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STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

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March 9, 2006

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

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EDMC

Mr. Mark S. Spears
CH2M Hill Hanford Group, Inc.
P.O. Box 1500, MSIN: H6-63
Richland, Washington 99352

Dear Mr. Schepens and Mr. Spears:

Re: November 29, 2005, Inspection on the reported completion of Double Shell Tank Farm (DST) upgrades required by Hanford Federal Facility Agreement and Consent Order (HFFACO) Milestone M-48-07A.

Thank you for the assistance from the United States Department of Energy (USDOE) - Office of River Protection (ORP) and CH2M HILL Hanford Group, Inc. (CH2M) personnel during the Department of Ecology's recent inspection of the construction of the AZ-301 Condensate Return System and removal of the AZ-151 Catch Tank from service per Milestone M-48-07A.

Milestone M-48-07A, due June 30, 2006, required the completion of construction on the AZ-301 Condensate Return System and removal of the AZ-151 Catch Tank from service by October 31, 2005. The purpose of this inspection was to determine whether this work has been completed according to applicable regulatory requirements.

Ecology considers the specific requirements for the construction of AZ-301 and removal of AZ-151 from service under Milestone M-48-07A to have been met; however, Ecology has several concerns regarding the adequacy of the inspections conducted and the subsequent written assessment regarding the design and construction of AZ-301 by an Independent Qualified Registered Professional Engineer (IQRPE). Washington Administrative Code (WAC) 173-303-640(3) requires that new tank systems be inspected by an IQRPE for suitable tank system design and installation practices. The IQRPE in this case did review some information on the design of

AZ-301 and conducted a number of field inspections to look at the installation; however Ecology found the thoroughness of this work to be inadequate.

No violations will be assessed; however, three concerns are described below. Ecology issues concerns to notify owners/operators of conditions, which if not improved, may evolve into violations.

CONCERNS

1. Insufficient information was available to determine that the requirements of WAC 173-303-640(c) have been met.
 - The written assessment (RPP-RPT-26983) included little information about the number and types of field inspections the IQRPE performed. The written assessment also did not include any information indicating that required tightness testing was performed on AZ-301 equipment or that the IQRPE reviewed any tightness testing information. In addition, the written assessment contained information pertaining to the design life of AZ-301 based on hearsay from the tank manufacturer.
 - The lack of information provided in the written report appears to be a reflection of the amount of actual inspection work performed by the IQRPE. Minimal field visits were conducted and were poorly documented. The IQRPE also neglected to review calculations regarding the design life of AZ-301, misheard, and misrepresented the design life of the tank as being 5 years without questioning this estimate.
2. Ecology is concerned that the lack of thoroughness evident in the IQRPE assessment process for AZ-301 will become a precedent upon which an inadequate assessment and certification of the entire DST system as required by M-48-14 will be based. USDOE-ORP and CH2M should ensure that additional information is gathered and documented by the IQRPE tasked with assessing the tank farms under M-48-14. The written assessment generated to satisfy M-48-14 should include a detailed design analysis that provides in-depth information showing that the foundation structural support, seams, connections, and pressure controls are adequately designed and that tank farms components have sufficient structural strength, compatibility with the waste, and corrosion protection to ensure that it will not collapse, rupture, or fail.

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3. Ecology has documented a history of concerns regarding the adequacy of integrity assessments and construction inspections conducted at tank farms per WAC 173-303-640-(3). Specific concerns are documented by the following inspections:
 - October 12, 1999 - M-32 inspection: Violation for failure to complete Milestone M-32 and provide independent integrity assessment reports for the DST's. The IQRPE responsible for the integrity assessment reports was an employee of a USDOE prime contractor and therefore could not be considered "independent."
 - October 1, 2003 - Tank System Installation Inspections: Violation for failure to obtain an independent inspection by a qualified independent inspector for the installation of new tank system components per WAC173-303-640(3)(c).
 - August 9, 2005 - M-43 Tank System Upgrades inspection: Concern that individual construction integrity assessments completed prior to March 2004, in which the qualifications and independence of the inspectors is questionable, will be collected and used to certify the DST system under M-48-14 without the gathering of further information.

Do not hesitate to contact me at (509) 372-7929 if you have any questions regarding this letter.

Sincerely,



Eric Van Mason
Compliance Inspector
Nuclear Waste Program

EVM:pll

cc: Jim Rasmussen, ORP
Moussa Jarayasi, CH2M
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Ro Vinson, PAC
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