



## Department of Energy

Richland Operations Office  
P.O. Box 550  
Richland, Washington 99352

**AUG 1 1995**

Mr. Michael J. Farrow  
Confederated Tribes  
of the Umatilla Indian Reservation  
P.O. Box 638  
Pendleton, Oregon 97801

Dear Mr. Farrow:

### URGENT CALL FOR EXPANDED PUMP-AND-TREAT PROGRAMS TO ADDRESS PERSISTENT AND UNCONTROLLED DISCHARGE OF CONTAMINATED HANFORD GROUNDWATER INTO THE COLUMBIA RIVER

In response to the Confederated Tribes of the Umatilla Indian Reservation (CTUIR) letter to Mr. John Wagoner, same subject as above, dated June 5, 1995, the U.S. Department of Energy (DOE), Richland Operations Office (RL), acknowledges the importance that is placed on protecting human and ecological health as well as the cultural values and resources of the Columbia River. The call for such protection has been clearly expressed at local, regional, and national levels.

In 1991, RL, along with the U.S. Environmental Protection Agency (EPA) and State of Washington, Department of Ecology, initiated a substantial program to better understand the relationship between contaminated groundwater from the Hanford Site and its impact on the Columbia River (Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement Milestone M-30-00)). The result of these efforts will be a comprehensive assessment of impacts to the river that have resulted from past Hanford operations, and impacts that may be continuing today. The "Columbia River Comprehensive Impact Assessment" (CRCIA), as the assessment is referred to, is the subject of Tri-Party Agreement Milestone M-15-80. Having completed an extensive review of previous work on river impacts, the assessment team is currently identifying 1) contaminants of concern, 2) indicator plant and animal species, and 3) exposure scenarios of concern. CTUIR involvement in this assessment is encouraged, to ensure that Tribal concerns are fully understood and addressed.

In the referenced letter, numerous actions were identified as important for RL to pursue with urgency. These include increased emphasis on active remediation of groundwater (items 1, 2, 4, and 7) and implementation of a comprehensive groundwater remediation, protection, and monitoring program within a single organizational structure (items 3, 5, and 6). A status on these actions follows:

#### Increased Emphasis on Active Remediation of Groundwater

EPA, Ecology, and DOE have agreed to proceed with groundwater pump-and-treat operations as an interim remedial measure in several areas along the Columbia River and within the Central Plateau. The agreement is to focus groundwater pump-and-treat activities to reduce the risks from contaminated groundwater.



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Pump-and-treat operations will be used to reduce the amount of chromium moving toward the river from the 100-K, 100-D, and 100-H reactor areas. The need for an interim remedial measure is driven by the detection of chromium in river sediment pore water at concentrations that exceed standards for protecting aquatic organisms. Field investigations during March and April 1995 identified three locations where chromium exceeds standards. In the majority of locations studied, chromium was undetected in the pore water.

Currently, a pilot-scale test to remove chromium from groundwater is operating successfully in the 100-D Area. As part of the planned interim remedial measure, new extraction wells will be added to take advantage of the treatment system's full capacity. Remedial design for additional pump-and-treat systems for the 100-K and 100-H Areas will begin shortly, pending public review of the Proposed Plan for the interim remedial measure. In addition to the interim remedial measures for chromium, RL is constructing a pump-and-treat system to remove strontium-90 from groundwater at 100-N Reactor Area for the N-Springs Expedited Response Action.

Pump-and-treat technology is also being utilized on the Central Plateau to address groundwater contamination from carbon tetrachloride within the 200-ZP-1 Operable Unit; and from uranium and technetium within the 200-UP-1 Operable Unit. Pilot-scale operations began at 200-UP-1 and 200-ZP-1 in March 1994 and August 1994, respectively. The two systems have treated over 5 million gallons of groundwater, to concentrations below those established within the Safe Drinking Water Act. Interim remedial measures will require full-scale pump-and-treat operations at both sites by March 1996.

Not only will the pump-and-treat activities help reduce the concentrations in groundwater for these contaminants of concern, but will also provide important information to help select a final remedy for groundwater restoration and protection of the river. Methodology is being developed to monitor more closely the level of contamination where it actually meets with river water, and also exposure levels in the spawning habitat of chinook salmon. The latter two highly focused tasks will provide a technical basis for decisions involving groundwater remediation along the Columbia River.

During the operation of pump-and-treat interim remedial measures, testing of alternative remediation technologies will be continued. Methods for immobilizing chromium in the aquifer are potential alternatives to pump-and-treat technology for preventing movement to the river. Testing is planned for FY 1995 and FY 1996 to evaluate the viability of these methods.

Comprehensive Groundwater Remediation, Protection, and Monitoring Program

RL recognizes the desirability of consolidating groundwater programs for the Hanford Site. These programs currently include 1) remedial

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investigations and performance monitoring associated with environmental restoration, 2) monitoring associated with active facilities and waste management, and 3) surveillance for offsite migration of contaminants. Reorganization within RL is currently underway to improve the integration of the various programs, and to coordinate contractor performance of individual programs whenever possible to improve efficiency.

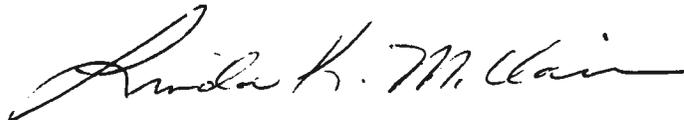
The Hanford Site-wide Groundwater Remediation Strategy (DOE/RL-94-95) is being revised to reflect stakeholder comments. The technical information that supports the strategy is also being updated and published. This information will provide a baseline that all stakeholders in the environmental restoration of the Hanford Site can use to support a final remedy selection for the various contamination problems. <sup>38266</sup>

The Hanford Site Groundwater Protection Management Plan (DOE/RL-89-12) describes an organizational structure that includes an RL management team. (The most recent changes to this plan will be published within the next several months.) Some degree of coordination among the site contractors already occurs to eliminate or minimize duplicate sampling of groundwater wells. This coordination is being continuously strengthened as workforce and budget modifications challenge the contractors to operate efficiently. Cooperation among the site contractors is leading toward an improved, centralized management of groundwater-related activities. Groundwater monitoring programs are evolving into a more integrated effort that reflects the data quality objectives common to each program, rather than maintaining separateness based on minor differences in objectives. <sup>39129</sup>

In summary, RL's staff is sensitive to the concerns expressed by the CTUIR. RL's staff also share the natural resources of the Columbia River, and respect its cultural value. Hanford has an obligation to use public money wisely in protecting the river from degradation related to Hanford Site contaminants. Working together with all stakeholders in the restoration of the Hanford Site, remediation decisions can be made that protect the river and get the best return on public money being spent.

RL appreciates the efforts of the CTUIR to provide constructive criticism of the groundwater remediation activities, and will do our best to be responsive to the CTUIR concerns.

Sincerely,



Linda K. McClain, Assistant Manager  
for Environmental Restoration

RSD:DEO

cc: J. Meninick, YIN  
S. Penney, NPT  
D. Sampson, CTUIR