



OFFICE OF RIVER PROTECTION

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13-HAB-0021

APR 09 2013

Mr. S. E. Hudson, Chair
Hanford Advisory Board
Enviroissues Hanford Project Office
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Mr. Hudson:

HANFORD ADVISORY BOARD (HAB) NOVEMBER 2, 2012, CONSENSUS ADVICE
#263, "DOUBLE-SHELL TANK INTEGRITY"

Thank you for the HAB's advice (enclosed) regarding the integrity of Hanford's double-shell tanks (DSTs). The U.S. Department of Energy (DOE) Office of River Protection (ORP) shares the Board's concern regarding the discovery of a leak in DST AY-102.

After the discovery of the leak into the tank annulus, ORP formed the AY-102 Integrated Project Team (IPT) made up of Washington State Department of Ecology, Washington River Protection Solutions (Tank Farm contractor), and the Washington Department of Health. The purpose of the IPT is to provide a forum to identify, discuss, evaluate, and present recommendations for action. The IPT will ensure that the AY-102 tank waste will continue to be stored safely in a manner that is protective of human health, worker safety, and the environment. The IPT is assessing the condition of AY-102 and will develop an appropriate path forward.

Below are ORP's responses to your advice.

Advice point #1: The Board advises DOE to begin the process immediately to build additional tank capacity at Hanford. This additional tank capacity should consider the needs of the WTP and requirements of the TPA relative to tank waste treatment, allowing for maximum flexibility for blending, transferring, segregating, and otherwise dealing with wastes.

Response: ORP is researching options to address tank capacity requirements now and in the future. ORP will be evaluating risk managed options that address both Waste Treatment and Immobilization Plant (WTP) Tank Farm requirements.

Advice point #2: In addition to DOE's efforts to locate the source of the leak from Tank AY-102, the Board advises DOE to explore potential solutions for determining the cause, stopping the leak, and repairing the tank.

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Response: Enhanced monitoring has shown very little change in the annulus of AY-102. ORP is addressing the feasibility of repairing the tank to meet regulatory requirements (WAC 173-303-640). In order to fully assess the cause of the leak and feasibility of repair, the contents of the tank need to be emptied. ORP is evaluating how and when the removal of the tank contents could take place.

Advice point #3: The Board advises DOE that the new tanks should be planned to support future waste feed delivery to the WTP, or to whatever other waste processing facility may be in place. The Board advises DOE to include multiple paths for feeding the WTP from the DST system in their overall planning. DOE should not rely on AY-102 (or any other individual tank) to feed the WTP.

Response: Waste in DST AY-102 is currently planned to be the hot commissioning feed to the WTP. Infrastructure in AY/AZ farms was being upgraded to support 2019 hot commissioning to the WTP. However, the current situation with DST AY-102 necessitates re-evaluating that plan. ORP will continue to focus on the safe and efficient delivery of waste to begin startup of WTP.

Advice point #4: The Board advises DOE to ensure that emergency tank space is available at all times, and not constrained by a need for redistribution of tank waste across the population of DSTs. Additionally, the Board advises DOE to ensure that the necessary plans, pumps, piping, procedures, and other equipment needed are in place to quickly pump any tank found to be leaking in accordance with requirements and agreement with the Washington State Department of Ecology.

Response: ORP will continue to maintain the necessary available emergency tank space and ensure plans and equipment are available to pump liquid from the annulus or primary tank on short notice should conditions in DST AY-102 change.

Advice point #5: The Board advises DOE to expand sampling to all DSTs and maintain the chemistry of the waste in the tanks, such that it always remains within the specification range.

Response: ORP maintains a chemistry control program to ensure that the potential for tank liner corrosion is minimized. All 28 DSTs are currently sampled for the purpose of corrosion mitigation and every effort is made to ensure the tank chemistry is maintained within established limits. When a tank is found to be outside the established limits, operating specifications require the tank chemistry to be restored to within the established limits. As well as controlling the waste chemistry, ORP also utilizes in-tank corrosion monitoring systems in a number of DSTs with unique waste chemistries. These in-tank systems provide additional assurance that corrosion potential of the waste is minimized. ORP's chemistry control program is overseen by a group of experts with a vast knowledge of operating specifications and guidelines at both Hanford and Savannah River Sites. ORP will continue to evaluate the DST sampling program and use established methods for maintaining tank chemistry.

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Advice point #6: The Board advises DOE to complete exterior inspections, insofar as the tanks can be inspected, of all DST inner tanks at an increased frequency.

Response: Visual DST Integrity Program inspections have been accelerated and expanded on six other tanks that have similar construction, operating and processing history. All six video inspections have been completed with no additional tanks showing any signs of leakage. ORP will re-evaluate the frequency of future inspections of DSTs based on the results from AY-102 and these six additional tanks.

ORP recognizes the value of the Board's input and thoughtful deliberations. As ORP finalizes its recommendations on AY-102 we would be happy to continue to share updates with you.

Thank you for your continued interest and if you have additional comments or questions, please contact Tiffany Nguyen at (509) 376-3361.



Kevin W. Smith
Manager

OCE:TLN

Enclosure

cc w/encl: See page 4

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