

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 2, 2015

**TO:** S. A. Stokes, Technical Director  
**FROM:** D. L. Burnfield, Site Representative  
**SUBJECT:** Savannah River Site Weekly Report for Week Ending July 2, 2015

**Tank Farms:** Waste transfer valves are located in diversion boxes and tank valve boxes. Diversion boxes serve as the hub for tank-to-tank transfers, allowing multiple transfer paths between tanks. The diversion boxes and valve boxes are typically high contamination areas as well as high radiation areas. This limits maintenance on waste transfer valves to outages when the valves can be sent to the decontamination facility. The bodies of transfer valves are typically classified as safety class since they serve as part of the pressure boundaries, and the valve internals serve a safety significant function since they preclude inadvertent transfers. The documented safety analysis (DSA) permits drip-wise leakage from the valve body. As part of the structural integrity program, valves are inspected periodically. When degraded valves are found, their conditions are documented in a Non-Conformance Report (NCR). Corrective maintenance should be performed when the system conditions permit such repairs. While the failure rate of the valves is low, several valve/valve actuator failures have occurred this year.

On 6/25/2015, during a Tank 51 to Tank 30 transfer, tank farm personnel observed that the sump level was increasing at H-Area Diversion Box-6 (HDB-6). The Inspection and Monitoring group performed an inspection of valve WTS-V-62 at HDB-6. Tank farms personnel had previously identified this valve as having drip-wise leakage in a 2008 NCR. During this inspection, SRR determined that the leakage from the valve stem exceeded the drip-wise level in the DSA.

On 6/29/15, SRR personnel reviewed the camera inspection of the leak check for valve WTS-V-78 and found that a neighboring valve, WTS-V-79, had greater than drip-wise leakage through the valve bonnet seal. WTS-V-79 was open at the time of the inspection, so SRR performed a camera inspection of WTS-V-79 in the closed position and found that it does meet its safety class function in this position.

**Commercial Grade Dedication (CGD):** SRNS has adopted the 2008 version of NQA-1 as modified by the 2009 addendum. This version included new requirements for CGD to bring the standard up to the same requirements that the NRC would apply for a commercial nuclear facility. CGD is an acceptance process to provide reasonable assurance that a commercial grade item will perform its intended safety function. NQA-1 defines a commercial grade item for DOE as “a structure, system, or component, or part thereof, that affects its safety function that was not designed and manufactured in accordance with the requirements of this Standard.” DOE-SR has recently performed an assessment of the process used by SRNS to perform CGD and has found deficiencies in the process. In addition, when SRNS adopted this version of NQA-1 they reached an agreement with DOE to allow them to continue the use of the items in stores (commodities) that had been procured using the requirements of the older versions of NQA-1 and to continue to procure commodities to those requirements for a limited time. Based upon the deficiencies found by DOE in their assessment, as well as the need to eventually begin procuring commodities using the updated requirements, SRNS engineering and quality assurance has begun a review of their CGD process to determine what improvements are appropriate.