



## Department of Energy

Washington, DC 20585

May 30, 2012

The Honorable Peter S. Winokur  
Chairman  
Defense Nuclear Facilities Safety Board  
625 Indiana Avenue, NW, Suite 700  
Washington, DC 20004

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Dear Mr. Chairman:

This letter responds to the March 27, 2012, Defense Nuclear Facilities Safety Board (Board) letter regarding the A- and K-Area fire protection water supplies at the Savannah River Site (SRS) and how Savannah River Nuclear Solutions (SRNS) was able to justify that the systems met the revised functional classification of Safety Significant. The enclosure provides additional details on the actions taken by SRNS to resolve the Board's concerns with the SRS K-Area water supply and fire protection system.

The Department of Energy has been working with SRNS and the Board staff to resolve the issues on the A-Area fire protection water supply system and clarify how the revised functional classification was accomplished; however, additional work remains. We expect that this additional work will enable us to provide a complete response to all issues identified by the Board by July 23, 2012.

If you have any questions, please feel free to contact me or Mr. Matthew Moury, Deputy Assistant Secretary for Safety, Security, and Quality Programs, at (202) 586-5151.

Sincerely,

David Huizenga  
Senior Advisor  
for Environmental Management

Enclosure

cc: D. Moody, SRS  
M. Campagnone, HS-1.1  
T. Mustin, EM-2  
A. Williams, EM-2.1  
P. Seidler, EM-3  
K. Picha Jr., EM-20 (Acting)  
J. Hutton, EM-40



## SRNS Response to the DNFB's Issues on the K-Area Fire Water Supply

	DNFB Issue List	SRNS Response	Status
1	<b>K-Area Fire Water Supply.</b> SRNS did not inspect the K-Area fire water tank in CY 2010 as part of the process of implementing the revised functional classification of the system.	The inspection frequency for the tank was 5 years, so the tank inspection requirements were current in 2010. Subsequent information identified that the 2007 inspection was not adequate. The Back Fit Analysis process will be changed to address the lack of confirmation of material condition. An NFPA 25 compliant tank inspection was completed in January 2012 and the results documented.	Back Fit Analysis ongoing
2	<b>K-Area Fire Water Supply.</b> A review of the documents detailing the results of the robotic camera inspection of the tank performed on June 13, 2007, revealed the following: A layer of sediment of undefined depth is present in the tank, although NFPA 25 requires that the sediment be removed before the inspection continues. The sediment was subsequently removed during a CY 2012 inspection of the tank.	During the tank inspection performed in 2007, video tapes of the tank were reviewed, and based on the amount of sediment observed, the decision was made not to drain the tank and remove the sediment. The sediment was removed during the 2012 tank inspection. It should be noted, the sediment depth removed during the 2012 inspection was less than one inch.	Action Complete  RECEIVED 2012 MAY 31 AM 10:00 DNFB SAFETY BOARD
3	<b>K-Area Fire Water Supply.</b> SRNS has not taken steps to prevent the future buildup of sediment in the tank.	The water supply for the fire water system was changed from well water to domestic water in May 2010. This should minimize future sediment accumulation.	Action Complete
4	<b>K-Area Fire Water Supply.</b> K-Area Pumps-both the diesel-driven and, especially, the electrically- driven fire pumps have shown degradation during the past 13 years. In CY 2009, results of the annual fire pump flow test conducted by SRNS revealed the performance of the electric pump had degraded 13.1 percent for the capacity test and 21.61 percent for the 150 percent capacity test. A subsequent test in CY 2010 used a new method that implied improved results, but the change in test method does not account for what	An evaluation should have been performed in 2009 and 2010, when the pump performance indicated degradation greater than 5 percent of the pump's nameplate data.  An evaluation of the K-Area Pump performance was completed and concluded that both pumps were capable of meeting all system demands and significantly exceed the design requirements for the shuffler sprinkler system (F-TRT-K-00007). The report also provided a recommendation to perform an internal inspection and replace degraded parts. The	Action Complete  Fire Pump replacement Action is still open.  Estimated completion of performance and accepting testing per F-EPF-K-00001, is 11/16/2012.

<p>appears to be continued pump degradation over the past 10 years. The CY 2010 test revealed that the performance of the electric fire pump had degraded 6.59 percent for the capacity test and 5.69 percent for the 150 percent capacity test. None of these results meet 95 percent of the pump's original performance characteristics as required by NFPA 25. In November 2011, SRNS issued a Nonconformance Report for the K-Area degraded fire pumps, but associated Unresolved Safety Question was determined to be negative in early February 2012. SRNS has recently declared the pumps deficient, but must investigate the cause of their degraded performance as required by NFPA 25.</p>	<p>corresponding Unreviewed Safety Question Evaluation (USQ-KL-2011-00199) concluded that no Unreviewed Safety Question existed and the continued operation of both pumps does not cause the system to be operated outside of the safety basis requirements. SRNS plans to replace both pumps in CY 2012 to address the performance degradation as documented in F-EPF-K-00001.</p>	
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