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STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

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May 30, 2000

Mr. Michael Thompson
U.S. Department of Energy
P.O. Box 550, MSIN: A5-13
Richland, Washington 99352

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EDMC

Dear Mr. Thompson:

Re: *Groundwater Quality Assessment Plan for Single-Shell Tank Waste Management Area U at the Hanford Site, March 2000 (PNNL-13185)*

The Washington State Department of Ecology (Ecology) received the Groundwater Quality Assessment Plan for Single-shell Tank Waste Management Area (WMA) U, as required by 40 Code of Federal Regulations (CFR) 265.93(d)(2), and referenced by Washington Administrative Code (WAC) 173-303-400, on April 5, 2000. Ecology also received the *Notification of Exceedence of Critical Mean Value for Specific Conductance at Single-shell Tank WMA U* as required by 40 CFR 265.93(d)(1), as referenced by WAC 173-303-400, on February 11, 2000.

It is noted that a downgradient groundwater monitoring well (299-W19-41) located at the single-shell tank (SST) WMA U, exceeded the critical mean value for specific conductance in August 1999. Ecology would remind the United States Department of Energy (USDOE) that 40 CFR 265.93(d)(2) requires that verification sampling be conducted immediately, after a statistically significant increase in specific conductance is detected in downgradient groundwater monitoring wells. Clearly, USDOE has not adhered to the requirements of 40 CFR 265.93(d)(2).

In addition, the referenced groundwater quality assessment plan identifies an intention to make a "first determination" as provided by 40 CFR 265.93(d)(5). As you are aware, these regulations require the first determination to be made "*as soon as technically feasible*." The groundwater quality assessment plan identifies that the first determination under the assessment program will not be submitted until September 30, 2000. Ecology does not consider the planned submittal date (13 months after the sampling event of which a statistical exceedance was observed) to represent "*as soon as technically feasible*" or to satisfy the intent of 40 CFR 265.93(d)(5). Therefore, Ecology requests USDOE submit a first determination report by July 31, 2000.

Although our review is not complete, Ecology has concluded that SST WMA U waste constituents have been observed to increase in downgradient groundwater monitoring wells. Therefore, at a minimum, Ecology requires that the first determination also include an evaluation and demonstration that the elevated technetium-99 levels are not due to releases from the SST

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WMA U. Similarly, at least three elevated chromium concentrations have been observed in downgradient groundwater monitoring wells. Ecology recognizes the data may not allow correlations to be made between the elevated chromium and technetium-99 concentrations. As such, the SST WMA U cannot be ruled out as a potential chromium source. Similarly, carbon tetrachloride concentrations have been significantly higher in downgradient groundwater monitoring wells than in upgradient monitoring wells. Therefore, without an evaluation and determination related to waste-specific constituents (i.e., technetium-99, chromium, tritium, carbon tetrachloride, etc.) the option, as afforded by 40 CFR 265.93(d)(6), to reinstate the indicator evaluation program is withdrawn.

Ecology is currently evaluating groundwater-monitoring needs at the WMA U perimeter as part of its comprehensive effort to evaluate the adequacy of groundwater monitoring systems at all single-shell tank farms. An initial consideration of the current groundwater monitoring well network at WMA U indicates one of the two upgradient monitoring wells is anticipated to go dry during calendar year 2000. The assessment report estimates the second upgradient monitoring well will be unable to produce representative samples of groundwater in early calendar year 2004. Absent linear regression calculations, Ecology will require the installation of up to two upgradient replacement wells during calendar year 2001. In addition, the downgradient spatial coverage at the point of compliance along the eastern edge of the WMA appears deficient. Pending completion of its evaluation, Ecology may require the installation of up to three downgradient wells at the eastern edge of the WMA point of compliance during calendar year 2001. Similarly, the downgradient spatial coverage at the point of compliance along the northern edge of the WMA is deficient due to a recent change in groundwater flow direction. As such, Ecology may require the installation of up to two downgradient wells at the northern edge of the WMA point of compliance during calendar year 2001.

Lastly, Ecology requests to be notified three days prior to the next U Tank Farm groundwater monitoring well sampling event so that sampling procedures may be observed by an Ecology representative.

If you have any questions about this request, please contact Alisa Huckaby at (509) 736-3034.

Sincerely,



Antonio Valero, Tank Waste Storage Project Manager
Nuclear Waste Program

AV:adh:sb

cc: Marvin Furman, USDOE
Floyd Hodges, PNNL
Stuart Luttrell, PNNL

Merilyn Reeves, HAB
Mary Lou Blazek, OOE
Administrative Record: U Tank Farm