

Conte, Richard

(b) Why not shift U1

From: OHara, Timothy
Sent: Sunday, April 18, 2010 9:19 AM
To: Conte, Richard; Burritt, Arthur; Schroeder, Daniel; Gray, Harold; Balian, Harry
Cc: Lupold, Timothy; Wilson, Peter; Roberts, Darrell; Cahill, Christopher
Subject: Salem Unit 2 AFW

Rich,

077

GRASS Pumps

U2 Ref. Cont. - design record

I'm not sure there is a solid story on the Unit 2 AFW extent of condition. Unit 2 also has 2 buried AFW headers just like Unit 1. My concern is based on the following information:

(1) The expected life of the original coating on the Unit 2 piping is not known. Remember the same specification applied to both Unit 1 and Unit 2 and we already know that at least some of the Unit 1 piping did not have coating applied. *so here the entire SA + CA in front - BPP ISM*

(2) There was an observation on 3 small excavated areas of the shallow piping in 1994. I say observation because there is no QC documentation showing all 3 excavated areas and the condition of the piping in all 3 areas. There are 3 pictures which I've seen and all show only one of the 3 excavated locations. There is an unknown coating shown in the pictures but there are imperfections on the coating - possibly from excavation. There were UT readings taken on about 2 ft of the piping and there was no significant degradation. After this inspection there were no records showing what coating was used to repair the removed coating, nor is the life of the repair coating known.

(3) There have been no other inspections documented, and no other UT readings, on Unit 2 either before or after the one in 1994. Note that the 1994 excavations did NOT look at piping in the FHB.

(4) The soil chemistry around the AFW piping at Unit 2 is the same corrosive environment which Unit 1 has seen and it corroded.

(5) We have not been given records showing that flow tests and/or hydrostatic tests have been performed at any time in the past to demonstrate structural integrity on the Unit 2 piping.

(6) On each Unit loss of the AFW system is the highest system contributor to potential CDF - loss of AFW function through loss of structural integrity could be highly risk significant.

Unit 2's next outage is scheduled for the spring of 2011 and, looking at just these factors, it seems that some more convincing justification for doing nothing until spring 2011 is not advisable from a risk standpoint. We should discuss these factors tomorrow.

Tim OHara
1930 Basis
No Basis

(2) ASME Code [redacted] - ???

(3) Retel Pressure 1275
↓ m + wall

Acc. Sec

From: Conte, Richard
Sent: Saturday, April 17, 2010 7:49 AM
To: Burritt, Arthur; Schroeder, Daniel; OHara, Timothy; Gray, Harold
Cc: Lupold, Timothy; Wilson, Peter; Roberts, Darrell
Subject: Some thoughts on Salem 1 Before I forget

if estimate

AFW Pipe Degradation (all subject to an adequate hydrostatic pressure on new design pressure):

(4) [redacted]
[redacted]
[redacted]

} new design

(5) WS

C147

1. I think we are ok on extent of condition pending root cause documentation, which will include extent of condition, but with after-startup documentation - one exception is the control air leak in the fuel handling building and the implications to how much or how little is known about the deep piping in the FHB.

2. I think we are ok with the repairs in the yard and trench area pending the tech eval on reduced design pressure and FEA on the remaining degraded but acceptable piping above new min wall.

3. Past operability will be developed later with additional characterization of replaced pipe but in the shop.

4. Pending the operability review for this temporary repair to support the next cycle, the assessment of conditions of the deep pipe in the FHB appears weak or inadequate

Questions:

a. Wwith what they have done to date and with a SAT hydro and with the knowledge of the control air leak due to mech damage on the coating, will they be code compliant or not --- most likely it will be subject to interpretation?)

b. Did they say that they will go done as far as they get intact coating (or coating in good condition - subject to be surrounded by wetted sand0 in application of coating in the upper portion of the riser section?

c. Is there really an effort to look for as installed information or design information on the coating in the two areas? d. What will it tell us and What won't it tell us.

Unit 1 and 2 Containment Liner Blisters:

1. Unit 1 assessment and extent of sample appears adequate (Question from Pete is what is the assumed start of the corrosion for .003/yr. Is it for the life of the plant..

2. Unit 2 needs to have the same level of review that was done at Unit 1 but was apparently missed (lack of documentation right now appears to be a delay tactic) - at the 115 meeting on Monday I am prepare to announce that they are in noncompliance with their procedure and therefore the ASME code - they need to take action to understand the safety signficiance of that violation.

Tim O'Hara, can you provide chapter and verse, at least by fax or pdf sections of their procedure and correct version of their code version.

Any disagreements please respond and we can talk Monday morning.

CA → additional samples

[CR - VT no record.]

[Proc]

Conte, Richard

From: OHara, Timothy
Sent: Saturday, April 17, 2010 4:57 PM
To: Conte, Richard; Burritt, Arthur; Schroeder, Daniel; Gray, Harold; Balian, Harry
Cc: Lupold, Timothy; Wilson, Peter; Roberts, Beverly
Subject: RESPONSE TO: FW: Some thoughts on Salem 1 Before I forget

Rich,

Here are my comments/opinions in red below.

Tim OHara

From: Conte, Richard
Sent: Saturday, April 17, 2010 7:49 AM
To: Burritt, Arthur; Schroeder, Daniel; OHara, Timothy; Gray, Harold
Cc: Lupold, Timothy; Wilson, Peter; Roberts, Darrell
Subject: Some thoughts on Salem 1 Before I forget

AFW Pipe Degradation (all subject to an adequate hydrostatic pressure on new design pressure):

1. I think we are ok on extent of condition pending root cause documentation, which will include extent of condition, but with after-startup documentation - one exception is the control air leak in the fuel handling building and the implications to how much or how little is known about the deep piping in the FHB.
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4. Pending the operability review for this temporary repair to support the next cycle, the assessment of conditions of the deep pipe in the FHB appears weak or inadequate

Questions:

a. Wwith what they have done to date and with a SAT hydro and with the knowledge of the control air leak due to mech damage on the coating, will they be code compliant or not --- most likely it will be subject to interpretation?)

PSEG needs to show that all the AFW buried piping will have structural integrity until their next outage which will be 18 months after return to power. The FEA and hydro will provide that assurance for all the piping which was replaced and for all the piping which was coroded but subsequently UT'd to demonstrate sufficient wall thickness (plus corrosion allowance) for 18 months. We will need to review all of this and make sure they show they meet it.

b. Did they say that they will go done as far as they get intact coating (or coating in good condition - subject to be surrounded by wetted sand0 in application of coating in the upper portion of the riser section?

My understanding is they are doing no more excavation and no more UT's. Here are the facts which are of concern to me with the buried piping in the FHB:

(1) there are no UT readings (and will not be any) on the buried piping in the FHB

(2) the buried piping (approximately 50 ft.) has received less than complete coverage with Guided Wave (not that this would tell much about the actual pipe condition)

(3) there is no positive ID that the buried piping in the FHB is actually coated, there are no QC records to show this either

(4) the retrieved fragment of coating which was retrieved from the deepest excavation (a couple of feet) point on the vertical section of one of the AFW headers in the FHB had already deteriorated to the point where it spawled off of the pipe, and did not appear to be able to provide much protection in the condition I saw it

(5) PSEG does not know what the coating fragment was, doesn't know when it was put on the pipe, and doesn't know what the lifetime of the coating was when, and if, it was applied or how long it might be good if it is there

(6) early in this AFW episode, PSEG speculated that the piping was coated but had failed, now PSEG's judgement is that there was no coating applied in the trench - in spite of the fact that the original spec. says that all buried piping is to be coated

(7) PSEG has no soil chemistry data to make a case that the soil/sand in the FHB area is any better (i.e. less corrosive) than the environment was in the trench outside the FHB

(8) it is very apparent that when it rains, the sand gets wet in the FHB, PSEG doesn't understand this yet

For these reasons, I don't understand how PSEG will provide a convincing argument that the FHB buried piping, even after a successful hydro, will maintain structural integrity for the next 18 months. Corrosion rates, conservative or not, linear or not, don't tell us anything when you don't know the pipe thickness you are starting from! The piping is in a corrosive environment, may not be coated, and there are no qualified wall thickness measurements!

c. Is there really an effort to look for as installed information or design information on the coating in the two areas? d. What will it tell us and What won't it tell us.

About 2 weeks ago, I asked for the information to check on this. To date we've not received anything to review. It would tell us that the coating was installed and how long it should have been good for.

There are many other information requests which have not been provided yet. I am getting the feeling that some of the requested information will not be provided. I can't say they are not looking for it because they say they are.

Unit 1 and 2 Containment Liner Blisters:

1. Unit 1 assessment and extent of sample appears adequate (Question from Pete is what is the assumed start of the corrosion for .003/yr. Is it for the life of the plant..

Some UT's were taken last week on liner plates which had no degradation and the actual plate thickness ranged from 0.638" to 0.572" (remember that nominal was 0.50"). The 0.003"/yr was calculated from what was measured in the degraded areas on Friday. The degraded areas will be recoated and presumably the water will be eliminated in the future. The system is designed such that there should be no more corrosion in this area. Going forward I believe they will assume a 0.00"/yr corrosion rate. Actual repair would not be needed until the min. wall is reached. I believe the min. wall is 0.430" for these plates.

2. Unit 2 needs to have the same level of review that was done at Unit 1 but was apparently missed (lack of documentation right now appears to be a delay tactic) - at the 115 meeting on Monday I am prepare to announce that they are in noncompliance with their procedure and therefore the ASME code - they need to take action to understand the safety significance of that violation.

The performance deficiency would be a Reg. Guide 1.33 violation for failure to follow plant procedure OU-AA-355-018, Revision 1, Step 4.4.2.1.A & B. This is the PSEG procedure which implements the requirements of ASME IWE-2300.

Really can't do the SDP until we know the result of the visual inspection - we don't know what's under the blisters! I think this would at least be GREEN.

Don't overlook the potential that this may not be in their corrective action process but it was known before the plant returned to power in October/November 2009. This could be Appendix B, Criteria XVI also. There could be an NOV here somewhere for the affect on the Regulatory process.

Tim O'Hara, can you provide chapter and verse, at least by fax or pdf sections of their procedure and correct version of their code version.

Code version is 1998 Edition, 2000 Addenda.

Any disagreements please respond and we can talk Monday morning.