

**VERSION G**  
**29 June 1998**

**Protocol for External Technical Review  
of the  
Hanford Groundwater/Vadose Zone Project**

**1. Introduction**

The Groundwater/Vadose Zone Project will employ several review processes in order ensure the technical success and validity of the project. One of these review processes is external technical review. The U.S. Department of Energy has chosen to establish a Site-Wide Groundwater/Vadose Zone External Technical Review Panel to provide recommendations on the scope and nature of the technical activities that are part of the Groundwater/Vadose Zone Project. The purpose of this document is to establish 1) the charter and structure of the review process, 2) the reviewer selection process, 3) conflict of interest standards, 4) review meeting protocols, and 5) the review reporting process.

**2. Charter and Structure of the External Technical Review Panel**

Purpose/Charter

The purpose of the External Technical Review Panel reviews is to provide DOE with technical observations and recommendations regarding the planning, execution, and interpretation of results from the Vadose Zone/Groundwater Integration Project at the Hanford Site as well as performance and effectiveness of the Project. The charter for External Technical Review Panel is to perform technical reviews of critical subject areas focusing the on the overall objective of cumulative assessment and remediation of the potential impact of Hanford waste inventories to protect the Columbia River. The External Technical Review Panel will thus review technical areas that include the inventory of contaminants, their chemical and physical nature and, the interaction and of contaminants with and transport through the natural environment including the:

- unsaturated (vadose) zone,
- saturated zone,
- discharge of groundwater to the Columbia River,
- fate and transport of contaminants in the Columbia River, and
- environmental and public health consequences of that discharge.

Topics of greatest importance for review include, but are not limited to, technical areas that have 1) high technical uncertainty; 2) significant impact on project outcomes; and 3) represent unresolved issues (e.g. technical interpretation controversy).

DOE-RL will be responsible for the panel which will be commissioned by the Field Office Manager. The DOE GW/VZ Project Manager will identify, prioritize, and track the technical subject areas for review. This process will include stakeholder, Indian Nation, and regulator input. The External Technical Review Panel will meet four times per year. DOE will approach each review with clear objectives, scope, schedule, and budget that will facilitate maximum results from reviews. The

Vadose Zone/Groundwater Integration Project will manage panel costs and provide support as necessary

#### External Technical Review Panel Structure

The External Technical Review Panel will consist of five permanent members, including of one member designated as the Panel Chair. The Chair will rotate among the panel members on a yearly basis. In order to accommodate the range of topics that may need technical review, Subpanels, incorporating additional members as necessary may be established based on the GW/VZ Integration Project requirements. When this need is identified by the External Technical Review Panel or the GW/VZ Integration Project, DOE-RL will establish the required Subpanels. Subpanels will be disbanded when their assigned task is complete.

### **3. External Technical Review Panel Member Selection Process**

The Presidents of the University of Washington and the University of Oregon will be asked to each select one to three people to form a screening committee to review potential candidates and make recommendations. The screening committee will provide pool of 12 candidates for the External Technical Review Panel from which DOE will select five members. To facilitate the screening committee's work, the GW/VZ Integration Project will provide a list of potential candidates and their vitae. The screening committee's recommendations will not be constrained to the list provided by the GW/VZ Integration Project.

DOE-RL, with HQ's concurrence will make the final selection of five members from the list of candidates provided by the screening committee, including designation of one member as the Panel Chair. (DOE-RL's selection process is included as Attachment A)

Candidates will be evaluated and selected on the basis of:

- Education
- Experience in the appropriate area of expertise
- Peer (national) recognition,
- Contributions to the profession associated with their expertise.
- Problem solving abilities
- Current Understanding of Hanford GW/VZ issues and or relevant Pacific Northwest regional issues.
- Desire and availability to serve

All evaluations of candidates will be kept confidential. Any person or persons that the DOE-RL involves in the process shall also abide by this confidentiality requirement.

As a group, the External Technical Review Panel will broadly embody the following expertise:

- Application of and role of science and technology to characterization and cleanup of radiologically and chemically contaminated sites, including technology insertion into cleanup
- Familiarity with Public Policy issues relevant to cleanup of Federal Sites including regulatory and environmental requirements and realities

- Knowledge of the DOE-complex cleanup issues
  - Funding
  - S&T capabilities
  - Remediation approaches
  - Strengths and weaknesses of Federal Contracting mechanisms
- Acceptance of the role of stakeholder and Tribal involvement in Federal cleanup decisions
- Decision analytical techniques (e.g., value of information, use of models)
- Use of the scientific method e.g.,
  - Mathematics and statistics,
  - Technical, scientific and programmatic uncertainty
- Leadership and environmental stewardship
- Ability to work in a diverse team
- Ability to communicate technical ideas/issues to non-technical people

#### **4. External Technical Review Subpanel Member Selection Process**

In order to accommodate the range of topics that may need technical review, Subpanels, incorporating additional members as necessary will be established based on the GW/VZ Integration Project requirements. When this need is identified by the External Technical Review Panel or the GW/VZ Integration Project, the External Review Panel will provide DOE-RL with recommended candidates for that Subpanel. DOE-RL will then establish the panel

In selecting Subpanel members the Expert Technical Review Panel will evaluate and select candidates on the basis of:

- Education
- Experience in the appropriate area of expertise
- Peer (national) recognition,
- Contributions to the profession associated with their expertise.
- Problem solving abilities
- Current Understanding of Hanford GW/VZ issues
- Desire and availability to serve

Additional evaluation and selection criteria may be added as necessary to achieve technical review project objectives.

All evaluations of candidates will be kept confidential. Any person or persons that the DOE-RL involves in the process shall also abide by this confidentiality requirement.

Subpanel duration is driven by their specific task assignment and they will be disbanded upon completion of their assigned task. Composition of a Subpanel is expected to remain constant through out their duration.

The GW/VZ Project will provide administrative support to the Expert Technical Review Panel as necessary to aid in the selection and establishment of Subpanels.

## 5. Procurement of Reviewers

DOE will subcontract with the selected External Technical Review Panel or Subpanel members. The subcontract will provide for travel and appropriate compensation for work. The contract with the External Technical Review Panel or Subpanel Members shall contain appropriate termination language to protect both parties.

## 6. Conflict of interest

While conflict of interest is undesirable, complete absence of conflict of interest is not an absolute requirement for External Technical Review Panel or Subpanel membership. Potential conflict-of-interest will however be considered during the selection of External Technical Review and Subpanel members. Fully independent peer review will be performed by the National Academy of Sciences. Furthermore, it is expected that External Technical Review Panel and Subpanel members will be asked to provide recommendations to the project in developing approaches and solutions. Panel members will return to evaluate the implementation and results of those same approaches and solutions. Full independence is lost in such cases. Therefore, panel/subpanel members will be required to fully disclose any real or apparent conflicts of interest. These disclosures will be made publicly available at the beginning of each peer review meeting. The following disclosure forms will be completed by each panel/subpanel member prior to participation in the review.

### **Conflict of Interest Certificate for External Technical Reviewers for the Hanford GW/VZ Integration Project**

I certify that I am unaware of any matter which may reduce my ability to perform an unbiased and objective technical peer review of the GroundWater/Vadose Zone Integration Project activities at the Hanford Site or I have listed any such matters below. In making this certification I have considered all my financial interests and employment arrangements of relatives.

Matters that may reduce my objectivity or cause me to be biased (if none, write none):

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Signature: \_\_\_\_\_

Date: \_\_\_\_\_

## **7. Protocol for Review Meetings**

### Review chairperson

The External Technical Review Panel or Subpanel Chair is responsible for guiding discussion of the panel and ensuring that the review report is submitted on schedule.

### Quorum

Three of the five External Technical Review Panel members shall constitute a quorum for the purpose of meeting or conducting business.

### Open meeting policy

All meetings of the External Technical Review Panel or Subpanels are open to the public.

### External Technical Review Panel Subpanel Business Conducted Only in Open Meetings

All technical issues addressed by the External Technical Review Panel or Subpanels shall be discussed in open meetings. The panel members may deliberate among themselves in private, but private meetings between reviewers and interested parties are not appropriate. Interested parties may request to present views related to the subject under review by the panel but must do so only in a public forum. If individuals do not wish to bring up technical topics or information during the discussion periods, they are welcome to submit either signed or anonymous written materials to the panel. Time permitting such materials will be discussed during the review session. Submitted materials should be relevant to the technical topic under review by the panel and should not contain complaints or allegations of wrong-doing against individuals. Such materials will not be discussed by the panel.

### Review topics

Selection of Review topics is the responsibility of the DOE-RL's Groundwater/Vadose Zone Project Manager. The GW/VZ Integration Project Manager will develop a list of review topics in order of priority. DOE-RL's Groundwater/Vadose Zone Project Manager will make the final decision on topics, but with input from interested parties (e.g., stakeholders, Indian Nations, regulators, and DOE-HQ). The review topics list will also include a clear objective of the review for each review topic (e.g., what information, assessments, recommendations does DOE need from the panel). DOE-RL will also identify any scheduling constraints for specific topics. However, in establishing the schedule, DOE-RL will work with the Panel or Subpanels to assure that sufficient time is allowed for them to gather needed information and to make recommendations.

### Review Schedule

DOE will develop a schedule of reviews in conjunction with the GW/VZ Project Integration Project team.

### Agenda development

DOE will develop an agenda for each of the review topics that provides the necessary technical information to the review panel. The objective of the material presented will be to facilitate an efficient and effective technical evaluation of groundwater, vadose zone, Columbia River protection issues, approaches, and results in the topical area to be reviewed. Agendas will identify presentation and discussion time separately so presenters can appropriately gauge the time available for actual presentation. Presenters and participants from the DOE and their contractors will be identified as

part of the agenda. DOE and contractor personnel not identified as participants may attend the review meetings as members of the public. The agenda will include a close-out session during which the panel members will present their preliminary findings and to critique to improve the next meeting. Time will be identified before, during, and after the meeting for panel members to discuss information provided to them and to develop recommendations.

#### Meeting conduct and participant responsibilities

General: All meetings will be conducted in a professional manner that respects individual opinions and differences. All persons present at the meetings are expected to follow the responsibilities described below.

Chairperson or Designated Meeting Leader: Call the meeting to order, announce presentations, ensure that schedule is adhered to and facilitate discussions, especially for issues that may prove difficult to resolve or where parties to the discussion do not appear to be communicating. Ensure that the panel members have adequate time to discuss the technical issues with presenters prior to opening the discussion to the audience (see audience responsibilities below).

Panel Members: Listen to presenters, ask questions of clarification during and after the presentations. In depth discussion is expected and should occur primarily after the presentation is complete. Discussion will initially be between the panel members and the presenter and individuals in the audience that the presenter chooses to ask for assistance in answering questions. If panel members wish clarification from members of the audience, they may request it, but only after the discussion has been opened to audience participation.

Presenters: Present materials to the panel and answer questions by the panel during and immediately after the presentation, adhering to the agenda time allotted for their presentation. Presenters may ask for assistance from persons in audience in answering questions. Presentations need to focus on technical information that the panel has been requested to review.

Audience: The audience is expected to remain silent during the presentations and discussion between the presenter and panel members, unless specifically asked to comment by a presenter. Once the panel members have completed their discussions with the presenter, the Chairperson or meeting leader will open the discussion to the audience for comments and questions. Audience members who would like to discuss specific topics privately with other audience members will need to leave the meeting room to do so.

## **8. Review reporting process**

### Report structure

The External Technical Review Panel and Subpanels shall produce a report containing the outcome of the review(s). Each reviewer is expected to contribute to the development of the reports. The chairperson is responsible for developing a single consensus report containing the following elements:

- 1) A description of the topic and materials reviewed,
- 2) The observations of the panel on the technical aspects of the material under review,
- 3) Recommendations of the panel; and

- 4) An appendix containing significant observations not otherwise captured in the report along with minority opinions, and disagreements as appropriate.

#### Timeliness

Timeliness in producing the report is particularly important. Each external technical review report shall be completed and provided to DOE no later than three weeks after the end of the review meeting.

### **9. Project Response**

The GW/VZ Integration Project will prepare a response to each External Technical Review Panel or Subpanel report. The report will include the actions the Project intends to take in response to the External Technical Review Panel or Subpanel report and the justification or basis for those actions. The Project's response shall be completed in time for reporting to and discussion with the External Technical Review Panel or Subpanel at their next meeting. Actions taken by the Project in response to External Technical Review Panel or Subpanel recommendations shall be implemented in a timely fashion taking in to consideration project schedules, budget, and other constraints.

## ATTACHMENT A

### COMMENT DRAFT

#### **DOE Expert Panel Selection Criteria Groundwater/Vadose Zone/Columbia River Integration Project June 1998**

#### ***Selection Process***

This process described below is the methodology DOE-RL will use to narrow the field of expert panel candidates from the twelve provided by the Universities of Washington and Oregon screening committee to five final members.

- 1) The names of twelve candidates received from selection committee will be shared with the regulators, Tribal Nations, and interested stakeholders on 29 June 98 at the regularly scheduled Monday project team meeting.
- 2) The desire and availability to serve of the candidate members will be confirmed. It is expected that this will reduce the field of twelve candidates.
- 3) If more than five candidates are available, the expertise offered by the available candidates will be evaluated to determine if there is an overlap in expertise.

The mix of expertise will be compared to project needs to assure a diversity of discipline and expertise. If such an overlap is found, the individual (or individuals) with the highest level of directly applicable experience, based on the criteria below, including experience with Hanford or relevant Pacific Northwest regional issues will be selected.

Consideration will also be given to having at least one member who has not been involved with Hanford in the past to provide a fresh perspective.

In evaluating candidates, DOE will consider their previous experience with significant projects and their role in those projects.

- 4) The proposed list of five final members will be forwarded to the Undersecretary for concurrence prior to final notification of the individuals.
- 5) Following concurrence by the Undersecretary, the names of the five members will be announced.

#### ***Criteria***

Candidates will be evaluated and selected on the basis of:

- Education
- Experience in the appropriate area of expertise
- Peer (national) recognition,
- Contributions to the profession associated with their expertise.
- Problem solving abilities as demonstrated by their role in large complex projects
- Current Understanding of Hanford GW/VZ/river contamination issues
- Desire and availability to serve

As a group, the External Technical Review Panel will broadly embody the following expertise:

- Application of and role of science and technology to characterization and cleanup of radiologically and chemically contaminated sites, including technology insertion into cleanup
- Familiarity with Public Policy issues relevant to cleanup of Federal Sites, including regulatory and environmental requirements and realities
- Knowledge of the DOE-complex cleanup issues
  - Funding
  - S&T capabilities
  - Remediation approaches
  - Strengths and weaknesses of Federal Contracting mechanisms
- Ability to communicate technical ideas/issues to non-technical people
- All of the members will reflect the following attributes:
  - Acceptance of the role of stakeholder and Tribal involvement in Federal cleanup decisions
  - Decision analytical techniques (e.g., value of information, use of models)
  - Use of the scientific method e.g.,
    - Mathematics and statistics,
    - Technical, scientific and programmatic uncertainty
  - Leadership and environmental stewardship
  - Ability to work in a diverse team

All evaluations of candidates will be kept confidential. Any person or persons that the DOE-RL involves in the process shall also abide by this confidentiality requirement.