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STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

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May 18, 2016

16-NWP-093

Mr. Kevin W. Smith, Manager
Office of River Protection
United States Department of Energy
PO Box 450, MSIN: H6-60
Richland, Washington 99352

Mr. Mark A. Lindholm, President
Washington River Protection Solutions LLC
PO Box 850, MSIN: H3-21
Richland, Washington 99352

Re: Status Report on Annulus Continuous Air Monitors in the Double-Shell Tank System

References: See page 2

Dear Mr. Smith and Mr. Lindholm:

The SY Settlement Agreement (Reference 1) requires the use of annulus ventilation system continuous air monitors (CAMs) to supplement the leak detection system in the double-shell tanks (DSTs). Section I of the SY Settlement Agreement states that:

“All DSTs equipped with operating annulus CAMs will be monitored daily for airborne releases into the annulus that could give an indication of a leak from the primary tank structure into the annulus.”

Section F of the SY Settlement Agreement also required the United States Department of Energy to provide a report to the Department of Ecology (Ecology) within 30 days of the agreement, including:

“a schedule for installation and/or repair of all Leak Detection System devices that comprise the Leak Detection System as described in the SY Settlement Agreement such that each Double Shell Tank (“DST”) on the Hanford site will be equipped and operated with a complete Leak Detection System by December 31, 1999.”

The “Engineering Task Plan for New SY Farm Annulus Leak Detectors” (Reference 2) clearly states that at the time of the SY Settlement Agreement, 25 DSTs were equipped with CAMs.

At a minimum, therefore, all DSTs except the three 241-SY tanks should have operating annulus CAMs under the requirements of the SY Settlement Agreement. However, recent statements made to Ecology staff by Washington River Protection Solutions, LLC have left us unclear on how many tanks currently have operating annulus CAMs.

The leak detection requirements contained in the SY Settlement Agreement are based on the Interim Status Standards for Tank Systems (40 CFR Part 265 Subpart J), as incorporated under the Hanford Facility Dangerous Waste Permit (pursuant to WAC 173-303-400(3)(a)), to address compliance:

[S]econdary containment systems must be at a minimum:

(3) Provided with a leak detection system that is designed and operated so that it will detect the failure of either the primary and secondary containment structure or any release of hazardous waste or accumulated liquid in the secondary containment system within 24 hours, or at the earliest practicable time if the existing detection technology or site conditions will not allow detection of a release within 24 hours. 40 § CFR 265.193(c).



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Each DST's "leak detection system" must satisfy this requirement of being designed and operated to detect "any release of hazardous waste" in the annulus within the given timeframe. 40 § CFR 265.193(c)(3).

Because the leak detector probes (for example, Enraf) detect only liquid accumulation on the floor of the annulus, each DST must also be equipped with supplemental technology – such as a CAM – that continuously monitors for leaks in the form of vapor. Both the Enrafs and CAMs are necessary because it has been shown that neither is sufficient on its own.

Please provide Ecology with a status report on the CAMs for the 27 fit-for-use DSTs by June 15, 2016, documenting which DSTs have CAMs that are compliant with the requirements of the SY Settlement Agreement.

If you have any questions, please contact me at cheryl.whalen@ecy.wa.gov or (509) 372-7972, or Jeff Lyon, Tank Systems Operating and Closure Project Manager, at jeff.lyon@ecy.wa.gov or (509) 372-7914.

Sincerely,

Cheryl L. Whalen
 Cleanup Section Manager
 Nuclear Waste Program

kw/aa

Reference 1: SY Settlement Agreement, "PCHB Nos. 98-249; 98-250 Settlement Agreement and Stipulated Order of Dismissal"

Reference 2: Document Number TWR-4092, Rev. 0, dated June 1, 1999, "Engineering Task Plan for New SY Farm Annulus Leak Detectors"

cc electronic:

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 Kristi Wold, Ecology
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 USDOE-ORP Correspondence Control
 WRPS Correspondence Control

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 NWP Central File
 NWP Compliance Index File:
 SY Settlement Agreement
 NWP Reader File