels should avoid this construction. Dr. Swackhamer asked the DFO to communicate this request to other DFOs in the SAB Staff Office.

Dr. Duncan Patten, the third lead reviewer, emphasized the importance of the panel’s recommendation that studies be conducted at well collection sites and pipeline refineries before spills happen so that investigators of oil spills would have a baseline for comparison. He emphasized the importance of oil spills research because of the prevalence of spills. There is a “massive amount” of data on the causes of past spills, their clean-up, and the environmental response. He noted that ORD’s research program should gather background data on historical spills and learn from this information.

Dr. Thomas Zoeller, the fourth lead reviewer, concurred with his colleagues. He found the document well written and noted only one additional topic concerning the issue of toxicity and human populations. He emphasized that the “root of contamination and exposure is multiplicative,” depending on where people are and multiple routes of exposure. He asked whether EPA has considered the complex set of issues representing different dispersants, different combinations of exposures to them, through different routes. EPA will need to consider these different scenarios to prioritize how dispersants are studied because EPA cannot replicate all the possible different routes of exposure.

Dr. Swackhamer asked Dr. Allen, the panel chair, to respond to lead reviewer comments. Dr. Allen responded that the panel had discussed all the issues raised in the call, as well as issues raised in chartered SAB members’ written comments. He noted that he will revise the letter to the Administrator and the Executive Summary to give greater emphasis to points raised in the quality review. He will emphasize the importance of the science issues associated with whether to clean up oil spills and provide more specific discussion of that topic in the report. He will highlight the importance of freshwater and terrestrial spills and have the report more clearly describe how those types of spills will be different from ocean spills and require different research and research strategies. The report will more effectively emphasize the importance of baseline studies and will give discussion of that topic greater emphasis in the broad context of oil spill research and not just the Deep Water Horizon case. He agreed with the need to emphasize the importance of toxicology research on mixtures and the need to make that point more clearly

in the report. The panel did discuss treating dispersant and oil as systems of complex mixtures that would affect toxicity. This point could be more effectively made in the letter to the Administrator and the Executive Summary. He also noted a comment related to risk communication and committed to elevate the need for social and decision science to the letter to the Administrator.

After Dr. Allen concluded his remarks, Dr. Swackhamer asked for questions and other comments from other members of the chartered SAB. In response to a question about how ORD would conduct baseline studies, Dr. Allen responded that the panel discussed this topic extensively and considered it to be critically important. There are, however, a “very large number” of different environments in which spills might occur. EPA or other organizations need to be strategic about what types of ecosystems to examine and how to develop baselines. Federal research programs should identify the major types of systems at risks and develop baselines on exemplars for these types of systems. The panel emphasized the need to study as many systems as possible well, rather than cover a wider range of systems but not address population/ecological levels of concern credibly.

Another member asked why the report stressed the importance of characterizing the human health cancer risk potential resulting from short-term exposure during spills. Dr. Stephen Roberts, who served on the panel, noted that the panel was most concerned that EPA’s assessment models and data development for cancer focus on lifetime exposures, rather than on short-term exposures. Decisions about whether to open or close beaches, for example, are based on cancer models, but use of such models is flawed, because they don’t address short-term exposures. The real concern related to the need for additional data and models relating to short-term exposures. Dr. Allen agreed that the report language should be changed to recommend that EPA use event-based exposure (i.e., acute exposure or exposures over a few months) instead of lifetime exposures as appropriate. Different models and different approaches are needed.

Another member emphasized that any meta-analysis of previous spills should involve strategic and careful examination of many contexts where spill events have occurred. Some of the important criteria for understanding context involve social factors including how many people may be at risk and the types of people involved. Such an analysis can help determine where EPA invests research resources. He also noted that the panel response to charge question 3 includes a recommendation that ORD take an “ecosystem services perspective,” but most of the report discussion addresses traditional ecological considerations and does not discuss social criteria or human inputs needed to determine the ecosystem services of most concern. Dr. Allen responded that the draft report has emphasized incorporating behavioral and social sciences and embedding them in as many of research programs as practicable. The report could be revised to reflect discussion of social structures and concerns impacted by the spills in the response to charge question 3.

Yet another member commended the draft report for being “phenomenally clear and well done” and for including discussion of oil spill prevention in the text of the report. She asked that such discussion be also moved “up front” to the letter. She was encouraged by the emphasis on human populations and community and population level effects, involving sensitive populations. Dr.

Allen responded that he will look at the report to see whether the linkage between environmental justice and human populations could be made parallel to complement discussion of ecosystem populations.

The final comment related to technology. One member suggested that the report might include a short paragraph on the importance of improving technology for mitigating impacts and controlling spills. He suggested that the report be revised to add language from page 5 of the Executive Summary to the letter to the Administrator. Dr. Allen agreed and also mentioned that the panel agreed that EPA should develop clear criteria for evaluating advanced technologies, including burning, for disposing of oil spills.

The SAB Chair commented that it will be important for the letter to the Administrator to emphasize that “much work remains” to strengthen oil spill-related research.

After discussion had concluded, Dr. Swackhamer asked for a motion to dispose of the report. Dr. Duncan Patten moved that the panel Chair work with the SAB staff to make changes consistent with written comments and oral discussion during the teleconference and then provide the report to the SAB Chair for approval. Dr. David Dzombak seconded this recommendation. There was no discussion. The move was approved unanimously with the panel chair and four panel members abstaining (Drs. James Mihelcic, Eileen Murphy, Stephen Roberts, and James Sanders). Dr. Swackhamer concluded the teleconference by thanking the panel chair, thanking SAB members for their contributions to the quality review and thanking Mr. Thomas Carpenter, the DFO supporting the panel for the fine report.

The Designated Federal Officer adjourned the meeting at 1:03 p.m.

Respectfully Submitted:

Certified as True:

/s/

/s/

Dr. Angela Nugent
SAB DFO

Dr. Deborah L. Swackhamer
SAB Chair

NOTE AND DISCLAIMER: The minutes of this public meeting reflect diverse ideas and suggestions offered by committee 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 represent final, approved, consensus advice and recommendations offered to the Agency. Such advice and recommendations may be found in the final advisories, commentaries, letters, or reports prepared and transmitted to the EPA Administrator following the public meetings.

Materials Cited

The following meeting materials are available on the SAB Web site,
<http://www.epa.gov/sab>, at the following address:
<http://yosemite.epa.gov/sab/sabproduct.nsf/a84bfee16cc358ad85256ccd006b0b4b/1677b49d0a9109bd852578aa00412a0e!OpenDocument&Date=2011-07-28>

¹ Roster, Chartered SAB Members and Liaisons

² Draft SAB report entitled *Review of EPA's draft Oil Spill Research Strategy* (7/11/2011 Quality Review Draft).

³ Federal Register Notice Announcing the Meeting

⁴ Agenda

⁵ Comments from Jean Public, June 16, 2011.

⁶ Draft Oil Spill Research Strategy (January 12, 2011)

⁷ Compilation of Comments from Chartered SAB Members as of July 28, 2011