Environmental Restoration Contractor **ERC Team**

Meeting Minutes

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SUBJECT GW/VZ INTEGRATION PROJECT PUBLIC INVOLVEMENT WORKSHOP - MAY 21, 1998

TO Distribution

FROM Michael J. Graham, GW/VZ Project Manager

DATE October 2, 1998

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A meeting on the above subject was held on May 21, 1998, at PNNL's Columbia River Room in the Environmental Technology Building, 3200 Q Avenue in Richland, Washington.

WELCOME: Linda Bauer, DOE-RL

Welcome to all those who are attending today. This is an important step forward in the Groundwater/Vadose Zone Integration Project because today we will work together to develop a conceptual design, layout the blueprint of the project and determine how best to involve the stakeholders, public, and Tribal Nations.

We would like to recognize the attendance of Mary Harmon and Bob Alvarez from DOE-HQ, as well as Steve Liedle, President of Bechtel Hanford, Inc.

PURPOSE OF THE WORKSHOP: Michael Graham, BHI

The purpose of this workshop is to provide an informal forum for gathering and sharing of ideas to establish the mission/vision/goals and public/Tribal governmental involvement approach for the project.

We proposed that the published agenda be adjusted to be as follows:

- Provide a brief background of the Project and why it is needed
- Review Project Definition, Approach and Deliverables
- Provide an overview of the CRCIA Meeting of May 20, 1998
- Conduct a review of where we are today and a discussion of where go from here regarding our public and Tribal involvement
- Conduct input/discussion on our Project Charter describing roles, responsibilities and decision making process
- Conduct breakout sessions to define the Mission and Vision for the Project
- Provide a brief wrap-up of the workshop

Agenda adjustments are intended to better group topics and provide information early in the workshop.

We propose that the following meeting ground rules be established for this workshop:
- This is a safe zone!
- No rank in the room
- Everyone participates, no one dominates
- Help us stay on track
- Listen as an ally
- One speaker at a time
- Be an active listener
- Give freely of your experience
- Agree only if it makes sense to do so
- Keep an open mind
- Have Fun!

We welcome your comments and suggestions. If there are comments, suggestions and/or concerns that you would like to communicate to the Project which are not addressed today, we have supplied 5x8 cards so that we can respond to those issues.

NOTE: One card was received. The request was made to use two sided copies when possible to save money and resources.

BACKGROUND:
Why is the Groundwater/Vadose Zone Project important?

DOE-RL Perspective - Rich Holten
- Ensure necessary and sufficient analytical tools and data for impact assessment are ready to support critical site decisions
- Improve quality of workscope tools, establish controls and use of data and models to eliminate inconsistencies
- Provide for understanding of priority of GW/VZ work
- Identify and resolve gaps in work not funded by single projects
- Save Money by designing characterization and other activities with site-wide perspective
- Provide focal point for technical peer reviews and regulator, stakeholder, and Tribal Nation participation in developing and application of assessment data and tools.

The Groundwater/Vadose Zone Integration Project will provide the tools to make key technical decisions on site-related projects (i.e., Tank Farms, ER); which have the potential to affect the Columbia River and Hanford land use. The CRCIA Mission Statement will be folded into the project so that they line up well.

DOE-HQ Perspective - Bob Alvarez
Why are we here? We are here to protect the water resources! So what are we trying to do? We are trying to take the necessary steps to understand the impacts of the Vadose Zone/Groundwater on the river. There are three time frames that we need to keep in mind.

1. What needs to be done now using common sense. Clearly we need to address the current issues of the tanks. We need to make sure that single shell tanks that are suspected or known leakers are drained to reduce risks. We must address what can be done with the near term issues.
2. We need to make informed judgements for the future. This Groundwater/Vadose Zone Project will allow us to gain better understanding to make informed judgements. What is the leak loss from sluicing from the tanks? If they are not acceptable we need to make new technology decisions. We need to look at the sludge removal from the K-Basins and leak loss limits. We need to understand what the site accumulated source may be. Circumstances may arise that make us rethink what is important and at that point in time new priorities will be set.
3. What is the impact of this site over a long period of time on the integrity of the Columbia River? What is the acceptable burden that we will be leaving? We must make sure that this burden does not pose unacceptable risks.

How do we accomplish these goals? How do we set this up? We will put together an applied science project that will address these questions on a site-wide basis in all of these three time scopes. We must overcome our fragmentation managerially, operationally and technically.

Requirements that are set forth in this project are CRCIA, Regulatory, and Project execution requirements. These requirements will be documented in the plan the end of this year. At this stage we must keep in mind that we are talking about putting together what will be included in the planning phase.

GW/VZ PROJECT DEFINITION: Michael Graham, BHI
What are the Deliverables of the GW/VZ Project this year?
- Project Management Plan
- Project Specification
- Gap Analysis
- Detailed Work Plan/Long Range Plan
- Public and Tribal Involvement Process and Plan

What is the Project Specification?
- The primary purpose of the Project Specification is to define the technical boundaries of key work scope elements that must be integrated in order to provide protection for Hanford Site groundwater resources and the Columbia River.

What is our Gap Analysis Plan?
- The gap analysis will look at data and programmatic gaps and overlaps. The “gaps” will then be prioritized for action.

What will be included in the book or plan scope?
- Tank Waste Remediation Systems (TWRS) Vadose Zone Characterization
- K-Basins
- Hanford Tank Initiatives (HTI)
- Immobilized Low Activity Waste (ILAW)
- 200 Area Assessments
- Groundwater Remediation

- Groundwater Monitoring
  - Vadose Zone Monitoring
  - Composite Modeling
  - RCRA Assessments
- Solid Waste Performance Assessment
- Columbia River Monitoring

Project Planning and Controls

- The Groundwater/Vadose Zone Integration Project is a tool to make sure that the site objective of protecting the Columbia River is met. The GW/VZ Project will be a tool for the site projects to help allocate funds and priorities in the process. We will not be responsible for developing the Detailed Work Plans for other projects (i.e., TWRS). However, we will approve all relevant DWPs and "sign off"on them. If we don't agree with what a project is doing, the Site management Board will be used to resolve disputes.

Science and Technology Roadmap

- The roadmapping process is needs driven. Keep in mind that science does not identify gaps, it solves gaps.
- We must define the key assumptions on which particular modules were based and determine if they still apply.
- We need to communicate that to be successful, Science and Technology needs to be publicly credible as well as technically credible.

How will the GW/VZ Project incorporate Peer Review and the Expert Panel?

National Academy of Sciences (NAS)

- Independent external peer reviews conducted for DOE
- Focus will be on:
  - Overall project strategy
  - Technical viability and
  - Project implementation
- First workshop is planned for October 1998

Technical Expert Panel

- Establish a "core group" to follow and assist the project
- Focus on problem resolution and technical review
- Sub panel's will be convened to address specific technical issues and project approach regarding:
  - Project planning and implementation
  - Interpretation of results

National Laboratory Participation

- Lead by PNNL
- Focused on applied science and technology in support of the GW/VZ Project
- Driven by project needs and schedules
- Objective is to provide solutions
- Identify basic science needs to R&D community

What are the key milestones today through September 30,1998?

- Conduct Public Involvement Workshops focused on key project issues (Perhaps Monthly)

- Expert Panel Kickoff (July)
- Expert Panel Sub-Panel Meeting (August)
- Convene Second Expert Panel Meeting (August)
- Complete the Gap Methodology (June)
- Complete Draft Gap Prioritization (July)
- Issue Gap Document (August)
- Submit Draft Project Specification to RL (July)
- Conduct First Science and Technology Workshop (June)
- Conduct Second Science and Technology Workshop (July)
- Complete Third Science and Technology Workshop (August)
- Submit Detailed Work Plan (DWP) to RL (September)
- Submit Long Range Plan to RL (August)

Key Discussion Points and Comments:
- Understanding the fundamental assumptions of science and technology models is critical.
- Where are the assumptions reviewed?
- Need to examine relevance/role for agencies (e.g., Fish & Wildlife, USGS, etc.)
- Independent oversight is an acceptable credible approach to building credibility.

COLUMBIA RIVER COMPREHENSIVE IMPACT ASSESSMENT (CRCIA): Tom Woods, Yakama Indian Nation and Rich Holten, DOE-RL

The CRCIA requirements were put together with the collective concerns of the potentially affected people. The purpose is to assess the affects of Hanford derived materials and contaminants on the Columbia River environment, river-dependent life, and users of river resources.

CRCIA is an assessment only. It is important the assessment effort remains as objective as possible. Information needs to go out, but politics must not feed in. CRCIA begins with all the site contaminates, whether they are presently known or not. A vital piece is the containment, currently or eventually. How well does it perform and how long does it last? There are questions regarding transport which are: What is the hold-up time or the mechanism that the waste moves through the groundwater and the river? Can very diluted contaminates become re-concentrated? "What does the river do with the contaminates?" In order to answer these questions we need to look at how the river distributes contaminates downstream. We need to know the consequences of the cleanup decisions, before we make those decisions.

The purpose of yesterday's meeting was to provide for an alignment between CRCIA and the GW/VZ Project prior to discussion of specific detailed technical requirement in CRCIA. It was to provide a bridge from the CRCIA assessment to the GW/VZ Project.

The purpose of then next CRCIA meeting:
- Define the expectation of the process - Look at the next level of detail.
  - Work through the words. We need to make sure that the Project understands what is meant and that we can work through the issues.
  - Need to discuss what are the system/conceptual modules that we are talking about.
- We need to determine what the mechanism is for resolving the potential conflicts in CRCIA.
- We need to develop methodology for applying requirements already in place.

- We need to dialog as a group about the process longer term than the 1999 and 2000 budgets. Clearly, there will be a lot more we will have to do.
  - We will do the best we can to have value in October, however, some things will take time to evaluate and plan.

The DOE team and the contractor team need to define the questions they have regarding CRCIA so that these issues can be resolved much faster.

Key Discussion Points and Comments:
- Stakeholders are looking to find a way to gain confidence, not necessarily control.
- There may be other ways to work the participation issues (e.g. grants).
- Need to build up, not tear down, to get a process to gain credibility.
- Focus on common objectives.

TRIBAL AND PUBLIC INVOLVEMENT: Dru Butler, BHI
Messages Received:
- One on one interviews conducted by BHI (early 1998) - problems and benefits of the project expressed
- April 14, 1998 Workshop that developed the next steps for the project public involvement process
- April 29, 1998 Scoping Meetings for Involvement/Partnering Process
- Weekly Project Team Meetings on Monday afternoons began on April 27, 1998.
- Letters and phone calls that have shared concerns and interests

What We Have Heard:
- There is a need to build trust and credibility
- The Project must be committed to a fully open involvement process
- The Project needs to provide multiple levels of involvement and outreach
- We need to Involve DOE-HQ and DOE-RL decision makers in all meetings
- Define roles, responsibilities, decision making up front
- The Project needs to communicate competently and in a timely fashion

What is Wanted:
Stakeholders want to be listened to. They want their input to be understood, evaluated and used in a meaningful way. They want to be provided with a timely response when their advice is not used. They want to be respected and valued.

Key Discussion Points and Comments:
- We may want a Charter and Communication Plan rather than to a Public Involvement Plan.
- "Co-management" was raised as a different approach for making assessment decisions. If credibility is important, then co-management may be required.
- We need to eliminate a feeling of "we" and "they" - The problems confront all of us - Need to directly involve the people affected on a daily basis.
- Recognize that we all have some differences, we need to focus on where our "circles" overlap.
- Separation can be diffused if we understand why decisions are being made.
- We are looking for communication of the things we need to know and that needs to be 100% concurrent.

- Stakeholders need information - It was this need that drove CRCIA - There needs to be objectivity with getting information.
- Purpose of stakeholder process is to generate information (unbiased) on the matters that are of concern to them.

What We Have Done:

- Created a project distribution list (Currently includes approximately 90 individuals in addition to contractor and DOE).
- Provided a 1-800 dial in access number for all meetings (1-800-664-0771).
- Involved DOE-HQ actively in meetings.
  - HQ integration team - Mary Harmon, lead
  - EM-50, 30, 60 TWRS bringing EM-HQ perspective.
  - Dr. Bob Alvarez and Dr. Ernest Moniz - The Under Secretary is paying careful attention and this Project is considered top priority.
- Established Weekly Project Team Meetings (open, public meetings) on Monday afternoons to provide real time information.
- Today's Workshop - Structured to discuss both the involvement process and the Project.

What We Will Do:

- "Beef up" Weekly Project Team Meetings to include more detailed key points and actions
- Conduct Project Workshops on key issues - Approximately one workshop a month from now until September
  - Project Specification/Conceptual Model Focus - June (Postponed)
  - Gap Analysis Focus - July
- Conduct three Public Involvement Regional Workshops - September
  - Spokane/Portland/Seattle - Public Informational focus and project recommendations meetings
- Develop Project Fact Sheets to educate and inform the general public
- We will shortly have available an interactive web site where information can be obtained and concerns/questions/issues can be addressed.
- We will support HAB requests for information

Key Discussion Points and Comments:

- We need to be sure that we don't loose site of informing the Hanford employee as well as stakeholder, public and Tribal Nations.

What Do You Think?

- Are we on the right road, are we taking a sound approach? Have we captured your wants and needs?
- Is our communication approach sound? What are your thoughts on a Public Involvement Plan?
  - Anyone who would like to volunteer to continue working on our public involvement plan can call Dru Butler at 509-375-4669 or Bryan Foley 509-376-7087.

Key Discussion Points and Comments:
- Other organizations use this process. Additionally since HQ is involved, I would like to see this process applied to other sites. It makes sense to use things that work.
- If there is a point at which you believe we need government-to-government communications with Tribal Nations, let DOE-RL know so that we can ensure it happens.
- The process here needs to be linked to other Hanford goals and end states.
- Support requests for information - not just HAB - anyone who wants information can obtain it.
- Need more information on the Science and Technology side. Need to be aware of meetings before they happen.

PROJECT CHARTER: Larry Gadbois, USEPA
I do not intend to provide answers, rather ask questions, highlight issues, and identify options. You participants will provide the answers. A charter can describe why are we all here. We have Interest/Roles/Responsibility for the Hanford Site clean-up that we want to see happen for this project to succeed.

How will we work together? How do we all fulfill our roles in this group or other arenas?

Options:
1. Tri-Party Agreement - DOE/EPA/ECOLOGY/REGULATORS
2. Tribes, Public, Regulators, Ecology, EPA - Into the GW/VZ Project
3. TPA with collective agencies coming into the process
4. Government to Government Process

We must ensure that we have the data to make correct decisions.

How are decisions made? Will they be:
1. Consensus
2. Majority/Minority

If it is majority/minority, what will be the dispute resolution process?
1. The regulators and DOE use the Tri-Party Mechanism

In the absence of the GW/VZ Project, investigations and cleanup decisions would be made and implemented via existing mechanisms. Do participants envision adding something to the existing process, or roll part of the existing process into this GW/VZ Project?

Key Discussion Points and Comments:
What can we do to move forward on this issue?
- This project is a resource tool to help us do a better job and make better cleanup decisions.
- Add the words “informed consent” which means that there will be cases where a decision is made where individual don’t agree, but at a minimum they understand the rationale for why the decision was made.
- Let’s not derail the train in the short-term while we continue to work on the longer term, recognizing that things will change as we go along.
- Make sure that the interested parties are involved in identifying the data gaps

- Need to determine what is on the table and what is not. Rich Holten shared the following guidelines.
  - DOE chooses contracts, assigns scope and negotiates with contractors
  - DOE assigns work/budget/schedule (DWP)
  - DOE assesses contract performance
  - DOE is the focal point for working with the stakeholders/regulators and Tribal Nations
  - DOE negotiates with regulators

MISSION AND VISION - Michael Graham, BHI and Bob Alvarez, DOE-HQ
We are all in agreement that protection of the river is a goal of this project and site. A requirements-based framework has been defined in the CRCIA.

As we divide into the working groups, please use the following information as starting points:

MISSION STATEMENT STARTING POINTS
- *Identify all Hanford Site work scope that affects groundwater, vadose zone, and the Columbia River*
- *Integrate existing project activities into a single cost effective and well-managed project*
- *Identify and eliminate redundant work and programmatic inefficiencies*
- *Evaluate and align remaining work along project priorities*
- *Identify work to address unmet technical project needs*
- *Evaluate cumulative impact of Hanford Site contaminants*
- *Provide a sound technical basis for significant technical decisions*

CRCIA PURPOSE
The purpose of the Columbia River Comprehensive Impact Assessment (CRCIA) is to assess the effects of Hanford-derived materials and contaminants on the Columbia River environment, river-dependent life, and users of river resources.

For the CRCIA to be comprehensive, representatives of the major community groups (non-DOE) on the CRCIA Team have agreed that the following objectives must be achieved if the results and conclusions are to be acceptable by all concerned:

- *Estimate, with useful certainty, river-related human health and ecological risks for the time period that the Hanford materials and contaminants remain intrinsically hazardous.*
- *Evaluate the sustainability of the river ecosystem, the interrelated cultural quality of life, and the viability of socio-economic entities for the time period that Hanford materials and contaminants remain intrinsically hazardous.*
- *Provide results that are useful for decision making on Hanford waste management, environmental restoration, and remediation.*

We will now divide into four working groups and define the following for the Project:
- Vision
- Mission
- Goals/Objectives

Rich Holten's Group - (Blue)
- Purpose - Breaking down into two functions

- Assessing cumulative impacts which gives results
  - Producing assessments
  - Necessary mechanism is the tools
  - Feedback with technical introduction to build tool set
- Input into site-wide pollution load
  - Feedback

Bob Alvarez's Group - (Red)

- Mission - To protect the water resources, human health, and ecology in an open manner that inspires the utmost public confidence and scientific credibility.
- Purpose - Understand the impacts of Hanford contaminants to inform near-term and long-term cleanup decisions.
- Measure
  - Removal and immobilization of HLW in a manner that does not harm the groundwater and river.
  - Determining the best ways to perform remediation
  - Informing vital operational decisions
  - Identifying key sources of contamination

Tom Woods Group - (Red) - One Page

- Conduct site cumulative assessments and integrate affected activities in such a way as to determine the potential Hanford contaminant impact on affected receptors so as to form a publicly credible and technically defensible basis for cleanup/disposal decisions.

  (Need to define what is meant by cumulative.)

Michael Graham's Group - (Orange)

- Vision - Project provides the foundation which Hanford Site is managed and credible decisions are made that minimize (if not eliminate) the negative impact to the Columbia River. The Project provides model process for all other human activities that effect the system.
- Goals/Objectives
  - Timely, efficient, lost effective, well - managed project
  - Openness: Well defined and smoothly functioning Public Involvement Process
  - Credible - both widely and deeply
  - Responsive to user needs (i.e. regulators, projects, managers, public and Tribal Nations)
  - Provide sound science for assessment, decisions, options (data, models)
  - Implement/execute credible cumulative risk and impact assessments
- Mission - Integrate all projects/activities on the site to understand and mitigate impacts to the water resources and ecosystem through time.

WRAP UP

It was determined that an all-day workshop format best utilized the time of those traveling long distances. Future workshops will be structured this way.

ACTION ITEMS

- Review the CRCIA Matrix Comparison Chart and be prepared to discuss what elements are included as part of the GW/VZ Project Specification. (Tony Knepp, BHI)

- Plan CRCIA and GW/VZ Project alignment open meetings for early June.

- Tony will take the mission/vision information from all four work groups and blend it into one. He will then get back with the four team leads (Tom Woods, YIN; Rich Holten, DOE-RL; Bob Alvarez, DOE-HQ; Michael Graham, BHI) for a review to make sure we have captured what each group was trying to communicate. (Tony Knepp, BHI)
- Establish a working meeting to discuss Project Specification efforts. (Tony Knepp, BHI)
- Plan Conceptual Model Workshop for June. (Dru Butler, BHI) (Postponed)
- A meeting will be schedule for interested parties to work on a management issues dialog. (Rich Holten, DOE-RL)
  - In developing the Project Charter, provide as a starting point a 300 Area ERDF model for review as a starting point. (Rich Holten, DOE-RL)
  - Resolve Appendix D issue. (Rich Holten, DOE-RL)
- The next Monday Project Meeting is June 1. If you have any questions, please contact Karen Strickland at (509) 372-9236.
- Tom Page (PNNL) will have the lead to involve Oregon and the Tribes in the Peer Review Process. Other interested parties, please contact Tom Page at (509) 372-9482 or Phil Long at (509) 376-2907.
  - Additional names to be included in the Expert Panel nomination list need to be given to Phil Long (509) 376-2907 by May 27, 1998.
- Dru Butler and Barbara Harper will work together to develop a credibility report card to assess progress.

Attachment: CRCIA Meeting Minutes from May 20, 1998

Sent Under Separate Cover May 29, 1998:

1) Letter of Instruction to the University of Oregon and University of Washington for the initial screening of candidates for Expert Panel
2) List of potential Expert Panel candidates
3) Draft Protocol for Technical Oversight

ATTACHMENT
CRCIA MEETING MINUTES
May 20, 1998
Hill Street Conference Center

AttendanceAttendance
Representatives from the following organizations were in attendance:

Bechtel Hanford Inc.
Confederated Tribes of the Umatilla Indian Reservation
DOE-HQ
DOE-RL
EPA
Hanford Advisory Board
Nez Perce Tribe
Oregon Department of Energy
PNNL
Public
Tri-City Herald
Washington Dept of Ecology
Yakama Indian Nation

(A sign-up list was not routed at this meeting. The list above may not be inclusive of all attendees.)

Introduction
Rich Holten and Tom Woods opened the meeting. Rich represented DOE and the Vadose Zone Integration Project meeting. Tom represented the members of the CRCIA team. The purpose of this meeting is to reach an understanding of the purpose, goals, and background of the CRCIA and its requirements in relation to the Vadose Zone plan. The goal is alignment between the two efforts, and where there are differences, identify them and find pathways forward.

Purpose of CRCIA

The purpose of the CRCIA is to assess the effects of Hanford-derived materials and contaminants on the Columbia River environment, river-dependent life, and users of river resources. For CRCIA to be comprehensive, representatives of the major community groups (CRCIA Team members other than DOE) on the CRCIA Team have agreed that the following objectives must be achieved if the results and conclusions are to be accepted by all concerned:

- *Estimate, with useful certainty, river-related human health and ecological risks for the time period that the Hanford materials and contaminants remain intrinsically hazardous.*
- *Evaluate the sustainability of river ecosystem, the interrelated cultural quality of life, and the viability of socio-economic entities for the time period that Hanford materials and contaminants remain intrinsically hazardous.*

- *Provide results that are useful for decision making for the Hanford Waste management, environmental restoration, and remediation.*

Discussion by Thomas W. Woods

The CRCIA team recognizes that the assessment is a tough job and there is a need to keep it as simple as possible for the analysts. Because of this, the Team believes the analysts should not become involved in the decision making of site decisions. The analysts should only deal with issues such as how to do the analysis, how much data is enough, and related assessment decisions. Accordingly, and to clarify wide misunderstanding, Appendix D of the Requirements document, "Conducting and Managing the Assessment,"applies only to the management of the assessment, rather than involvment in Site decisions.

The word *comprehensive* was introduced in TPA language beginning in the 1992-1993 timeframe. This was a time when concerns about protecting the river began reaching heightened levels. Comprehensive has different meanings to different audiences. A corollary to comprehensive is "acceptable." In trying to determine what is comprehensive and also what is acceptable, the CRCIA team was formed. The CRCIA team developed the requirements to find a common ground satisfying regulatory and policy constraints, multiple and diverse public concerns, different views and agendas, and meet the needs of different people and cultures. If an assessment of effects is performed which is not acceptable to all concerned, then any Site cleanup decisions based upon those results will not be acceptable. A concern was expressed that perhaps extraordinarily high performance desires have been set and they would hate to see the effort hampered by a goal that may not be achievable in the foreseeable future. Many of the decisions made today are in accordance with regulatory standards which are not acceptable to all the potentially affected people, especially those having markedly different cultural lifestyles than addressed in the regulations.

The CRCIA team treated the regulations and legal restrictions as a basis for good advice in developing the assessment requirements, but nothing more than that.

Regarding statements of acceptability, a request was made for some criteria to evaluate whether assessment products and methods would be acceptable. To answer this, there is a need to reference the CRCIA requirements. The requirements are not necessarily based solely on regulations nor on DOE orders. The meaning of "requirements" in CRCIA is that set of factors which must be included (or excluded) by the analysts in order for the assessment to be acceptable. As such these requirements form a floor of minimal guidelines which the analysts must meet or exceed in performing the assessment . It is critical that the study performers understand how to proceed with a comprehensive assessment that will be acceptable. They can't go off and work in a vacuum and bring back results to see if they are acceptable. This concept will be discussed in more detail at Thursday's (5/21/98) meeting. The requirements intentionally don't say "x" parts per million of a particular unit is acceptable. The assessment is not about how clean is clean or the acceptability of the effects estimated. It's about the acceptable process for conducting the assessment. Decison forums outside the scope and purview of the assessment are intended to address remediation options which might, if needed, reduce the severity of the estimated effects.

A question was raised about how much assessment is needed and how do you reduce the scope and prioritize with other work on site and still be acceptable. This was an area of considerable study by the Team in developing the requirements. How do you tell everybody that you considered everything, but there's not enough time or money to give decision makers all the assessment information they need, or conversely, how can "acceptable" decisions be made through different eyes than the potentially effected persons? Two CRCIA principles were developed to cope with this difficulty. First, the scope or breadth of any given iteration of the assessment is always fixed, i.e., source term to receptor impact. It is depth that varies with time and resources avaialble. Always the most important factors are included at any given depth of analysis. This approach ensures that effects estimates always become available, albeit with relatively high levels of uncertainty if the limited resources allow only a relatively few of the significant factors to be included, that is, analysis to only a shallow depth. This prompts the second principle: uncertainty. The estimates provided by the assessment must have uncertainty as part of the results.

There are at least two users of the assessment's information: 1) the Site decision-makers, and 2) those people affected by the decisions; i.e., the decision-making undertaken in response to expected Hanford impacts.

What does "standards" mean? Is it intended that CRCIA will set new standards? When talking about standards in the CRCIA, it's not in the sense of RCRA or CERCLA standards. The CRCIA is not about setting new clean-up standards. Regulatory standards by themselves are necessary but are not sufficient to meet all the lifestyle values of the potentially affected people and, therefore, are reflected in the CRCIA. Regulatory standards are not necessarily sensitive to the lifestyles and cultures of affected persons or ecosystems. However, CRCIA recognizes that the analysts need "standards" or criteria with which to narrow the analysis to a manageable task. These are to be developed as a part of the assessment work.

How much data is needed? As discussed, there has to be a balance between including everything on the one hand and keeping the study affordable and timely on the other hand. The analysts will need to document the "candidate set" of factors (e.g., contaminants) to include, then through a documented process, narrow the candidate set down to a "study set". Criteria or "standards" need to be developed to document the process for determining what is most important to be included in the assessment. It's important to use actual data to the greatest extent possible rather than use of expert judgement, although in some cases, expert judgement is all that is available. The analyst must be careful not to dismiss effects that may not be important from their own cultural perspective. For example, an analyst not familiar with a Umatilla Tribe lifestyle will have difficulty applying expert judgement in this area. This is a point where there is a real problem. It's easy from a risk assessment view to measure against end points such as cancer. However, to measure against cultural values at this time is not quantified in the same way. Stuart Harris and Barbara Harper have done a great deal of work in the area of cultural impacts. Known cultural drivers will need to be laid out and discussed to be included in the assessment.

How do we determine similarities and differences between CRCIA and Vadose Zone Integration effort? A viewgraph that addressed the nine CRCIA modules across the top and the requirements down the left was presented. An attempt at identifying what each study did address was made by

the CRCIA team based upon the only available written material, i.e., the April 13, 1998 GW/VZ management and integration plan and the CRCIA requirements document. The initial gut perspective from the audience was that the two studies were in fact pretty close. An action was assigned to DOE and Bechtel to go back and fill out the chart from the Vadose Zone Integration effort perspective.

Discussion of Groundwater/Vadose Zone by Rich Holten

The groundwater/vadose zone (GW/VZ) is focused on cleanup decisions and actions. The work shows ties to TPA milestones and compliance that are cleanup related. This is necessary in getting into the FY 1999 budget process. Also, it was pointed out that we are interested in studies that go beyond regulatory standards. For example, the chromium impacts on salmon smolt and the associated effects. Another driver is to improve quality and use of data on site. This study will include chemical and radioactive inventory or all hazardous materials. For source terms from tank farms, this study will interface with the tanks group to obtain information; data will not be regenerated. This effort will cut across all program areas.

The primary output of this project, that is, its purpose, is a risk assessment. This project does not do the remediation, but rather develops the tools so others can make remediation recommendations. The analysis will not stop at the vadose zone; it will continue through to the receptors.

The ultimate goal is to protect the water resource. Given that circumstance, the effort can be thought of in three time frames. First, there are some immediate issues or pure common sense that need to be taken care of. For example, there shouldn't be large amounts of spent fuel 400 yards from the river. The second, or interim time frame of 5-15 years, would include big operational decisions and impacts. For example, single shell tanks or sludge removal from K basins. We need to understand the impacts in time to make the right decisions. The third box includes final disposition of the site. For example, what is an acceptable contaminant burden and associated impact of the integrity of the Columbia River? Some concerns were expressed that if immediate action is taken prior to completion of the assessment and known cumulative impacts, then the immediate actions may be inappropriate. Conversely, we can't turn the clock back ten years so some actions will be completed prior to knowing all of the information.

One of the near term drivers is to get into the FY 1999 and FY 2000 budget cycles. Between now and October 1, work is progressing on developing a plan for the GW/VZ Project. The requirements are being used to provide a framework for developing the plan.

Question: How much will this work costs? Approximately $3.0M is planned for integration/planning activities. At the time, there is about $20.0M for other related activities that are currently underway.

Actions:
Assigned to DOE; Compare GW/VZ plans to CRCIA and complete the yes/no viewgraph presented by Tom Woods. Initial reaction is that the two efforts are close but DOE needs to go back and make sure. It's in the detail that some areas may differ.

Assigned to DOE; Compare the purpose of CRCIA to GW/VZ plans and identify similarities and differences.

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