

Environmental
Restoration
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ERC Team

Meeting Minutes Cover Sheet

Please find attached the Open Meeting Minutes from the Groundwater/Vadose Zone Integration Project of April 16, 2001.

If you have any comments or changes to these minutes, please reply to this email and your comments will be incorporated into the next meeting minutes.

Environmental
Restoration
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ERC Team

Meeting Minutes

088609

SUBJECT GROUNDWATER/VADOSE ZONE INTEGRATION PROJECT MEETING - APRIL 16, 2001

TO Distribution

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

DATE May 7, 2001

ATTENDEES
See Attached List

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NEXT GW/VZ INTEGRATION PROJECT OPEN MEETING:

Next Meeting: Monday, May 7, 2001 – 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 16, 2001, in Richland, Washington, at the Bechtel Hanford, Inc. (BHI) Assembly Room.

PROJECT REPORT:

Schedule Update (Michael Graham) (Attachment)

Introduction of Lou Soler, Characterization of Systems Task Lead (Michael Graham)

Lou Soler has been on board for about six months. He is taking the lead on the Characterization of Systems task, which relieves Bruce Ford of that task. Bruce will now be able to focus all his efforts on the 200 Area.

Inventory Update (Charley Kincaid/Lou Soler)

The data package for inventory is nearing completion and will undergo an internal review prior to release. That should be within the next month. We call it a database. The data will be used as input to the initial assessment performed with the Systems Assessment Capability (SAC). It's important to remember that it is linked to the initial assessment – and includes the 10 contaminants being considered. It is a compilation of inventory information from across Hanford – including data bases such as Solid Waste Information and

Tracking System (SWITS), Environmental Release Summary (ERS), planned cleanup actions included in the Tri-Party Agreement (TPA) and Done In A Decade schedule and inventory from selected documents. It's really more dynamic than a database. It's a combination of record data, estimates based on models, and estimates based on the ratio of radionuclides known to have been generated from fuel in the reactors. It incorporates an element – forecasts – never incorporated before. So it's more than a database. It should be viewed as something that is dynamic. In a few days, the last table will be generated for the database. Under Lou's guidance, there will be more thorough documentation as to how the database inventory was baselined, including documentation on the approach methodology for estimating values and incorporating programmatic assumptions.

QUESTION: Most of what you're doing sounds like you're getting a handle on how much of any contaminant may be at the source. Can you estimate the rate of how much gets out of the source?

ANSWER: There is a component called Release. For all the sources that are liquid release, we have them going to ground at the time of their release from 1944 on. Those inventories never really go into the release model mode. They go into inventory through an information path. Regarding the release of solid waste, we are using the soil debris model. This model releases the contaminates on the basis of a combination of environmental factors that act on the waste form. A cement waste model allows it to release via a soil debris model. As for tanks, past tank leaks are released to the vadose zone. In the future, when tank wastes are recovered and when they're treated the model assumes some losses to the vadose zone. For single shell tanks, we assume it goes into the ground when cleanout is planned to occur. If it is recovered in 2017, for example, then the leak occurs in 2017. Immobilized Low-Activity Waste (ILAW) is separated, vitrified and disposed of. The residuals are released via a salt cake model. A series of releases occur as a result of tank waste. The rate of travel is considered also.

QUESTION: What does a closed tank look like?

ANSWER: There is a running current baseline for Hanford - 1% residual, ground backfill is the other 99%. We haven't put that into this particular scenario. We are looking at the 1%.

QUESTION: I want to see it go beyond that. I haven't seen a curve of cost of remediation versus percent left behind. It might be very worthwhile if there is only 15% left behind. But, not so cost effective is there is a higher percent left behind.

ANSWER: We're just talking about an initial run. The kind of thing you are suggesting can be run in the future. You're getting too far ahead of us.

QUESTION: The most important question is how much can you rationally leave behind?

ANSWER: The intent today was to let people know where we are on inventory. The team has done a tremendous job at looking at it. The folks at Office of River Protection (ORP) will be looking at various scenarios as well. Once we investigate these, then we can start looking at SAC. There is going to have to be some sorting of things.

QUESTION: Is this the baseline?

ANSWER: This is the baseline. We will run the current plan and evaluate those results and look at a select set of alternative cases after we get some results. In some ways this is still development work.

QUESTION: You're looking just at the sources though?

ANSWER: The inventory that we've assembled will show inventory in 2000 that has been sent to specific liquid discharge sites, specific site information. We will show that again in the year 2050. This is inventory data that drives the model. The model uses the schedule to generate an inventory Environmental Restoration Disposal Facility (ERDF). We'll be showing in 2050 what's been in all the different places in Hanford.

QUESTION: What form is this going to be in?

ANSWER: We want to put it on the web. We specifically decided on these kinds of tables, we thought they were the most reasonable. There won't be a lot of detailed information. There is stochastic information in it and I'm not sure you want all that information for all contaminants. We elected to show mean or median value. We've asked for annual numbers. You may not want all that annual number information. It's the accumulated inventory per year per site. That detailed data is on a SAC server and we can get you a copy if you want all the details.

QUESTION: Is it a simple physical model?

ANSWER: The release models are fairly simple. The soil debris is a physical chemical model, which takes in to account desorption and solubility. It's a simple model but it's not too simple. I can envision more complex models.

QUESTION: I want an idea of the conceptual modes of release. Methods of moisture getting into systems are slow. Will release reflect real release scenarios? I just hope the results are valid.

ANSWER: We do hope that as the Science & Technology (S&T) efforts go on, they are coming to grips with the same issue and come up with more sophisticated models.

As we get close to summer and roll out SAC results, we have to have a special focus on what we have seen. The team has tried to build something achievable within a reasonable time frame. We haven't taken ridiculous short cuts. We've looked at the elements and are at a good starting point.

Carbon Tetrachloride (Virginia Rohay)

Virginia Rohay has relinquished her role as liaison to the Integration Project Expert Panel (IPEP). She will offer full-time focus on carbon tetrachloride.

We started the vapor extraction system back up at the primary carbon tetrachloride source cribs on April 4, 2001. There was one minor problem, a blower belt needed tightening. That was repaired and since then it's been running full time. In approximately three months we will move to a different source crib.

Last Wednesday we had the Innovative Treatment Remediation Demonstration (ITRD) meeting. This was a complex-wide meeting. The group is looking at technologies to characterize and remediate carbon tetrachloride specifically. They started meeting in January of 1999. We reviewed what we had accomplished through those first years of meeting. A modeling study will be issued as a Pacific Northwest National Laboratory (PNNL) report predicting carbon tetrachloride concentrations at the compliance boundary for different combinations of source terms and groundwater parameters. The modeling effort was

designed specifically to aid selection of remediation technologies. There are a variety of areas that ITRD could help with. ITRD (managed by Sandia National Laboratory) will work that out from within. High-resolution borehole seismic imaging technology looks for Dense Nonaqueous Phase Liquid (DNAPL) in groundwater.

On the deepening of wells, we'll be working at the Z-9 source crib. The existing wells are 100 feet deep. We'll be deepening them another 100 feet in early May. We will use the wells for soil vapor extraction later in the summer. We will be able to compare vapor concentrations during sampling to vapor concentrations during soil vapor extraction. We have plans to drill a well to groundwater in the Plutonium Finishing Plant (PFP) area. We are preparing the Data Quality Objective and planning documents.

QUESTION: Where is the compliance boundary? How far above Maximum Contaminant Level (MCL) are you predicting?

ANSWER: We are still in interim mode. We are looking at concentrations at monitoring wells between 200 East and 200 West Areas. The groundwater report has the modeling predictions.

QUESTION: Where is the source?

ANSWER: Right around the PFP area. The carbon tetrachloride plume extends over most of 200 West Area. The highest concentration is by the source cribs. There is an unknown directly under PFP facility. That is why we are drilling a borehole there. The highest concentration is around 7000 parts per billion (ppb) and that is far above the standards. Outside the zone we are remediating using pump-and-treat, the highest concentration might be 2000 ppb.

Update on Drilling at B-110 (Tony Knepp)

The second well of the fiscal year is under way. It's located a little north, at about the 2:00 position. We've been out there about three or four days.

We got the results back from the first well, near tank BX-102. There are two zones of contamination, one at 90-150 feet, one at 200-250 feet. In comparison to the S-SX holes, that is dramatically less, particularly for uranium. And, there are low levels of technetium, and a little bit of tritium.

QUESTION: This is a leaky tank?

ANSWER: It's metals waste over-flow. It's a high uranium enriched waste stream. The line between BX-102 and BX-103 was plugged.

QUESTION: Was there cesium in that one?

ANSWER: Very little. The reason we're there is because it's a different type of waste in a different geology. There is a lot of water. It's in gravelly sandy geology, nearer the river. There are about 20 tons of uranium, which is a relatively low level.

We hope to put in a lycemeter in the B-110 hole. It's a million dollar hole.

QUESTION: The concentration of contaminants is considerably less?

ANSWER: Yes. We're looking at cesium at 1/10 pCi/g.

Update of NAS and S-SX Field Investigations (Mark Freshley)

At the end of March, the Integration Project held its final meeting with the National Academy of Sciences (NAS). One point they wanted to cover was the results of the S-SX field investigations. Tony Knepp and John Zachara provided a briefing. They are writing their report now. We anticipate it will be into the NAS peer review process by the end of May. Kevin Crowley is pretty upbeat about the report. There are ten sections in it. Their comments include input on the program as it exists now, as well as comments on what they didn't see that they feel should be included. We should see it in July.

Tony and I have been working with John Matuszak and John Conaway to develop two technical sessions on the S-SX for the Expert Panel. Tony will provide an update on the RPP side and John Zachara will be going into findings on the S&T side. They will cover laboratory studies and modeling support for the S-SX investigation.

COMMENT (Mike Thompson): Regarding 618-11, the U.S. Environmental Protection Agency (EPA) has signed off on the sampling analysis plan to go forward with additional boreholes down to groundwater to be converted to groundwater monitoring wells. This is an effort to define vertical extent of the tritium plume contamination. Once the data is back, we will go back to EPA to work out where the borings should be.

QUESTION: Do you have a handle on where the source is?

ANSWER: My professional opinion is that the source is the 618-11 burial ground.

QUESTION: What was dumped there?

ANSWER: There is lithium aluminum in the burial grounds that is potentially producing tritium. Those caissons had no bottoms on them.

QUESTION: Do you have a handle on the magnitude of the source?

ANSWER: I don't know what that would be at this time.

FY02 Budget (Mary Harmon/John Morse)

There is really nothing definitive to say. Contractors and the U.S. Department of Energy (DOE), Richland Operations Office (RL) are working the details of the budget. People from Headquarters (HQ) are coming out next week to discuss budget with DOE-RL. Allocations are less than we'd like.

QUESTION: What's the history of this process?

ANSWER: The proposed budget goes to Congress, they may make changes. Historically, there are usually changes. It'll be a challenge.

This time our budget is really, really political. President Bush is looking for reductions in taxes and he believes that with a reduced rate we can still do what's needed. We're coming out to meet with Keith Klein to understand the depth of the problem.

COMMENT: Christine Gregoire is not going to let this die quietly.

So much of our budget will reside with what Congress can muscle for any DOE sites at large.

If you want to see the President's budget, it is on the DOE-RL web site. It gives a perspective on how various sites fared.

QUESTION: Are they going to have more information at IPEP?

ANSWER: We'll have the most current information that we have.

QUESTION: Do other sites have Tri-Party Agreement agreements?

ANSWER: Yes, some have similar agreements.

QUESTION: Has a letter been released to the public?

ANSWER: I know that letters exist. I can find out more.

QUESTION: Has there been a press release on it?

ANSWER: I don't remember a press release. Similar letters were written to all the governors of each state. It's a long process of politics. Hopefully by the time the new year rolls around there will be a budget. Stay tuned.

UPCOMING EVENTS (Michael Graham)

We have the IPEP meeting next week.

NOTES:

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

If you have questions or comments, please contact Steve Sautter (509-372-9692) or Alison Kent (509-372-9192).

ATTACHMENTS:

- 1) GW/VZ Integration Project FY 2001 Summary Schedule
- 2) GW/VZ Integration Project Two Month Look Ahead Calendar

ATTENDEES:

Marty Bensky – Tri-City Caucus

Dru Butler – BHI

Shelley Cimon – HAB

Don Clarke – DEC

Mark Freshley – PNNL

Dib Goswami – Ecology

Michael Graham – BHI

Mary Harmon – DOE-HQ (by phone)

Kathy Huss – SAIC (by phone)

Moses Jarayssi – BHI

Alison Kent – BHI

Charley Kincaid – PNNL

Tony Knepp – CHI

Fred Mann – CHI

Gary McNair – PNNL

John Morse – DOE-RL

Virginia Rohay – ERC

Sue Safford – Oregon Office of Energy (by phone)

Lou Soler – BHI

Mike Thompson – DOE-RL

Rod Skeen – CTUIR

Rob Yasek – ORP

GW/VZ INTEGRATION PROJECT
APRIL 16, 2001 – MAY 21, 2001
TWO MONTH LOOK AHEAD CALENDAR

April 2	GW/VZ Project Open Meeting BHI Assembly Room – 1-3 p.m. (Contact: Steve Sautter)
April 5-6	HAB (Red Lion Hotel, Richland, WA)
April 9	DOE Complex-Wide Vadose Zone Science and Technology Road Map Roundtable (Washington State University) 9:00 a.m. – 4:00 p.m.
April 10	HAB Central Plateau/River Corridor (formerly Environmental Restoration and Health, Safety & WM) Committee Meeting BHI Assembly Room – 9 a.m. - 4:30 p.m.
April 16	GW/VZ Project Open Meeting BHI Assembly Room – 1-3 p.m. (Contact: Steve Sautter)
April 25-27	IPEP Meeting (BHI Assembly Room, Richland, WA)
May 7	GW/VZ Project Open Meeting BHI Assembly Room – 1-3 p.m. (Contact: Steve Sautter)
May 21	GW/VZ Project Open Meeting BHI Assembly Room – 1-3 p.m. (Contact: Steve Sautter)