

Environmental  
Restoration  
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# **ERC Team**

## **Meeting Minutes**

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**SUBJECT** GW/VZ INTEGRATION OPEN PROJECT MEETING - APRIL 17, 2000

**TO** Distribution

**FROM** Michael J. Graham, Groundwater/Vadose Zone Integration Project Manager

**DATE** April 28, 2000

**ATTENDEES**

See Attached List

**DISTRIBUTION**

Attendees  
GW/VZ Distribution List  
Document and Information Services H0-09

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**NEXT GW/VZ INTEGRATION PROJECT OPEN MEETING:**

Next Meeting: Monday, May 1, 2000 – 1-3 p.m.  
Location: Bechtel Hanford, Inc., Assembly Room (Badging Required)  
Local Call-In Number: (509) 376-7411  
Toll Free Call-In Number: (800) 664-0771

**MEETING MINUTES:**

A Groundwater/Vadose Zone (GW/VZ) Integration Project Open Meeting was held on April 17, 2000 in Richland, Washington, at the Bechtel Hanford, Inc. (BHI) Assembly Room.

**PROJECT REPORT:**

**INTEGRATED PROJECT SCHEDULE AND MILESTONES (Michael Graham):**

There is one thing of note on the schedule. Under the System Assessment Capability (SAC) heading, it shows that determining the design requirements for Rev. 1 of the SAC has been moved out. It should be noted that this schedule is not an official record. The concept is to move the definition of the Rev. 1 requirements out in order to benefit from lessons learned from Rev. 0. It also gives us the chance to collect more field data and to resolve technical issues. When we get into the Detailed Work Plan (DWP) process you'll see what these new ideas are. Rev. 1 would get pushed out to the 2003-2004 timeframe. The initial plan was to produce a series of revisions on the SAC, but we think this is a smarter way to go.

**TRITIUM/618-11 BURIAL GROUND UPDATE (Mike Thompson):**

The Department of Energy Richland Operations Office (DOE-RL) has received from the contractors a draft plan for a DOE led voluntary corrective action for the 618-11 Burial Ground titled "Phase II Characterization Plan for Plume Investigation Near the 618-11 Burial Ground." A Data Quality Objective (DQO) process was completed to support that plan. Copies of the plan have been given to the U.S. Environmental Protection Agency (EPA), the Washington State Department of Ecology (Ecology), the City of Richland, Benton County, the State of Oregon, the Washington State Department of Health (WDOH), and we will provide copies to anyone else who wants it. We'll be looking for comments over the next

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couple of weeks (Note: comment period ends May 8). Bechtel Hanford, Inc. (BHI) will prepare a Baseline Change Proposal (BCP) to get the work started, and hopefully we'll be ready to go in a month or so.

The Phase II plan contains six tasks. The first three are the ones we'd like to get the BCP for, because the other three are dependent on the results of the first three. We'll go back and resample around the burial ground using vertical profiling to see the vertical distribution of tritium and other contaminants. We'll do a soil gas analysis around the border of the burial ground to determine the source. We'll also do some pushes into the ground to do soil gas and other analyses. By the way, this work is currently unfunded, but we're working on finding the money. As proposed, the work would cost approximately a quarter million dollars.

NATIONAL ACADEMY OF SCIENCES REVIEW (Mark Freshley):

The committee from the National Academy of Sciences (NAS) met last week. Many of you were present. This was the first meeting for this committee. This meeting was a high level overview of Hanford and the Integration Project. The idea was to give the entire committee an orientation to make sure they're all on the same page. We had a debriefing with Kevin Crowley the day following the meeting. He works for the NAS and is the director of the study. His feedback was that he felt that thing went very well and that the meeting accomplished what he had hoped.

The NAS will conduct an 18-month study. In the meeting closeout, the committee scheduled the remaining meetings. Three of the committee members were unable to attend that part of the meeting, so the dates agreed upon are tentative until they can be verified with those individuals. The dates are June 20-22, September 6-7, and November 1-3 this year, and January 18-19 and March 28-30 in 2001. The September and November meetings conflict with scheduled Hanford Advisory Board (HAB) meetings, but the committee had the calendar in front of them and determined that a conflict was unavoidable due to the schedules of the committee members. Kevin indicated that there is a strong possibility that the committee will not need all those meetings. The last two meetings would be closed sessions where the committee would gather to write their report.

This group doesn't give a closeout report after every meeting like the Integration Project Expert Panel (IPEP) does. They will continue gathering information through the next few meetings, and then write their final report. There won't be anything following individual meetings.

The next meeting will include a tour of the Hanford Site. They want to spend a half-day talking about the Science and Technology (S&T) Plan and what it contains. They want another half-day to break into subgroups to look at inventory, vadose zone, and groundwater, and several of the members want to spend time with the SAC team to understand that, primarily how the S&T plan and SAC feed and help each other. At the end of the meeting, they would like another half-day for a closed session where they could work among themselves. This meeting is tentatively set for June 20-22 in Richland (Note: dates have changed to June 28-30). They'll decide in that meeting what they would like to focus on in the September meeting.

There is a link available to the committee's website from the Integration Project website (<http://www.bhi-erc.com/vadose>) in the Peer Review section of the site. That's where the committee will post agendas, membership, meeting summaries, and things like that.

Those tentative dates will be confirmed this week. (Note: The dates for the upcoming meetings will be June 28-30 and September 6-7.)

**QUESTION:** Are they going to provide some kind of report of this meeting?

**ANSWER:** No. They'll only provide something at the end of the study.

**COMMENT:** Those meetings should be put on the Integration Project webpage.

**RESPONSE:** We'll provide a link to the committee website and put those dates on our calendar.

**QUESTION:** My (Martin Bensky) main interest is the relationship between the IPEP and this NAS committee. This seems to be a stronger panel than the IPEP in the areas of risk assessment and modeling due to the areas of expertise listed for the NAS committee. Another thing mentioned is that the NAS panel will focus on S&T, but I can't see how you can focus on S&T without understanding the full Hanford cleanup mission. As a result, there would obviously be some overlap of the two panels. Have you thought about how you will get the two panels to work together and compliment one another, rather than get in each other's way?

**ANSWER:** The two groups have committed to interface and make sure that they are aware of the other's work and recommendations. The IPEP chairman, Dr. Ed Berkey, made a presentation to the NAS committee during the meeting. The NAS requested to see all of the IPEP Closeout Reports, and they have also read the report from the Washington Advisory Group (WAG) review. They need to keep all of that in mind. As to your point that the NAS needs to understand the full picture in order to review the S&T, that's part of the reason why they want a half-day session with the SAC team at the next meeting.

**COMMENT:** There will likely be more overlap than the IPEP believes there will be, but it should be a manageable overlap. My point is that the pathway to relevance is really through the SAC, and the IPEP gets the SAC under their management subpanel. They'll look at how it will be used and its place in the decision process. I have to agree that the NAS panel is very strong. They'll help with the more technical aspects of the SAC and how S&T will feed into the future revisions of the SAC. The NAS panel has strong systems and assessment people. They'll only exist for 18 months, and we plan to get a lot out of them in that timeframe.

**COMMENT:** I (Martin Bensky) was discouraged at the last IPEP meeting when there was a long discussion about tank borehole wall temperatures. It sounded like they thought they were the old SX Expert Panel. I was encouraged by the fact that the NAS seemed to want to look at the big picture without getting bogged down in the nitty-gritty.

**COMMENT:** The IPEP seemed to brush off the idea of less conservative risk parameters, but that's something I (Gordon Rogers) will continue to encourage both panels to look at. I intend to keep after that subject.

**RESPONSE:** That's why the meetings are open, so that stakeholders and others can express their views. We encourage you to attend the meetings if possible to be able to express your views in person and hear the concerns of others as well, but if you would like, you may e-mail them. They have a link to provide feedback on their webpage. I imagine that written comments are welcome as well.

COMMENT: It's probably the most effective use of time to give them written comments.

QUESTION: The NAS panel is not funded from Hanford. Is that correct?

ANSWER: Yes. It's a group of volunteers from the NAS whose travel is paid for by DOE-Headquarters (HQ).

COMMENT: What the NAS saw in the two days of presentations was a broad picture, but there wasn't much discussion on the data gaps and S&T needs. This group is better suited to look at S&T rather than whole-site models. I know that there are experts among the panel, but if we channel their efforts to S&T, it would be a better use of their talents than of spreading them around.

COMMENT: You can't look at S&T without understanding the entire system. A good friend of mine recently pointed out that not enough is known about rat feces at the site. You need to look at the whole system. If the S&T is lacking in data about where the feces is, you can't really decide if it is important to the whole system to look at that pathway. S&T can't simply look and decide what the gaps are. It requires the overall picture.

COMMENT: If you look at the whole exercise, the National Laboratories have already defined the S&T Plan. They went through the basic needs and other things, and we shouldn't be asking this NAS group to look at all that. The National Laboratories came in and identified the data gaps, and that is where this NAS group should be focusing, but that didn't happen at this past meeting. Many of the things about the SAC that were covered should be under the umbrella of the IPEP. That's been going through the details for two and a half years, and it could all probably be summarized in one or two hours. This group shouldn't be looking at the SAC. The National Laboratories looked at the SAC interfaces too, and came up with their recommendations. When you talk about getting the committee all on the same page, this is the page they should be on instead of looking at the whole site.

RESPONSE: This meeting was good from the standpoint of what the NAS wanted to have covered as a first step. Keep in mind that the Integration Project is not setting the agenda. The NAS sets the agenda. They made it very clear what they wanted to do in this first meeting. They didn't want to get into the details just yet. They wanted to make sure that they were all up to speed in Hanford 101. In the next meeting we'll see more of the gaps and the "whys and wheres." That's where this panel will be focusing. Their intention in looking at the SAC is to understand the gaps associated with that. They're aware that there will be some overlap with the IPEP. We'll help manage that overlap, but you need to recognize that NAS sets its own agenda.

QUESTION: Will the NAS go over the materials from the National Labs?

ANSWER: They'll be reviewing what the National Labs developed and determine whether it is adequate.

COMMENT: These are 15 really smart people, they're all volunteers, and they all have a passion for what they're doing. They are not going to waste time going back and reworking the some old stuff. They'll blast straight through and gives us their impressions. This is a diverse, high-powered group we have on our hands. It should be an interesting process at the very least. You have to keep in mind that this is a short study. They have 18 months from beginning to a final report, and we're already two months in.

QUESTION: How many months are they planning on collecting information before secluding themselves and writing the report.

ANSWER: Early feedback is that they may start writing the report as early as November. There are a lot of documents for them to go through. It helps that some of the committee members do know Hanford pretty well. The others in the group will benefit from that. This is a really good group of people.

COMMENT: It's kind of nice for a change to have a group come in, do their job, and then walk away when they're finished.

QUESTION: Will their report be produced in a format that you can use?

ANSWER: I had a chance to see a report from a recent study. It's a nice, glossy, professionally done peer review report.

QUESTION: There are a fair number of risk assessment experts on the panel, and that's a good thing. How are they going to tackle some of the more nebulous factors here? Risk assessment would mean cancer normally, but risk here means what? Is it impacts to a person or to a salmon liver? Beyond that there are undefined social and cultural impacts. There are a lot of generic terms on the table. How are you going to communicate these non-standard ideas to them?

ANSWER: Some of those issues are documented in the SAC Rev. 0 Design Report.

COMMENT: There has been some work done with the risk elements by the National Labs and the Center for Risk Excellence. It will be in the next revision of the S&T Roadmap.

IPEP CLOSEOUT REPORT FROM JANUARY MEETING AVAILABLE (Virginia Rohay):

The IPEP January Closeout Report is available. It has been posted on the Integration Project website in the Peer Review section under the January 2000 IPEP meeting.

QUESTION: Are there any super interesting items in the report?

ANSWER: I (Michael Graham) haven't really digested it yet. I had a chance to read through it quickly on Thursday night after the NAS meeting, but I didn't look at it over the weekend. I'm going to get together with Mike Thompson and others and determine if there is anything that requires a response.

COMMENT: In flipping the pages, the issues of Kd (distribution coefficient) caught my (Martin Bensky) eye. I thought the IPEP left the last meeting considering the idea of whether reactive chemicals should be in the model or not. I thought the early returns were a resounding "No." It seems in the report that they moved right into saying you don't have the capability. It seems that in a very short time between the last meeting and the time of this report they've made an extremely difficult decision that should have undergone more consideration. There are some very difficult issues here, but they appear to have made up their minds. Of course, I am only on page three of the executive summary at this point.

RESPONSE: They go into more detail on that inside the report.

COMMENT: We haven't had time yet to sit down and digest the content of the report as a group yet. We just wanted to make sure that everyone was aware that it is available.

ECOLOGY COMMENTS (Dib Goswami):

Ecology staff attended the NAS meeting last week, and we wanted to say that we appreciated the opportunity to address the panel.

COMMENT: It was good that you could attend on such short notice.

When the IPEP comes in May, we want to give a similar presentation to them, and this time we would like time set aside on both days to be able to respond to issues. At the last IPEP meeting we were given time to present, but there was not a chance to voice opinions at the end of the day in response to other presentations given. I'd think five to ten minutes would be great. We gave our remarks, then some others gave theirs, and then there were several presentations by your guys, but we were not given a chance to respond to anything that followed us. Five to ten minutes to respond to burning issues would work great.

However, the main thing that I wanted to do today was give some Ecology comments concerning the IPEP Closeout Report from the January meeting.

When we gave our presentation at the meeting, we were happy for the opportunity to present, but we were a little uncomfortable about how the session concluded. It was basically a stock "thank you to Ecology for your comments."

However, when we went through the details of this report, we were very pleased. It includes almost everything from our comments. It was very encouraging to see. We were especially happy to see our comments recognizing the critical path to composite impact is not through the SAC, but rather through characterization. It's a real paradigm shift from DOE's perspective going from ignoring characterization and focusing more on modeling and science based solutions. If you go to the report you'll see that.

Going back to the Kd comment. The Groundwater Peer Review Panel spent two years on the whole thing. EPA and Ecology were involved in that. The Kd discussion at the IPEP meeting was something that EPA brought up. It was a pretty long discussion for that kind of thing. Some of the comments were on groundwater modeling. This was not a subject picked up at this IPEP but rather from one of their subpanels.

The scope of expertise on those panels was limited, and I think that having 2-3 people feeding back to the full panel is not the best setup. The subpanel did not have enough time to go through transport modeling, but this other panel did have the time. My presentation on reactive chemical transport is a big issue in groundwater, and probably the vadose zone.

My concern is where the thinking is. Are they thinking womb to tomb? Do the issues include reactivity and the more cumbersome problems, or are things like that done on the side to maybe be used as input to a mega-model of some kind?

What has to be put into such a mega-model to allow for chemical reactivity? Is it part of a Monte Carlo model? Would it be run a hundred or a thousand times? There may not be enough time in any of our lives to do that.

COMMENT: The SAC is using inputs from a more basic level.

COMMENT: I'd ask you to go to the comments in the report. Not on SAC, but the comments on the tank related issues and those models. It is applicable and captured very nicely.

COMMENT: There are a couple of things that DOE has to do before the IPEP comes again. There has been talk about minimum credible characterization scope of work. That's something that needs to be discussed more before the IPEP comes so we can offer our opinions.

COMMENT: We also mentioned our big concern of how inventory is being handled. The current plan is to do a mass balance inventory, which worries us. From looking at the report, it's good to know that not only is it an Ecology concern, but the IPEP also is not comfortable with a mass balance inventory.

COMMENT: We've (Ecology) gone through the report in detail, and we're really happy with how they captured the big issues within such a short time.

QUESTION: Does the report include anything in the dose response area?

ANSWER: Yes.

COMMENT: Depending on what happens at that end of the system, it may turn out that you won't need to care what the inventory is. If the ultimate doses end up being trivial, inventory won't matter to the upstream users.

COMMENT: The SAC will only be looking as far as McNary Dam. It's not going to assess things all the way to the mouth of the Columbia River.

COMMENT: Ecology would like more discussions with the SAC people before the next IPEP meeting.

COMMENT: There are some other things in the IPEP report worth highlighting. The IPEP observed that there is a lack of monitoring, both for groundwater and vadose zone. That gap would be helped by DOE-RL complying with the requests we (Ecology) are making regarding the Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) Milestone

M-24. The IPEP would also like to see more of an emphasis on basic science. They'd like to see a higher interest on cost cutting with new techniques for sampling and modeling. Those are just some of the things we thought were highlights. Ecology would like to sit down with SX and S&T folks and find what things are going on with those areas as well. I've already mentioned my concern about S&T interaction with regulators and stakeholders. What science disconnects are there between the regulations and the science? We'd like to see more interactions there. We'd at least like to interact more with the people here (BHI), the folks at Pacific Northwest National Laboratories (PNNL), and the various site projects. There's a lot of money being spent on S&T, and we'd like to hear more about that.

QUESTION: When are you going to have a detailed draft schedule available for the May IPEP meeting?

ANSWER: The dates for the meeting are confirmed as May 24-26 in Richland in the BHI Assembly Room, but we don't have an agenda yet. The IPEP is working on that.

STATUS OF OPERATIONS (Michael Graham):

In Situ Redox Manipulation (ISRM)

The ISRM installation activities for this fiscal year should be completed by the end of the month. We're doing drilling now and wrapping up activities for the final couple of wells.

Partitioned Inter-Well Tracer Testing (PITT)

This is something that came out of the Innovative Technology Remediation Demonstration (ITRD). We're working up what it would cost to do the tracer test to help get characterization of carbon tetrachloride (carbon tet) in the vadose zone. It's still in the first phase. This is a new technology from Duke Engineering. They're working on their cost estimates, and we're working on ours, and if it adds up we'll submit our recommendations and a BCP to DOE and they'll decide on implementation options.

The Duke costs are considerably higher than initially thought, but they're going back over and work the field aspects of that. When we get the new numbers we'll move forward with our recommendations to DOE.

COMMENT: EPA allowed the deferral of the vapor extraction work to pursue this technology.

COMMENT: However you cut the pie, it's going to be expensive.

COMMENT: It's a sliding scale.

COMMENT: We're not talking about billions of dollars here by any means. We're looking how this technology fits in with budget scenario over the next few years, but if we can swing it we'd like to get started this year.

COMMENT: Just like any other thing, you do the up front work before jumping off into the real work. You don't lock into things too early and get caught in a numbers game like British Nuclear Fuels Ltd. (BNFL) found themselves caught up in.

RESPONSE: Duke got themselves in trouble on this by being slightly guilty of that. They threw out a budget number before really thinking it through. Fortunately, it's not as big a disparity as BNFL now faces.

200-ZP-1 Operable Unit

There was a spill in the pumphouse at the 200-ZP-1 Operable Unit of approximately 20,000 gallons of contaminated groundwater. We don't have the final report back, but we thought that you all should be aware of it. Apparently, the pump that injects the treated water back into the groundwater failed, but the pumps bringing the water up to be treated kept running even though the system was full.

QUESTION: Was the spill contained to the pumphouse?

ANSWER: No. A good deal of the water escaped to the soil outside.

COMMENT: That would cause you to have to adjust source terms at some point in the future.

RESPONSE: It's not really an Integration Project issue at this point, but it would probably have an effect on source terms.

QUESTION: Was this a reportable event?

ANSWER: No. The concentration of contaminants in the water wasn't that high. It's pretty diluted.

OTHER

COMMENT: The revised S&T Roadmap will be out shortly. It's in DOE review right now. As soon as it clears review, we'll place it on the Integration Project website. Also, the Phase II Characterization Plan for Plume Investigation Near the 618-11 Burial Ground is available for public review. (The public comment period for this document ends on May 8, 2000. Copies are available for download from the Integration Project website (<http://www.bhi-erc.com/vadose>) or by contacting Karen Strickland at 509-372-9236.)

COMMENT: It would be good if, at this meeting, we could hear more on the status of the code selection for the SAC. There's not really a good feel on how the SAC Rev. 0 is progressing.

RESPONSE: We try to rotate folks, so that's why there wasn't a discussion on the SAC today.

COMMENT: That's something I think you'll see in the SAC Rev. 0 Design Document. That's another document that's in internal review now and will be out for the public in the near future. It's a very readable document. I think it will serve to remove some of the uncertainty of where the SAC is going.

**UPCOMING EVENTS AND OPPORTUNITIES FOR PARTICIPATION:**

See attached calendar (Attachment 1).

**NOTES:**

GW/VZ Web Site location: <http://www.bhi-erc.com/vadose>

If you have questions or comments please contact Dru Butler (509-375-4669), Gary Jewell (509-372-9192), or Karen Strickland (509-372-9236)

**ATTACHMENTS:**

- 1) GW/VZ Integration Project Two Month Look Ahead Calendar

**ATTENDEES:**

Martin Bensky – Tri-Cities Caucus

Dru Butler – BHI

Dennis Faulk – EPA

Jon Fruchter – PNNL

Dib Goswami – Ecology

Michael Graham – BHI

Mary Harmon – DOE-HQ

Moses Jarayssi – BHI

Gary Jewell – BHI

Tony Knepp – CHG

Katy Makeig – SMS

Fred Mann – FFS

Virginia Rohay – CHI

Steve Sautter – BHI

Mike Thompson – DOE-RL

Rob Yasek – DOE-RL

**Attachment 1**

GW/VZ INTEGRATION PROJECT  
**MAY 1 – JULY 3, 2000**  
*TWO MONTH LOOK AHEAD CALENDAR*

<b>May 1</b>	GW/VZ Open Project Team Meeting BHI Assembly Room – 1-3 p.m. (Contact: Dru Butler )
<b>May 9</b>	HAB Environmental Restoration Committee Meeting Richland - Federal Building, Room 142 – 8 a.m.-4 p.m.
<b>May 15</b>	GW/VZ Open Project Team Meeting BHI Assembly Room – 1-3 p.m. (Contact: Dru Butler )
<b>May 24-26</b>	Integration Project Expert Panel (IPEP) Meeting BHI Assembly Room (Contact: Virginia Rohay)
<b>May 31</b>	HAB Public Involvement Committee Meeting LaGrande, OR
<b>June 1-2</b>	Hanford Advisory Board Meeting LaGrande, OR
<b>June 5</b>	GW/VZ Open Project Team Meeting BHI Assembly Room – 1-3 p.m. (Contact: Dru Butler )
<b>June 6</b>	HAB Environmental Restoration Committee Meeting BHI Assembly Room – 8 a.m.-4 p.m.
<b>June 19</b>	GW/VZ Open Project Team Meeting BHI Assembly Room – 1-3 p.m. (Contact: Dru Butler )
<b>June 20-21</b>	GW/VZ IPEP Subpanel review of SAC Rev. 0 Design Report Richland, WA (Contact: Bob Bryce)
<b>June 28-30</b>	NAS Committee Meeting on Hanford S&T Richland, WA
<b>July 3</b>	GW/VZ Open Project Team Meeting *CANCELLED* Due to Independence Day

**Current Public Comment Period:**

**April 24-May 8, 2000**

Phase II Characterization Plan for Plume Investigation Near the 618-11 Burial Ground