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STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY  
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September 13, 2007

Mr. Matthew S. McCormick  
Richland Operations Office  
United States Department of Energy  
P.O. Box 550, MSIN: A5-11  
Richland, Washington 99352

**RECEIVED**  
SEP 17 2007  
**EDMC**

Re: Department of Ecology response to request for input on the *Annual Hanford Site Groundwater Monitoring Report*

Dear Mr. McCormick:

Ecology has reviewed your request for input on the Annual Hanford Site Groundwater Monitoring Report. In preparation for our meeting in September, we are providing the following list of concerns, comments, and suggestions for discussion:

General Issues

- 1) The time allotted for Ecology review of the report is inadequate. The report schedule should include additional review time.
- 2) The report should include a large map or plate, or a number of maps or plates that display all the wells on the Hanford Site.
- 3) Ecology and the United States Environmental Protection Agency recently notified the United States Department of Energy (USDOE) that groundwater samples should not be field filtered, except in approved cases. Groundwater monitoring reports should differentiate data showing filtered and unfiltered results. For example, filtered total chromium concentrations should not represent hexavalent chromium concentrations. Re-label figures labeled "Dissolved Chromium Concentrations" as "Filtered Total Chromium Concentrations," with separate graphics for "Hexavalent Chromium," to more accurately describe these measurements.
- 4) Contaminant plumes are volumes, not areas, as portrayed on contaminant maps. The depth distribution of contamination needs better representation.

- 5) Add information to the report regarding the degree of communication between the unconfined and confined aquifer systems.
- 6) In the past, quarterly meetings were held following Ecology review of Resource Conservation and Recovery Act quarterly reports on groundwater monitoring. USDOE ended these meetings in 2005. Ecology would like to resume these meeting.
- 7) To make information more accessible to the public, include in the document links to sites containing relevant and recent information and reports.
- 8) In the past, when quarterly groundwater monitoring reports were issued, USDOE gave Ecology compact disks (Data Viewer and Evaluator [DaVE]) containing relevant groundwater monitoring data. We no longer receive these compact disks on a regular basis. When the quarterly reports are issued, we would like receive DaVE disks containing the data covered in the report.

#### Specific and Emerging Issues

- 1) The text should provide a more complete explanation for common issues on all or a part of the site. (For example, rising cations and anions, especially sulfate, in 200 East Area groundwater monitoring wells.)
- 2) The bases for excluding sites from assessment monitoring must be re-examined to determine if conditions used for the exclusions still prevail. Letters or letter reports submitted to Ecology more than five years ago provided the bases for these exclusions. For example, a 1992 letter to Ecology cited elevated sulfate, nitrate, sodium, and calcium to account for elevated specific conductance at the 1301-N Liquid Waste Disposal Facility. A similar situation exists at the Non-Radioactive Dangerous Waste Landfill, where a 2001 letter explains a likely cause of elevated specific conductance. Quarterly and annual groundwater monitoring reports should state whether these bases are still valid for site exclusion.
- 3) The report should address the need for a network of wells with transducers installed to continuously monitor water levels in 200 East Area. Periodic measurement of water levels in wells is insufficient to determine the true direction of groundwater movement. Also, due to the flatness of the 200 East Area water table, the report should discuss techniques used (other than periodic measurement of water levels in certain wells) to determine the direction of groundwater movement.
- 4) The report should address the need for alternative environmental monitoring at sites where the aquifer has declined below the well depth (e.g., northern part of 200 East Area, Liquid Effluent Retention Facility).

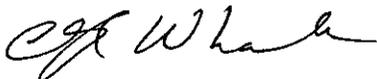
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- 5) Due to the declining water table at the Central Plateau, the report should include linear regression estimates for all groundwater monitoring wells predicted to go dry within five years.
- 6) Compared to total inventory released to the groundwater, pump and treat has recovered relatively little contaminant mass for several contaminants (e.g. <sup>90</sup>Sr at 100-NR-2, CCl<sub>4</sub> at 200-ZP-1). What alternative treatments or regulatory processes are addressing this? Discuss this in the report.
- 7) Update the status of all treatability tests or projects funded by EM-22, Science and Technology.
- 8) Include progress updates for all groundwater related action items identified in the 5-Year Record of Decision Review.

We would like to meet with you soon to discuss these issues. We would like a path forward to address each of these issues and a schedule for accomplishing these changes.

If there are any questions, please contact me at 509-372-7972.

Sincerely,



Cheryl Whalen  
Cleanup Section Manager  
Nuclear Waste Program

js/aa

cc: Nick Ceto, EPA  
Briant Charboneau, USDOE  
John Kristofzski, CH2M  
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Ken Niles, ODOE  
Administrative Record: Hanford Site Wide Groundwater  
Environmental Portal

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200-ZP-1, 100-NR-2  
D-1-2*