Environmental Restoration Contractor **ERC Team**

Meeting Minutes

079380

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SUBJECT **GROUNDWATER/VADOSE ZONE INTEGRATION PROJECT MEETING - MAY 15, 2000**

TO Distribution

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

DATE May 15, 2000

ATTENDEES
See Attached List

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NEXT GW/VZ INTEGRATION PROJECT OPEN MEETING:

Next Meeting: Monday, June 5, 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 May 15, 2000 in Richland, Washington, at the Bechtel Hanford, Inc. (BHI) Assembly Room.

PROJECT REPORT:

INTEGRATED PROJECT SCHEDULE UPDATE (provided at meeting) (Michael Graham)

Basically nothing has been changed. There are a few high visibility items on our screen right now. The Congressional Report is being drafted and is in review by U.S. Department of Energy - Headquarters (DOE-HQ) and U.S. Department of Energy, Richland Operations Office (DOE-RL). There are also two major documents in production that we will discuss later in the meeting. Bob Bryce will be talking about the draft System Assessment Capability (SAC) Rev. 0 Design Report, and Mark Freshley will be talking about the Science and Technology (S&T) Roadmap. Next week is the Integration Project Expert Panel (IPEP) Meeting (May 24-26, 2000).

ISSUES TRACKING (Bob Vaughan)

The third page of the hand-out/agenda packet you've received today is a printout of the Issues Management page on the internet. If you go to the website and click on Issues Management, it will bring up this form. We put it out there to let people submit their input on subsurface, SAC, and like issues. The form is just for the Integration Project. There are several fields in the form that are required, including name, organization, subject, and issue. Other fields are optional, such as phone number and address, but it's best if everything is filled in.

We do ask that, if you fill out this form, you please submit only one issue per form. More than one issue per form makes it difficult to track.

The software we used for this was SLATE on the front-end with a Versant object-oriented database behind it. The TD Tech developed the software for tracking large numbers of items. It can do a lot of things, including track and hold a lot of information. We decided that it was the best way to go about tracking our issues.

We are currently developing a protocol that explains what happens to the issues once they are in the tracking system. Here's what we envision. Once it's entered into the database, an acknowledgment is sent to the person submitting the issue within 72 hours, factoring in holidays and the like of course. At that point, it will be issued the IRC (Issue Resolution Committee) to look at, and they will decide which group it should go to for resolution and pass it on to that group. That group will work on it, resolve it, and send it back to IRC. The IRC will evaluate the proposed resolution. If it's a valid resolution, the database will be updated, and the submitter will be notified. If it's not valid, it will be sent back for further work.

The status of all issues will be posted on the web in a tabular format, which will include the issue's number, who submitted it, what was proposed, and the final resolution.

QUESTION: Suppose you receive 500 issues, all saying that the data is inadequate. Do you have to address each one and how quickly will you do that?

ANSWER: First, we'd gather and aggregate all of the similar issues. Suppose there were several issues about database functions, then we would try to address all of those at once. We wouldn't address them as 500 separate issues per se, but as "this is SAC and this is GW/VZ." Things will be logically sorted so that issues are with those that they are akin to, and those issues will get looked at all at the same time. We don't want to look at the same issue over and over again if it's just a matter of different phrasing of the same issue.

QUESTION: I can see that working for issues related to dose response, engineered barriers, or something similar, but I'm thinking of something different. What if there are 998 issues submitted about the completeness of data being inadequate? Is that something you'd have to go through the whole system and address?

ANSWER: That's something we'll handle as we move downstream. We recognize that there may be issues about that.

QUESTION: What amount of resources are you planing on dedicating to this task?

ANSWER: That also something we'll have to determine and deal with. One of the principle goals here is to minimize work. This is stuff we're going to be dealing with for a long time. If we can provide a good documentation trail for valid issues, then we'll be better off. For example, humic and folic acids. If we don't have a way to say it's already been dealt with as an issue, then we have to reopen it every time it's brought up. If the technical group decides if something is not an issue for Hanford, then it's over and done with. That's the point.

We've opened a little bit of a Pandora's box here, but we don't know another way given the principles in which we operate. It's an experiment of sorts.

QUESTION: Will this be assigned to issue managers and flagged for points of contact?

ANSWER: The IRC will assign responsibility for specific issues.

COMMENT: This system covers only Integration Project issues. Anything else is beyond our direct control.

QUESTION: Are Columbia River issues fair game?

ANSWER: Yes.

QUESTION: Dose response?

ANSWER: We'll be looking at that as well. I mentioned the Integration Project focus just to make everyone aware that general Hanford Site issues are not applicable.

COMMENT: I think the intention here is good, but I think the implementation could be a problem.

RESPONSE: Yes.

COMMENT: The intent is to be able at some point to respond to an issue raised by saying that it was dealt with on so-and-so date and it was issue number so-and-so.

COMMENT: You also need to be able to set issues aside and deal with them at the appropriate time, rather than being forced into a premature response.

COMMENT: What we gave you here today was a brief summary. There are many other subsections to this. Some things will be set aside and others will move with priority. This system can handle those distinctions.

QUESTION: People have to put the issues into the system though, right?

ANSWER: Correct. We've already input issues submitted during previous meetings.

QUESTION: Where can we see those?

ANSWER: We plan to post those to our internet page. We're not quite there yet, but it will be soon.

QUESTION: What will be the make-up of the Issue Resolution Committee?

ANSWER: The IRC will be an ad hoc group, with membership depending on the issues being addressed. Changes will be made to the membership depending on what's being discussed. As it is currently envisioned, the IRC will include Project Managers, Project Engineers, and

representatives of the Integration Project, core projects, U.S. Department of Energy (DOE), Pacific Northwest National Laboratory (PNNL), Project Hanford Management Contractor (PHMC), and Radiation Protection Program (RPP).

COMMENT (Stakeholder): This shouldn't be an open process with a lot of outside involvement. If that happens it will get hopelessly bogged down and never get off the ground.

COMMENT: People will be able to see what the committee is doing via the web site when the process gets going.

COMMENT: If people are not happy with the resolution that comes from the committee, they can always re-submit the issue.

COMMENT: I recommend that the team be comprised of the Integration Project (IP) and decision-makers only. Period.

RESPONSE: DOE will hold us accountable for that.

COMMENT: It seems like the IPEP could play a useful role in this as well. That's something that may be down the road.

COMMENT: Sounds good. I (Gordon Rogers) think that outside involvement should be limited. If the stakeholders want to plead their case to the IPEP, that's fine, but they should not be involved inside the process.

SAC Draft Design Report (Bob Bryce)

We have finished the internal reviews of the SAC Rev. 0 Design Document. Copies are available. I also brought the three-page focus sheet that gives our current plan and how we envision the future. There is a phone number on the front of the flyer for comments during the 45-day public comment period. The dates are actually a little longer than 45 days to allow time for comments. Comments on the document should be submitted to Doug Hildebrand of DOE-RL.

On June 20-21, we plan to have a day and a half workshop with the IPEP subcommittee. They will look at the plan and give a management level review. Drs. Berkey, Kavanaugh, and Karr will be the IPEP members comprising the subpanel. We have asked them to identify the things that they feel the product could be useful for and what we need to change to add to the SAC's decision supporting capability. There will be four to five hours of discussion on the tool and the technical elements, and then several hours for stakeholder discussion and comments. They will come back the next day with their preliminary comments, and a written report will follow.

This is how the document itself is broken down. Chapters 1 and 2 are the introduction and purpose. These are the things we talked about in the SAC Work Group meetings and the last IPEP meeting. Chapter 3 is an analysis of the plan details, assumptions, and basis. Chapter 4 is the software requirements chapter that underwent review last fall. Chapter 5 is the design overview. Chapter 6 is the plan for the software. At the end is a glossary of terms.

We are looking for comments during the next 45 days. If you look at the 3-page focus sheet, it looks at our scheduling for the next few years. We pushed it out to give us some time for the S&T and field characterization work to develop and to exercise the tool as current. There may be other options too for better information on how Rev. 1 design and how to set cleanup standards and how to apply them to the site.

COMMENT: It seems like it would be a pretty useful tool if it can do all the things it claims. At least it can help with the important things, like helping to identify a no action alternative.

RESPONSE: That's one of the things Doug Sherwood and Linda Bauer asked us to look at. In the Detailed Work Plan (DWP) process we need to plan our resources for those types of assessments. We haven't identified specific scenarios.

QUESTION: What happens if funding becomes further limited? If the vit (vitrification) plant moves back into the overall Hanford Site budget, the money would be limited for other projects.

ANSWER: That's something that we'll deal with when it happens. We don't know enough about plans surrounding the vit plant yet to plan for anything.

COMMENT: One of the things that needs to be recognized is that "no action" is not truly no action.

COMMENT: Part of it is determining the assumptions, such as an assumption that you don’t walk away from K Basins for example.

COMMENT: It’s a difficult scenario to define.

QUESTION: If this is the SAC Rev. 0 picture, how does it deal with the socio-cultural and economic impacts? Do you have enough information to cover those two areas?

ANSWER: It’s limited as to the detail we will cover, especially for socio-cultural. There's a large amount of information from people about what they want to see covered. It's not something that's going to turn out a number at this point.

QUESTION: Does it talk about things you'll measure and set values?

ANSWER: No. It tries to establish standards.

QUESTION: Do you have defined metrics?

ANSWER: No.

COMMENT: We wanted everyone to see and hear the idea that the SAC is shifting to more of a cyclical revision cycle, rather than iterative. The original idea was to crank out periodic revisions on an 18-month schedule. As we looked at the S&T and characterization plans and defined decision points, we asked when does the site need a tool like this to support decisions and what will it support? It looked like more time was allowable to get us to our target in 2004

of supporting the update to the Composite Analysis that DOE requires, as well as supporting the 5-year update to the U.S. Environmental Protection Agency (EPA) Records of Decision (RODs). It's important to interface with EPA and Ecology in the development of the SAC Rev. 1 tool in order to meet their needs. With Rev. 0, we'll at least be able to point to something real and ask, "what needs to be different to support your needs?" We're hopeful that after looking at the results from Rev. 0, that it will help focus on how we can change and improve Rev. 1. The discussions at times in the last year have not been very focused. Now we'll have something to focus on.

COMMENT: I can see what you're saying. It doesn't sound like you're saying, "here's Rev. 0, don't talk to me until Rev. 1." If someone has a decision point in between the full revisions, then they can ask you if you can support those. Hopefully you can support those types of things.

RESPONSE: It would depend on the specific support needs, but yes.

COMMENT: You could look at it like a SAC Rev. 1.5.

QUESTION: There isn't a real criteria to do the analysis. It's really there to support regulatory-type decisions. You've got to have particular data to make an informed decision. It all comes down to "can you give me a tool to form a better solution than what I'd be able to come up with without it?"

COMMENT: We can support interim decision points if it fits into the schedule.

COMMENT: I think this represents real progress.

COMMENT: In hindsight, if someone wanted to know what was used to support a particular decision, then you'd just say that it was the SAC somewhere between Rev. 0 and Rev. 1.

RESPONSE: We'd show them the documentation.

COMMENT: We'd be able to show that it was neither Rev. 0 nor Rev. 1, but our best guess from in between.

COMMENT: The idea is to produce results that the regulators can accept.

COMMENT: It calls for working with them closely.

COMMENT: The document is available on the IP website (in the Project Documents and SAC sections).

<u>IPEP Meeting</u> (Michael Graham)

The first morning will include a presentation of Hanford site outcomes and implementation. This is the vision of the 100 area and 200 area that Keith Klein has put forth. We're actually getting into more detail there as to how to implement that vision, and we'll talk about how the IP fits into that. There will be a lot of work within various camps at DOE-RL defining alternate baseline scenarios and all that. It should be an informative session. It should scratch the itch of how we're supporting Hanford decisions.

COMMENT: I hope they get into assumptions that the vit plant screw up will affect funding.

RESPONSE: With everything surrounding the vit plant, it could be high entertainment.

Next we'll talk about our plans for next year's DWP for the core projects and the IP. Then there will be some dialogue on the IPEP recommendations from the January meeting Closeout Report.

COMMENT: On that point, it's something that the Hanford Advisory Board (HAB) Executive Committee would like to discuss at the June 1-2 HAB meeting. Are you (Michael Graham) or someone from DOE-RL available? We've also invited Ralph Patt to attend as a representative of the IPEP.

QUESTION: Will that be discussed on June 1 or June 2?

ANSWER: The agenda order is still floating.

QUESTION: Have you had any discussions with Dr. Berkey about your concerns?

RESPONSE: Yes, briefly. However, the main dialogue will be next week at the IPEP meeting. I know Ed [Berkey] was still trying to work some issues with the IPEP.

QUESTION: I guess I'm wondering if there are any serious thoughts as to whether or not Ralph Patt is the right representative to speak to the HAB. Merilyn Reeves is sending a letter to Dr. Berkey.

RESPONSE: As of right now, Patt has been designated as the IPEP's representative to the HAB.

COMMENT: We just need to make sure that Dr. Berkey understands that he speaks for the panel.

RESPONSE: This is something that you can bring up next week.

The technical session for the first day is designated as Monitoring and Characterization 1 on the agenda. Dr. Wierenga from the panel wants to focus on vadose zone monitoring. He knows there is not much on the way of scope there, but he wants to talk about where we are and where we are headed. Mark Freshley is the point-of-contact on that. We are trying to evolve the agenda by designating a point-of-contact on the project and a corresponding member on the IPEP and have them work back and forth for agenda buy-in.

COMMENT: It's sort of the IPEP "buddy system."

COMMENT: It will mainly be an S&T focus of the vadose zone work.

There will be three parts to this section. One section that was asked for is a background and history on monitoring and recharge. Glendon Gee is the lead for that. The second part is a review of gamma logging from the tank farms, with Russ Randall the lead there. The third is a discussion of plans for the vadose zone field tests this summer.

QUESTION: Is there a tie-in to how the information gathered will be used by different projects? I think you need to be able to communicate where it's being used besides what we talked about. The tie-in back to the IP needs to be identified.

RESPONSE: We'll address that when we get there. It's the basis for all the work in the farms. It's a clean tie-in.

COMMENT: The recharge work in the tank farms feed into the Immobilized Low-Activity Waste (ILAW) and SAC. It won't be difficult to tie it all in.

The remainder of the first day is left open for stakeholder, regulator, and Tribal Nations input and comments. Again, the idea is to allow fifteen minutes or an hour and a half, whatever it takes. It's not scheduled to end at any particular time. It has been left open.

The second day is divided into two-hour blocks of time, with one hour of presentation and one hour of discussion. Tom Wintczak is John Matuszek's buddy for this session. He'll handle the section on our inventory approach and discuss how and what we're doing. We'll be approaching it from multiple fronts, discussing the S&T, core projects, and IP efforts. We'll tie them all together and show the overall inventory approach.

QUESTION: Are you focusing just on the inventory that you know about?

RESPONSE: It covers everything. The inventory we're mainly interested in is what's left after the current projects take out their pieces. For example, spent fuel. If you take a pie, what's left over after the baseline has been implemented is just a smaller of piece of what's here now. If you take the stuff the vit plant would handle out of the equation, a lot of the inventory moves off.

COMMENT: My concern is, in terms of system performance, the rate of release.

RESPONSE: That's part of it.

COMMENT: It's not as important for that as it is the duration of release. Inventory has more impact on the duration of release. If there's only a small amount, then there's a quick release. If there's a lot, release takes a long time. Rate of release is not necessarily the biggest factor.

RESPONSE: I agree, but release rate is certainly part of that equation.

QUESTION: Is this a misnomer to talk about inventory when we're really talking about how it's packaged?

RESPONSE: In terms of the technical work ongoing, the technical element specifically addresses the release mechanism. At the IPEP, the focus will be on the inventory technical element. The activities are around where the waste is, how it's composed, and how it moves off the site.

COMMENT: S&T deals with mobility and vadose zone composition, and that's what impacts the rate of release.

COMMENT: I think I'm hearing the term "inventory" too many times.

RESPONSE: Somebody should talk about point of release too.

COMMENT: I suggest that over time you rename this element as something like "inventory/release."

RESPONSE: Good point.

In the next section on the second day, Tony Knepp will give an update on the characterization work and plans for FY01. John Matuszek is the IPEP representative for that portion. In the afternoon, Greg Mitchem and Mike Kavanaugh will discuss groundwater remediation. That will be a "where we are and where we're headed" kind of thing. Then, there will be another open comment period beginning at 3 p.m. On Friday, the IPEP will deliver closing remarks from 1-3 p.m.

QUESTION: How firm is that 1-3 p.m. time?

RESPONSE: It's firm. Since Friday is a day off for most of the DOE and contractor people, a lot of people have other commitments. Plus it's the beginning of a long weekend due to Memorial Day. We don't expect a big crowd.

COMMENT: I think one of the high points will be the Hanford Site decisions and how the IP fits with that. Parts of the vadose zone monitoring and the test plan will be high points as well. The inventory story is good. We haven't really put it into presentation format and it forces us to get together. The field work timing is off on that, but Tony Knepp has some analysis back. And, they're starting to talk on remediation. The focus is more on remediation technology next year on the project.

S&T Roadmap (Mark Freshley)

We have completed the internal and DOE review of the S&T Roadmap document. Printed copies will be distributed, once they've followed the protocol for transmittal. Once that is done, we will post the Roadmap on the website, and we'll also have copies available for people that want them. We did not originally include a public comment period and regulatory review, but after talking with Michael Graham we decided that would be a good thing to do. It's now out for a 45-day public comment period. We will catch any comments in the next revision in the fall. This is a key document that the National Academy of Sciences (NAS) is focusing on and any comments would be useful. It should be on the website by the end of the week.

QUESTION: Are things prioritized? Are there front- and back-burner items?

RESPONSE: It talks about what's funded and what's underway. We are leaving prioritization to the planning process.

COMMENT: That's one of the reasons that comments on this document are so useful. We need your input for the DWP. We need input from EPA and Ecology especially.

QUESTION: You need comments on priority as well as technical issues?

RESPONSE: Yes.

Upcoming Events:
In the next couple of weeks we'll be busy. We have an IPEP meeting next week. We plan on attending the HAB meeting in LaGrande during the first couple of days of June. The next IP Open Meeting is June 5. Plus, at the end of the June the NAS will be back. We are working on that agenda. Then we get to take July 4 off to relax a bit. The IP Open Meeting that would normally be held on July 3 has been cancelled due to Independence Day.

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) IPEP Draft Agenda
2) GW/VZ Integration Project Two Month Look Ahead Calendar

ATTENDEES:

Martin Bensky – Tri-Cities Caucus
Dru Butler – BHI
Dib Goswami – Ecology
Michael Graham – BHI
Michael Hughes – BHI
Kathy Huss – SAIC
Gary Jewell – BHI
Alison Kent – BHI
Tony Knepp – CHG
Fred Mann – FFS
Gary McNair – PNNL
Sri Mohan – Ecology
Gordon Rogers – HAB
Virginia Rohay – CHI
Steve Sautter – BHI
Stan Sobczyk – NPT
Dan Tano – DOE-RL
Mike Thompson – DOE-RL
Pricilla Yamada – PNNL
Rob Yasek – DOE-RL

Attachment 1

Groundwater/Vadose Zone Integration Project
Integration Project Expert Panel Meeting
May 24-26, 2000
3350 George Washington Way
Richland, Washington

- *DRAFT AGENDA –*

BECHTEL BUILDING ASSEMBLY ROOM

WEDNESDAY, May 24		**Moderator**
7:30 – 8:00	**On Your Own Coffee From Columbia River Coffee House**	
8:00 – 8:15	**Welcome and Introduction** **DOE-RL Welcome**	E Berkey K Klein
8:15 – 10:00	**Groundwater/Vadose Zone Integration Project Accomplishments and Status (since 1/00)** **Hanford Site Vision/Outcomes/Planning** **Alternative Baselines** **GW/VZ Project Outcomes**	H Boston, W Ballard, M Graham, G McNair, A Knepp
10:00 – 10:15	**Break**	
10:15 – 11:00	**Dialogue on Integration Project Expert Panel Recommendations in 1/00 Closeout Report**	M Graham
11:00 – 12:00	**Overview of Detailed Work Plan for FY01/02/03**	M Graham
12:00 – 12:45	**Lunch**	
12:45 – 2:45	**Monitoring and Characterization I (vadose zone monitoring)**	Points of Contact: IPEP: P Wierenga GW/VZ: M Freshley
2:45 – 3:00	**Break**	
3:00 – Open	**Opportunity for Stakeholder, Tribal Nation, and Regulator Input and Comments**	E Berkey
Evening	**Panel Only: Working Session #1**	

Groundwater/Vadose Zone Integration Project
Integration Project Expert Panel Meeting
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Richland, Washington

- *DRAFT AGENDA –*

BECHTEL BUILDING ASSEMBLY ROOM

THURSDAY, May 25		**Moderator**
7:30 – 8:00	**On Your Own Coffee From Columbia River Coffee House**	
8:00 – 10:00	**Monitoring and Characterization II (approaches to inventory)**	Points of Contact: IPEP: J Matuszek GW/VZ: T Wintczak
10:00 – 10:15	**Break**	
10:15 – 12:15	**Monitoring and Characterization III (update on characterization results, plans for FY01)**	Points of Contact: IPEP: J Matuszek GW/VZ: A Knepp
12:15 – 1:00	**Lunch**	
1:00 – 3:00	**Remediation (carbon tetrachloride)**	Points of Contact: IPEP: M Kavanaugh GW/VZ: G Mitchem
3:00 – Open	**Opportunity for Stakeholder, Tribal Nation, and Regulator Input and Comments**	E Berkey
Evening	**Panel Only: Working Session #2**	

BECHTEL BUILDING ASSEMBLY ROOM

FRIDAY, May 26		**Moderator**
8:00 – 12:00 pm	**Panel Only: Working session #3**	
12:00 – 1:00 pm	**Lunch**	
1:00 – 3:00 pm	**Closing remarks**	E Berkey
3:00 – 4:00 pm	**Panel Only: Wrap-up session**	

Attachment 2

GW/VZ INTEGRATION PROJECT

MAY 1 – JULY 3, 2000

TWO MONTH LOOK AHEAD CALENDAR

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

Groundwater/Vadose Zone Integration Project

System Assessment Capability

A tool to assess the impacts of waste remaining at the Hanford Site

One of the key tasks of the Groundwater/Vadose Zone Integration Project task is to assess the cumulative long-term effects of Hanford-derived contaminants to the Columbia River and the region after the site closes. The assessment will include impacts to human and ecological health as well as the region's economy and cultures. To conduct this assessment, the DOE is in the process of developing tools and supporting data as described in the *System Assessment Capability (Revision 0) Assessment Description, Requirements, Software Design and Test Plan* (BHI-01365).

The DOE invites the public to comment on the assessment design document during a 45-day public comment period from May 15 through July 5. The document is available for review at http://www.bhi-erc.com/vadose/info.htm. Comments received will be summarized and reported in a responsiveness summary and will also be considered during development of future revisions to the document and in planning future assessments.

To request copies of the document call (509) 372-9236. To submit comments either written or electronically, please contact:

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U.S. Department of Energy
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Development of the System Assessment Capability (SAC)
The objective of this work is to create a SAC that captures our understanding the Hanford environment and the waste that will remain at the Hanford Site after site closure, use those tools to estimate future conditions and consequently help make decisions that protect the resources people value.

Computer codes included in the SAC will increase scientist's ability to evaluate the effects of Hanford's contaminants on human health and the environment in the region surrounding the Hanford Site. This will allow DOE and federal and state regulators to consider site-specific cleanup decisions in the context of the overall impact of the Hanford Site on the region. The SAC also will provide useful information for making decisions on cleanup prioritization, disposal authorization, funding allocation, and the need for additional data. In the long term, the SAC will provide important information

for site closure decisions.

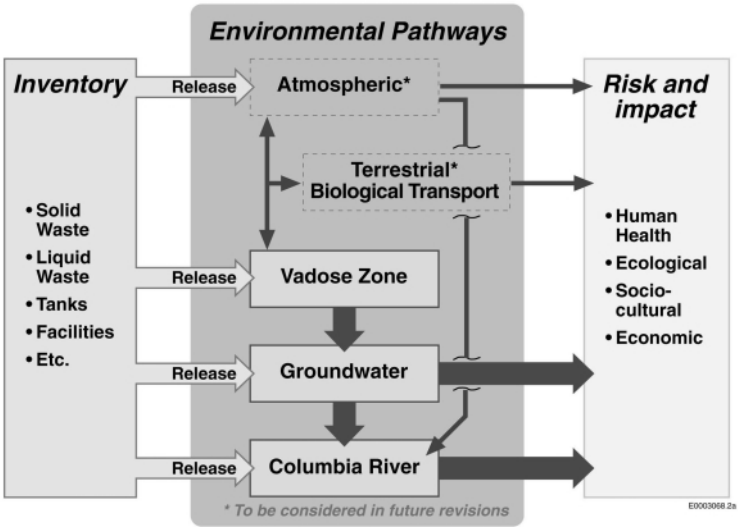
The SAC will be developed in several phases so the capability can build on the evolving understanding of the cumulative impacts of site operations on regional resources.

Phase 1 – Initial Assessment - SAC Rev 0

The initial assessment capability will be completed in the summer of 2000. It will demonstrate that an assessment of the scale and scope of the Hanford Site and the Columbia River (between Priest Rapids Dam and McNary Dam) can be conducted. The assessment is expected to yield the information needed to design and build tool that will be accepted by regulators and other decision makers.

The initial effort is being designed to examine ten radioactive and hazardous chemical contaminants that are expected to be dominant and representative contributors to risk and impacts. Contaminants to be examined include tritium, technetium-99, iodine-129, uranium-238, strontium-90, cesium-137 and plutonium-239/240, carbon tetrachloride, chromium, and total uranium.

The SAC will estimate movement of these contaminants from Hanford waste sites through the environment for 1000 years into the future. Sac Rev. 0 will focus on contaminants that move through the vadose zone, groundwater and Columbia River pathway. Predicted contaminant distributions will be used to estimate impacts to human health and the health of fish, birds, mammals, and plants in the region. Scientists will also use several measures to show the impact of the future contaminant distribution to the region's economy and diverse cultures.



An illustration of the SAC, which includes new and existing models, and will reflect the current understanding of Hanford's waste inventory, how it will release to the

environment, how contaminants are transported through environmental pathways and the impacts that will be assessed.

Phase 2 – Modifications to SAC Rev. 0

With minor modifications, it is proposed during 2001 and 2002 the SAC will have other uses at Hanford depending on DOE and regulator priorities. For example it could be used to perform an initial assessment of the impacts that would occur if DOE did no further cleanup (often called the no action alternative). Regulators and stakeholders have requested that this assessment be performed.

Phase 3 – SAC Rev. 1

By 2004, current plans call for development of a SAC support the following regulatory activities:

- develop final cleanup records of decision
- perform 2004 composite analyses
- make cleanup and waste management decisions
- design groundwater monitoring networks
- conduct *Comprehensive Environmental Response, Compensation and Liability Act of 1980* (CERCLA) five year reviews (due in 2005)
- analyze impacts of future baseline changes
- develop Tank Farm closure plans

One of the challenges associated with performing this type of an assessment is understanding how well the results predict what may actually occur. This is because the attributes of the site which effect transport of contaminants, the impact of contaminants on living systems, and future conditions used in the assessment cannot be completely understood. The planned assessment will attempt to estimate the uncertainty in the results due to many of these factors. When uncertainty is not incorporated in the calculations, it will be described along with the quantitative results.