

Ziev, Tracey

From: Cline, Leonard *RT*
Sent: Friday, April 16, 2010 9:47 AM
To: Brown, Michael
Cc: Balian, Harry; Schroeder, Daniel; Burritt, Arthur; OHara, Timothy; Conte, Richard
Subject: RE: Update - Salem - AFW buried piping Issues

I made some minor adjustments to the input below based on some discussions this morning. Please use this for your update.

2) Update - Salem Unit 1 Outage – AFW (headers 12 and 14) buried piping Issues

Based on UT results from the shallow section of the Unit 1 buried AFW piping for headers 12 and 14 (headers 11 and 13 are not buried), the licensee currently plans to replace a combined total of approximately 50' of piping on the shallow buried portion of these two headers (depth of approx 4 ft). The licensee is using a contractor to perform a finite element analysis to confirm the structural integrity of the rest of the shallow piping. These results will then be used to finalize the licensee's determination of past operability for the shallow piping and to identify the need for additional corrective actions related to any extent of condition on the operating unit, Unit 2.

To this point the licensee has confirmed reasonable assurance of operability for the Unit 2 AFW system based on historical information and photographs from 1994 that provided indication of intact pipe coating and the fact that Unit 2 is about 2 years younger than Unit 1. The licensee currently believes that the shallow section of piping on Unit 1 was not coated as specified by the design.

The operability evaluation for the shallow section of piping that will be based on the finite element analysis is expected to be completed early the week of 4/19.

On the deep section of piping for headers 12 and 14, the licensee has excavated a small portion of the down comer that leads to the deeper piping. They performed ultrasonic testing (UT) around the elbow at the top of this down comer (depth of approx 4 ft), which was completely submerged in groundwater. The minimum wall thickness measured in this area was ~0.226", which was greater than the minimum required wall thickness of 0.200". In addition the licensee performed a guided wave pipe inspection on a portion of the straight run of the deep section of piping (approximately 20 ft in length at a depth of approx. 17 ft). The results indicated less wall thinning on this section of piping than the guided wave results indicated for the shallow section of piping. The licensee also confirmed by visual observation that the deep section of AFW piping was coated in accordance with the design specification.

Based on the results of the UT around the elbow and the results of the guided wave in the 20 ft section of deep piping, the licensee plans no further excavation of the deep section of piping. The licensee's current plans are to recoat all of the piping exposed during excavation that will not be replaced, in both the shallow and deep sections, and then following the completion of pipe replacements for the significantly degraded exposed pipe sections, hydro the entire line, both the shallow and deep sections. The licensee will use these hydro results to support operability of the deep section of piping for the next operating cycle.

To facilitate completion of the operability determinations for both the shallow and deep section of piping, the licensee will also be reducing the design pressure of the AFW piping from a very conservative 1900 psig down to a more realistic 1275 psig through a plant modification package.

The Region has an ISI inspector onsite as part of normal baseline inspection activities and he is reviewing the licensee's analysis. Additional resources from headquarters are assisting as needed. (Continue to follow forward to TRG Lead for Auxiliary Feedwater (S. Gardocki), Buried Piping POC (B. Hardies); assigned to Mike Brown)

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From: Brown, Michael *MB*
Sent: Thursday, April 15, 2010 10:04 AM
To: Burritt, Arthur; Cline, Leonard; OHara, Timothy; Conte, Richard
Cc: Balian, Harry; Schroeder, Daniel
Subject: Update - Salem - AFW buried piping Issues

Len et al,

This is what I was planning to report on the AFW piping issue at Salem, let me know if it's ok, or you would like me to change anything.

2) Update - Salem – AFW buried piping Issues

The licensee has decided to replace the approximately 50' of AFW piping on Salem Unit 1 (currently in a refueling outage) that is relatively shallow (< 5 feet) and has been determined to be degraded. The licensee is doing a finite element analysis to evaluate the structural integrity of the rest of the piping. They expect to have this analysis complete by Monday.

On the deep section of piping, the licensee has only excavated a portion. They were able to perform ultrasonic testing (UT) on one elbow and the minimum wall thickness was ~0.226" which is greater than the minimum required wall thickness of 0.20". The licensee has also performed a guided wave pipe inspection of the piping and the results appear acceptable.

The licensee was able to confirm that the AFW piping coating appears to be intact once they excavated below the water level. Their current plans are to recoat the exposed piping and then hydro the entire line.

In addition, the licensee is performing a design change to reduce the design pressure of the AFW piping from 1900 psig down to 1275 psig.

On Unit 2, the licensee has performed an operability determination that demonstrates the operability of the Unit 2 AFW piping.

The Region has an ISI inspector onsite as part of normal baseline inspection activities and he is reviewing the licensee's analysis. Additional resources from headquarters are assisting as needed. (Continue to follow forward to TRG Lead for Auxiliary Feedwater (S. Gardocki), Buried Piping POC (B. Hardies); assigned to Mike Brown)

Thanks,

Mike

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