U.S. Environmental Protection Agency
Science Advisory Board

Final Minutes of Public Conference Call Meeting June 17, 2004

Committee: Contaminated Sites and RCRA Multi-Year Plan Advisory Panel of the U.S. Environmental Protection Agency's Science Advisory Board (SAB). (See attached Roster)

Date and Time: June 17, 2004 from 2-5 Eastern Time (See attached Federal Register Notice)

Location: By telephone only. Call was run from Science Advisory Board, Cubicle 3610E, 1025 F Street Northwest, Washington D.C.

Purpose: The purpose of the conference call was to provide briefings relating to the two Multi-Year Plans that will help orient the Panel to the material.

Materials Available: Key materials were distributed before the June 10 teleconference. These included the roster, biosketches, Federal Register Notice, charge, the *ORD Multi-Year Planning Guidance Update*, ORD's *Contaminated Sites Multi-Year Research Plan FY2003 Edition*, and ORD's *Resource Conservation and Recovery Act (RCRA) Multi-Year Research Plan:Fiscal Years 2003 to 2010*, May 2004. The following additional materials were distributed before the July 17 conference call: the agenda, draft minutes of the June 10 teleconference, and overheads to be used in presentations on today's call.

Attendees: Kathleen White of the STAB Staff Office was present for the call. John Crittenden, Barry Dellinger, David Dzombak, Byung Kim, Reid Lifset, Michael McFarland, Susan Powers, Bryan Shaw and John Smith of the Panel were present. In addition to Patricia Erickson, who is identified on the agenda, the following EPA staff were present and identified themselves: Bob Olexsey, Candida West, Steve Schmelling, Bob Puls, Fran Kremer, Harold Ball, David Carson, Bob Dyer, Lynn Papa, Jan Young, Brian Schumacher, Tom Holdsworth, Peri Richardson, Dermont Bouchard, Leah Evison, and Mitch Lassat. No one from the general public identified themselves.

Actions/Decisions

The Panel would welcome additional information on the following topics (likely opportunities are identified):

1. RCRA MYP Long Term Goals (June 24)
2. Leveraging opportunities with federal agencies, states and others as part of a presentation on EPA's role with respect to other federal agencies
3. Possibly more on the PART process and its impact on science activity decision-making (face-to-face)
4. The issue of establishing meaningful quantitative performance measures and is willing to provide additional relevant briefings. (face-to-face)
5. How ORD used science to get from the program needs to the multi-year plan so that the Panel can understand what lead them to this allocation of resources. (face-to-face)
6. Relation of work to the Quality System (June 24)

7. Information about budget trends over time for the CS and RCRA programs.

In response to a request from Lifset, Olexsey will provide the current multi-year plan for pollution prevention.

Panelists have been assigned to teams addressing each charge question. The teams will produce a draft response and provide it to Kathleen White, DFO no later than 9 a.m. Eastern on Tuesday July 6.

The DFO should be copied on any correspondence, including emails, between panelists in developing the draft responses to the charge questions as these materials will become part of the record. She will assist writing teams in setting up conference calls if so desired.

Summary

The meeting went largely according to the agenda (attached) with some slight differences in times. The Panel meets again by conference call on June 24.

The following provides more detail.

At 2:00, SAB DFO Kathleen White opened the meeting. She called the roll of the Panel, expected Agency staff, and the public. She then quickly reviewed items, 1,2,3,4, 7, and 10 of the following points which had been made on the June 10 teleconference and are found in those minutes as well as these:

1. Welcome to the conference call, which is the second in a series of face-to-face and conference call meetings at which a specially formed panel of the EPA Science Advisory Board will review the Contaminated Sites and RCRA Multi-Year Plans. The first conference call was June 10. There will be an additional conference call June 24, a face-to-face meeting July 7-9, and, If necessary, another conference call will be held August 5 to wrap up the Panel's report.

2. After the Panel approves its report, it will be forwarded to a Quality Review Committee (QRC) of the Board which will consider it at a public conference call. The QRC may recommend it for approval, recommend it for approval with minor changes, or return it for further work. Once the QRC has recommended approval, the report will be considered by the Board. The Board, in turn, may approve the report, approve it pending certain minor changes, or return it to the Panel. Once approved by the Board, the report will be transmitted to the Administrator and the Agency will respond to it in writing.

3. The activities of the Science Advisory Board are governed by the Federal Advisory Committee Act, other government regulations (such as those on conflict of interest) and SAB policies.

4. In accordance with *Reorganization of the EPA Science Advisory Board (SAB), A Report of the EPA Science Advisory Board Staff Office* (EPA-SAB-04-001) and *Implementation Plan for the New Structural Organization of the EPA Science Advisory Board (SAB), A Report of the EPA Science*

Advisory Board Staff Office (EPA-SAB-04-002) – especially section 5.2 item (b) of the latter, this panel was formed from a standing committee of the Board – the Environmental Engineering Committee, supplemented with additional experts from other SAB committees and other EPA FACA Committees. The additional experts are Dr. Thompson from the SAB's Ecological Processes and Effects Committee and Dr. Clark from the Board of Scientific Counselors. As stated in the Federal Register notice, the roster and biosketches were published at SAB's website and an opportunity was provided for comment. None was received.

5. The SAB website (www.epa.gov/sab) contains materials about panel formation and about this advisory.

6. All participants in SAB reviews complete confidential financial disclosure statements which are updated for each specific review and reviewed for each specific review by the SAB's Ethics and FACA Policy Officer. All panelists have completed a course on government ethics prepared especially for Special Government Employees, like themselves. All required paperwork is current, signed, and in place for this panel. We'll go over this in more detail at the face-to-face meeting where the Panel will be offering advice and when our ethics officer can be present.

7. All materials available to the Panel will be available to the public. Individuals wishing to be on the DFO's distribution list for materials relating to this review should send an email to that effect to the DFO (white.kathleen@epa.gov) who will add them to her list.

8. Public comment is accepted at SAB meetings. Written public comments are encouraged, but opportunities for brief oral comments may also be scheduled in advance. No one from the public has requested time to comment on this conference call.

9. All consensus drafts, and possibly earlier drafts, will be available to the agency and the public.

10. Because this is a conference call, people should use the mute button unless they are speaking and identify themselves before they do speak. Also, please do NOT put this call on hold – the entire Panel is likely to be treated to mood music while you have a side conversation. Participants can drop off and rejoin as needed.

At 2:10 chair Michael McFarland revised the first conference call, changes between the original agenda for today's meeting and the current agenda, and the purpose of this meeting. The chief change is the postponement of briefings on the RCRA MYP to the June 24 conference call.

At 2:15 Patricia Erickson, Acting Assistant Director for Land at the National Risk Management Research Laboratory began her briefings by reminding those present of her overheads which were emailed earlier today. She cautioned that the presentations are not entirely parallel. Her overheads (available at SAB website and in the FACA File) will capture her remarks more completely and accurately than these summary remarks. With two exceptions noted below, everything she presented relates specifically to the Superfund program.

Each long-term goal contains several themes. Annual Performance Goals (APGs) are clusters of research under various themes. For example, within long-term goal #1, hybrid modeling approaches using empirical field data and bioaccumulation models to extrapolate BAFs and BSAFs for PBTs across ecosystems, species and time is one of two APGs in the modeling theme. In providing brief rationales for the APGs and sometimes for the projects within them, Erickson often cited publications of expert panels. Appendix A of the MYP goes into the themes, APGs and annual performance measures (APMs) or projects in detail. Long-term goals try to address, "what, by when, for whom".

Referencing the slides for **Long-Term Goal #1 on Contaminated Sediments**, beginning on page 3, she said this basically was, "should we dredge, cap, leave it alone, or …?" Themes within this goal are modeling, monitoring/communication, exposure, and risk management. She discussed the time line for developing the program in this area, the use of focus groups (not the marketing kind), and the gradual switch from a soils emphasis to a sediment Although most of the Superfund Innovative Technology Evaluation program (SITE) is in Long-Term Goal 4, some appears here as internal leveraging.

At 2:40 there was an opportunity to ask questions on contaminated sediments. Dzombak spoke about opportunities for interaction with Hazardous Substance Research Centers (HSRCs) and others and asked how closely EPA works with the National Institute of Environmental Health Sciences (NIEHS). Erickson responded that she did not have specifics; EPA plans to delve more into collaborations at the next conference call, at the face-to-face meeting, or in a document. Briefly, over the last year or so EPA has been holding a series of conference calls with NIEHS. Larry Reed, formerly of the Superfund Program, is now at NIEHS and is working with both agencies to educate each about the other. EPA and NIEHS have identified six project which look like there might be synergy. At this time she doesn't remember if any of them are sediments related. She does recall one project which is sediment applicable; it deals with mercury speciation.

Similarly, EPA has had a series of meetings with the Corps of Engineers, other stakeholders and researchers about what's on whose agenda, which things could happen together and also some broader federal research planning meetings, like one Steve Ells is planning for September or thereabouts. NRMRL's Fran Kremer observed that NIEHS tends to be more basic whereas EPA is more applied. NRMRL's Dermont Bouchard said that NIEHS is interested in EPA's tech transfer capabilities. ADA's Robert Puls referenced a NIEHS/EPA meeting in California. Harold Ball of Region 9 said a lot of attempts are being made to bridge the gap. Superfund feeds back more directly to EPA/ORD than to NIEHS which is more independent in their identification of research needs and strategies.

When Susan Powers looked at the projects in Appendix A of the MYP, she found them very disparate. She asked if ORD tried to build a plan from what it had. Erickson said she certainly hoped things fit by the time they got to the APG level. She made these comments.

1. When you see the column that identifies the organization, if you see NCER it comes out of a HSRC or a grant. These are not planned in the same way as ORD plans its research because grants cannot be directed. However, they should not be excluded. Phytoremediation, for example, might not be a perfect fit, but it still belongs here.

2. In other LTGs, projects are grouped not just chronologically, but by sub-subject. Perhaps that approach tells the story a little better. The long-term goal on soil is an example

Dermont Bouchard added that sometimes things that look different are related because they are being done at the same site.

McFarland asked about the extent to which the Contaminated Sediments Science Plan was used to develop the work in long-term goal #1. Erickson responded that the two documents were developed in tandem. There was overlapping membership between the development teams. Also, a predecessor to this CS MYP was developed before the Science Plan that informed the development of the Science Plan. McFarland noted that the SAB's review of the science plan emphasized opportunities for leveraging. He thinks a presentation on EPA's role with respect to other federal agencies will be important in the course of this review.

John Smith said that removal, which is viewed as permanence, is an issue with sediments versus in place containment. He asked how the Contaminated Sites Multi-Year Plan addressed that tension. Erickson responded that EPA is trying to address that within each of the themes. Certainly getting performance data on non-dredging remedies should make people more secure in knowing how they will perform. The combination of modeling and measurement leads to improvements in modeling and better understanding. The program focuses on understanding the risks now and in the future as well as the options so that people in the area can make informed decisions.

At 3:00, Erickson began presenting **Long-Term Goal 2: Ground Water**, starting with the second slide. The four themes for this long-term goal are DNAPLs, inorganic contaminants, fuel & fuel oxygenates, and complex hydrogeology and under-evaluated transport paths. Slide two shows how the work fits together over time to meet the goal. Sampling/characterization and remediation.

The Leaking Underground Storage Tank Program, rather than Superfund, is supported by the work on Fuel and Fuel oxygenates described on slides 13 and 14.

There was time for questions at 3:20. Dzombak didn't see anything on improved delivery systems for in situ treatment and asked if. Mitch Lassat of NCER responded that there are some research projects involving soil additives that do just that. However, this work is funded under HSRC and is not part of ORD's intramural research program.

Susan Powers is interested in the quantitative changes, "ORD will provide documented performance and cost information for at least 8 alternatives to pump and treat remedies and at least 6 tools for characterization and assessment," in this long-term goal and asked how ORD had generated the numbers 8 and 6. Erickson said ORD thought those numbers were achievable with the resources they had to bring to bear on the problem and recognizing that some things won't pan out.

Dzombak asked about plume management as an alternative to pump and treat. Erickson said the emphasis is on substantially reducing the source. For DNAPLES, for example it is source reducting, for something else it is partly management and partly source control. They idea is to avoid the long-term expense of pump and treat. Fran Kremer said that in prior years pump and treat was considered *ex situ*, now we are looking at PRBs, MNA and other management approaches that

John Smith asked what the driver was for looking at inorganics. In the past

organics and chlorinated solvents have dominated. In his experience, inorganics haven't been a major groundwater concern at Superfund sites. Bob Puls responded that the research supports work done for DOE sites, mining sites, and sites with arsenic.

At 3:25 Erickson began presenting **Long Term Goal 3: Soil/Land,** which is organized like long-term goal 2. This gets at the Agency's goal of reusing formerly contaminated sites. The themes in this goal are sampling & analytical methods, dermal absorption, containment, land remediation/reutilization, SITE, and NCER grants. Containment is an issue in both the Contaminated Sites and RCRA MYPs. Reearch on liners, for example, will be found in the RCRA MYP.

At 3:40 Dave Dzombak observed he didn't hear anything in the briefing about soil restoration. Many of the projects he's been involved with have treated soils contamianted with industrial wastes so it can be re-vegetated and the site treated using phytoremediation approaches or put to different uses. He finds it is very comment. Erickson responsded that there is some grant work, some phytoremediation within NRMRL, and some work on hypoaccumulators. Some of this has been done in cooperation with USDA. There is some work on mining sites where not just re-vegetating but controlling the contamination is an issue. She doesn't think there is enough work of this type to be pulled out as a theme. Dzombak compared the importance of this with sampling and analysis, which he thinks is of lesser importance. He asked what the customer focus was for sampling and anlaysis. Dermont Boucher responded that ORD sites down with OSWER to decide what projects should be invested in and to what degree. The sampling and analysis portion if very client driven.

McFarland followed up on the sampling and analysis theme, asking to what degree ORD coordinates with the Office of Environmental Information and makes use of the Agency's Quality System and data quality objective processes to make sure EPA is not over or under sampling. Erickson responded that the sampling work is driven by the idea of getting the necessary and sufficient information. It includes a lot of statistical support work so you know what you know about the site. All the work ORD does is done under the Quality System down to the project level. Dermont Bouchard said that, when they went to the media based approach to the long term goals, the statistical work got split up; more of it will be seen in LTG #4: Multi-Media. There is a general effort across ORD including OSWER and Homeland Security that are interested in enhancing EPA's capabilities in monitoring and methods. At one time EPA had a monitoring laboratory and there is some thought, now that EPA doesn't have one, that we might be missing something. The work in this LTG is specific to Superfund.
McFarland remembered when the Quality System was buried inside ORD and then moved to OEI. The SAB is clear that, in policy, all data collection for or on behalf of EPA has to follow the Quality System. However, in practice, that is not always done. But it is important. He will probe this more at the face-to-face.

Dave Dzombak observed that there was only one project under remediation for soil and land listed in Appendix A-3 plus some NCER grants. Mitch Lassat said that one of these is fairly substantial.

At 3:50 Erickson briefed the Panel on **Long-Term Goal 4: Multi-Media**. The themes are: Exposure Assessment, Toxicity Assessment, Technical Support, and SITE under Superfund, plus Oil Spills. She observed that it is hard to draw a critical path for either tech support or SITE. A portion of the current MYP, that dealing with human health risk assessment, will be withdrawn from this plan and reviewed by SAB or BOSC as part of a larger plan on human health risk assessment. Although slide ten implies that the program will provide tech support for more than 100 sites by FY08, actually

ORD provides tech support on about that many sites every year. The Oils Spills program is less than a million dollars, but it is an interesting, quick moving, focused program, tied closely to regulations. The Oil Spills program has a product schedule which determines which products can be applied. It is a very focused program and there is not a lot of room for activities that don't contribute directly to the product schedule. Some of this work is done in collaboration with the Canadian government.

At 4:00 Susan Powers asked about the quantitative goals, "ten tools to estimate exposure." She thinks it is important to better define the exposure context – kids exposure to lead, for example. Dermont Bouchard responded that the work is evolving. They are trying to move some of the projects into better integration with the programs so that work on VOCs doesn't stand by itself, but supports vapor intrusion work, for example. There is a relationship between the exposure and analytical tools and the work in the rest of the plan. Occassionally there is a specific urgent need for a method, but generally, the methods development relate to the rest of the MYP.

Byung Kim asked what the reason was behind identifying a number, such as 40, 10 or five. Erickson responded that the guidance asked for numbers. Previous guidances had used phrases like "improve the ability to". This doesn't work very well when you talk to OMB about what the target was and whether or not you met it. Dermont Bouchard said this was an initial response to be more quantitative. They are encouraged to come up with performance metrics with meaningful metrics to be used by those who judge their programs. It would be desirable to have outcome, rather than output based. Kim says you can count things in many different ways so it is hard to understand the meaning of the numbers. Erickson said their outcome would be the use of their methods in the field, but the timeline for that is long, so they need some sort of interim measures that people understand.

McFarland observed that, in the EPA Strategic Plan, the strategic targets under Goal Three are also quantitative, so the push goes beyond ORD.

John Smith brought up the possibility of <u>deployment</u> as an indicator of fuller acceptance by customers. Coming up with good goals isn't easy. Dermont Bouchard welcomed the discussion of performance metrics. Erickson said they've been trying to come up with metrics, including tracking how things move from research to implementation. She has a slide for permeable reactive barriers where they moved very quickly to pilot scale and application. She would like to run some of these by the Panel for both retrospective and prospective use. Fran Kremer observed that it is one thing to evaluate effectiveness retrospectively and another to develop measures for future work. The multi-year plan has to look forward.

At 4:20, after the chair determined that no one from the public (and no participant had identified themselves as a member of the public) wished to provide comment, McFarland asked Erickson to address **Estimated Resources for Long-Term Goals** using the visual she had provided. (Please see her handout.) Administrative support is not included. Extramural dollars are spent at the laboratories to support the technical FTEs in accomplishing their work. For example, a contractor might provide some analytical support in the lab. Extramural

Susan Powers asked for some historical perspective, but recognized that, as the goals get reorganized, this can be difficult. She would find even the total helpful in seeing how this differs from prior years.

John Smith said that, in his experience, budgets are set, but it is hard to judge

the level of effort and deliverables against the FTEs. He asked ORD if they felt they were trying to get too much out of the budget. He would rather know the value added to models from reports than the number of reports issued. Leah Evison of Superfund said this is an important question, which Superfund and the Regions will address this year. In the past they gave ORD a long laundry list of wants without much prioritization. As resources get tighter, priorities get more important.

Dave Dzombak sees $18 million as a very modest program for the needs of contaminated sites. For comparison NIEHS has $50 million per year to look at toxicity; someone else said $200 million. DOD's research dwarfs EPAs. Erickson thinks this will be a welcome and interesting discussion. McFarland thinks it is appropriate for the Panel to address allocation within the budget.

John Smith asked whether priority setting might best be discussed at the face-to-face meeting – perhaps panelists could each identify their top ten. McFarland's own personal recommendation is to look at ORD's process to define and select priorities rather than set priorities for them. Now, if EPA proposes to do much more than the budget can support, then priorities become more important. While the Panel has a lot of experience, expertise and skill sets, it is still a much smaller group than would be appropriate to set priorities. He would rather consider whether to process of setting priorities is scientifically defensible.

Erickson reminded folks of Kim's question last week about whether they should focus on process or content. ORD would welcome the Panel's thoughts on content; they feel the process has already been addressed. After some further discussion, it seemed McFarland was talking content.

Smith spoke about the value of knowing what the key burning issues are within the long-term goals and what the customer base is. McFarland thinks that the burning issues probably include high levels of risk and/or uncertainty. ORD would be pleased to show how they used science to get from the program needs to the multi-year plan. Leah Evision would not be comfortable discussing this as they are just starting a new effort.

Dzombak said Erickson did a fine job, which was echoed by the Panel.

At 4:40 McFarland turned the Panel's attention to writing assignments. The proposed writing assignments are a structure that will allow them to move forward. All panelists are welcome to comment on any and all charge questions. However, assignments have been made to be sure that there is good coverage for each charge question. A couple of changes have been made in response to comments from the panelists. Hughes will lead preparation of a response to charge question 2c and also participate in the response to 1a while Reid Lifset will work with the chair and DFO to integrate the contributions into a coherent draft. McFarland reviewed the assignments by charge (See Table on following page).

He expects the leads to integrate information from the contributes into a single contribution to be sent to the entire Panel for review and comment. Length and quality of contributions varies. The onus falls on the lead to develop a response – not yet consensus – that can be reviewed and evaluated by the entire panel.

The panel can comment on issues beyond the charge and minority opinions can be incorporated if consensus cannot be reached.

Assignments of Panelists to Charge Questions											
Charge Question ->	**1**						**2**			**3**	
Person	a	b	c	d	e		a	b	c	a	b
Clark								x		L	
Crittenden		L			x				x		
Dellinger				x				x			
Dzombak			L		x						x
Eighmy			x				L				
Hughes	x								L		
Kim 5/28	x				L					x	
Koshland			x							x	
Lifset	-								-		
McFarland											
Powers		x		L							
Rood		x									x
Shaw							x				L
Smith	L								x		
Thompson				x			x	L			

Dzombak spoke of the practicalities of pulling the report together. The final report will address each charge question is order. This can be supplemented with additional material, but must explicitly address each charge question. In the past it has worked well for the lead to collect some thoughts from the collaborators, draft something, circulate it within the team and edit as needed before forwarding to the Panel.

McFarland knows that people can be reluctant to circulate their early drafts, but it is helpful and he advises that the original comments be forwarded as well as the integrated draft.

Byung Kim thought it likely that each subgroup might have conference calls and circulate emails. The DFO would like to be cc'd on panel related correspondence. Lifset asked whether the lead should contact the co-leads or the co-leads the leads. McFarland reflected that, in his experience, an email from the lead to the collaborators asking for input on a workable schedule helps. Sometimes it can all be done by email. Sometimes a conference call is needed. Sometimes it helps to have one first.

Susan Powers finds there is value in working from the big picture down. She would like some discussion by charge question first, before getting into the details. Dzombak thinks there will be time to get to the big issues after the smaller questions are addressed; the proposed approach to developing the report ensures that the sub-issues will be addressed.

Powers is not sure about the timing. The DFO would like the materials July 6 at 9 a.m. Eastern so she can integrate them into a single document before the EEC meeting on the 6th that begins at 1:00 p.m.

At 5:10, McFarland identified additional issues he would like addressed:

1. RCRA MYP Long Term Goals (June 24)
2. Leveraging opportunities with federal agencies, states and others
3. Possibly more on the PART process and its impact on science activity decision-making (face-to-face)
4. The issue of establishing meaningful quantitative performance measures and is willing to provide additional relevant briefings.
5. How ORD used science to get from the program needs to the multi-year plan so that the Panel can understand what lead them to this allocation of resources. (face-to-face)
6. Relation of work to the Quality System (June 24)

Powers wants to understand the implications of the PART process, but won't be available on the June 24 call. She doesn't understand it well enough from the website. Erickson said Dale Paul is scheduled to do this at the face-to-face meeting and offered to provide the panel with a power point presentation

Lifset would like the draft multi-year plan for pollution prevention. Olexsey says this is in a great state of flux. They would be willing to send the current version.

McFarland thanked the Agency and the Panel. The meeting adjourned at 5:20

Respectfully Submitted: Certified as True:

_____/S/_____ _____/S/_____
Ms. Kathleen White Dr. Michael J. McFarland, Chair
Designated Federal Official CS & RCRA MYP Advisory Panel
Environmental Engineering Committee

Attachments (paper)
1. Federal Register Notice
2. Agenda for the meeting
3. Committee roster
4. Charge
5. email approving minutes with minor edits to be added