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STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

1315 W. 4th Avenue • Kennewick, Washington 99336-6018 • (509) 735-7581

August 1, 2001

Mr. Harry Boston
United States Department of Energy
Office of River Protection
P.O. Box 450 MSIN: H6-60
Richland, Washington 99352

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Ms. Mary P. Delozier
CH2M Hill Hanford Group
P.O. Box 1500 MSIN: H6-08
Richland, Washington 99352

Dear Mr. Boston and Ms. Delozier:

Re: July 18, 2001 submittal per Administrative Order 00NWPKW-1250 and 00NWPKW-1251.

The Washington State Department of Ecology (Ecology) has reviewed the United States Department of Energy (USDOE) July 18, 2001 submittal required per sections 6.A and 6.B of Ecology's Administrative Orders 00NWPKW-1250 and 00NWPKW-1251 (Administrative Order). Sections 6.A and 6.B of the Administrative Order required that the USDOE subject certain catch tanks within the tank waste system to integrity assessments, including ultrasonic examinations. These tanks included the 204-AR Unloading Station, A-152 catch tank, AZ-151 catch tank, and the A-350 Lift Station.

Ecology reviewed the results of the examinations. Based on our reviews and discussions with USDOE and its contractor, CH2M Hill Hanford Group, Ecology determined that the examination of the 204-AR Unloading Station was performed satisfactorily. The USDOE notified Ecology that the A-152 catch tank failed a static leak test and was removed from service prior to ultrasonic examination; therefore, ultrasonic examination of the A-152 catch tank was no longer required.

Ecology found USDOE's integrity assessments of the A-350 and AZ-151 catch tanks fail to meet the requirements of the Administrative Order. Section 6.A of the Administrative Order required "a scan at least 12 inches wide of the vertical wall of the tank" or other scope of ultrasonic examination, if agreement is reached between Ecology and the USDOE. Ecology and the USDOE agreed that ultrasonic examination of the catch tanks subject of the Administrative Order could be accomplished by spot checking the tanks with a hand-held transducer at six-inch

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intervals along the vertical axis of each tank (approval per November 2, 2000 letter, Bob Wilson to Clifford Clark, Re: Ultrasonic Examination of Double-Shell (DST) Tank System Tanks AZ-151, 244-S Double Contained Receiver Tank, and A-350 Lift Station).

The USDOE reported to Ecology that design reviews of the subject catch tanks were conducted before the examinations began. The reviews did not reveal significant obstacles to this alternative ultrasonic examination, except for the presence of a steam jacket installed around catch tank A-350 that could have hindered access to a portion of the tank.

Upon accessing the vault in which the catch tank in Lift Station A-350 is installed, the USDOE's contractor discovered that the steam jacket was more extensive than previously expected (encircling the tank) and that the bottom of the tank was obstructed by a layer of grout. As a result, only one ultrasonic measurement was taken at the top of the tank. This single measurement does not meet the intent or substantive requirements of Section 6.A. An extensive examination was required to ensure that the catch tank could continue to operate to support cross-site transfers required for safe waste storage.

The AZ-151 catch tank is a concrete vault lined with a 1/8-inch carbon steel liner, rather than being a freestanding tank within a vault. The tank is aging, is in constant use, and is a critical component in support of waste retrieval operations. Remote video surveillance of the interior of this tank revealed significant surface corrosion; however, only a small portion of AZ-151 could be examined because access could be gained only through a four-inch pipe. The USDOE reported to Ecology that the heavy corrosion on the walls prevented even limited ultrasonic examination of this tank. No current static leak test data had been gathered on catch tank AZ-151 prior to the attempt at ultrasonic examination. Failure to examine the structural integrity of this tank does not meet the intent or substantive requirements of Section 6.A.

Ecology also has the following concerns regarding integrity assessments of waste tanks performed per 40 CFR 265. Waste tank integrity assessments must consider design standards, hazardous characteristics of the waste, existing corrosion measures, documented age of the tank, and results of a leak test, internal inspection, or other tank integrity tests. Ecology is concerned that significant discrepancies were discovered between the design review of catch tanks AZ-151 and A-350 and the actual as-built conditions encountered. USDOE contractor representatives advised Ecology that no as-built plans existed for tank system A-350 and that design review of this tank system was based on sketches rather than structural drawings. These discrepancies give rise to serious questions as to the accuracy and completeness of the drawings, data and operational history that the USDOE used to complete the design review portion of the integrity assessments for these catch tanks.

On July 11, 2001 Ecology met with USDOE's contractors and advised them that the integrity examinations of AZ-151 and A-350 catch tanks did not meet the requirements of the

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Administrative Order. At this time, Ecology also informed the contractor representatives that these tanks must be removed from service by June 2005, that Ecology had concerns regarding the quality of integrity assessment design reviews, and that Ecology would be documenting these issues in its response letter to the USDOE's July 18th Administrative Order deliverable. (The USDOE was notified of the July 11th meeting but did not attend.)

Considering the information provided above, Ecology has determined that the requirements of sections 6.A of the Administrative Order have not been met. Ecology's interests are that the A-350 and AZ-151 catch tank systems be managed safely until they can be removed from service. We insist that these tanks be removed from service before they fail. Therefore, Ecology requires the USDOE and its contractors to:

- Conduct static leak tests of AZ-151 and A-350 immediately and continue to conduct static leak tests of these catch tank systems annually thereafter, until these tank systems are removed from service. The USDOE may temporarily exceed operational safety limits for the sole purpose of conducting static leak tests in these tanks, as long as test liquids do not exceed the height of the primary tank's structure (i.e. tank liners, overflow outlets, or vaults).
- By September 28, 2001 submit a schedule, for Ecology's approval, for removal of these tanks from service on or before June 30, 2005. The schedule shall include subsequent stabilization, isolation, and monitoring of these tank systems, as described in section 5.A of the Administrative Order. This schedule must include all costs and be coordinated to have minimal impact to tank farm operations. This schedule may be coordinated with similar deliverables required per section 5.A of the Administrative Order.
- By September 28, 2001, confirm that AX-152 is free of waste liquids and report these findings to Ecology. Liquids discovered in this tank system must be drained immediately.
- Upon removal from service, the USDOE must identify the AX-152, AZ-151 and A-350 tank systems as part of the tank systems designated for closure per HFFACO Milestone M-45 by letter to Ecology.

A failure to meet the requirements listed above may result in formal enforcement action by Ecology, including the issuance of penalties and/or administrative orders, or pursuit of other judicial relief.

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If you have any questions concerning these directions, please call me on (509) 736-3027 or Mr. Bob Wilson on (509) 736-3031.

Sincerely yours,



Melinda J. Brown, Project Manager
Tank Waste Storage Project

MJB:BW:nc

cc: Dave Bartus, EPA
Doug R. Sherwood, EPA
Dana C. Bryson, USDOE
Victor L. Callahan, USDOE
Clifford E. Clark, RL
James Rasmussen, USDOE
Jim G. Field, CHG
Phil C. Miller, CHG
Felix R. Miera, CHG
Tom R. Pauly, CHG
Michael A. Payne, CHG
Mark J. Riess, CHG
Jeffrey S. Hertzell, FH
Owen S. Kramer, FH
Dennis J. Washenfelder, FH
Todd Martin, HAB
Rick Gay, CTUIR
Patrick Sobotta, NPT
Russell Jim, YN
Mary Lou Blazek, Oregon Energy
Administrative Record: Tank Integrity Assessment Correspondence