

Conte, Richard

From: Conte, Richard *RL*
Sent: Friday, May 07, 2010 6:20 AM
To: Powell, Gerry; Miskey, Cheryl
Cc: Gray, Harold; OHara, Timothy
Subject: Not sure who is acting - need half hour iwth Darrell

Today Friday 5/7 - prefer PM 130 to 300, I won't be in til 930, Harold is covering for me.

- Buried Pipe action plan - apparent long lead time
- DRS delta in meeting budget - recent developments on data review
- Salem structural integrity violation alternate views.

Press Release - New Coverage
Tainted water from plant needs ^{drinking water} again
Boiler at Ohio Extension Reactor ^{State}
Apr 2009 -
No labels left
1000 surface water sample - not detected

Conte, Richard

From: DeFrancisco, Anne R1
Sent: Friday, May 07, 2010 8:39 AM
To: Modes, Michael; Conte, Richard; OHara, Timothy
Cc: Ennis, Rick; Burritt, Arthur; Farrar, Karl; Lupold, Timothy
Subject: RE: Salem Violation Consensus

FYI, 9900 Tech Guidance states: "...NOEDs are not appropriate for nonconformances with...codes...reliefs from codes must be processed in accordance with the provisions of Title 10, Code of Federal Regulations (10 CFR) Part..50.55a, and are not addressed by the NOED policy. In these situations, the licensee must perform a prompt safety assessment of the noncompliance and make an appropriate operability determination.." I understand we're talking about the NOED applying to TS here but the root cause of this issue is the failure to have obtained relief and therefore I do not believe a NOED is appropriate.

If relief is granted, it is done so on a basis that operability can be met regardless and that can be believed to mean that we have a basis to assert the component HAS structural integrity, therefore, the TS is not violated.

Although ultimately I don't see inclusion of the TS in the citation as necessary, I am ok with including if legally defensible. Looks like it is up to management now whether the TS applies, and my guess is that if we're not definitive on this internally, Darrel would defer to whatever the NRR TS Branch/OGC interpretation is. Let me know if you want me to get OE guns on this today.

*Anne DeFrancisco,
Enforcement Specialist
Office of the Regional Administrator, Region I
610-337-5078
anne.defrancisco@nrc.gov*

From: Modes, Michael
Sent: Friday, May 07, 2010 7:32 AM
To: Conte, Richard; OHara, Timothy
Cc: Ennis, Rick; Burritt, Arthur; DeFrancisco, Anne; Farrar, Karl; Lupold, Timothy
Subject: RE: Salem Violation Consensus

Disclaimer. My response addresses the need to cite the licensee's egregious failure to implement a Code requirement. I still have no reasonable technical basis to question the integrity of the U2 AFW piping. I am not suggesting, in any way, the U2 should be shut down and the piping tested. I am only addressing our regulatory response to the licensee's omission.

I vote Nah. In sum, I am not sure the Aye votes fully appreciate the ramifications of being beyond the structural integrity LCO when we all agreed it is ok to wait for them to do the test next outage.

On what technical basis is it okay to wait for them to do the test next outage? The only thing I have heard is we "think" it is okay.

Using the NOED process which will be forced on the licensee since they do not plan to shutdown sounds like bureaucratic response to this issue as unnecessary.

We obviated the need for a NOED by citing the violation and demanding a response. However a NOED is not an unnecessary bureaucratic response. It is a necessary, orderly, process to force the licensee to address the likelihood the AFW piping at Unit 2 may have no structural integrity. In this case it seems the licensee has prejudged the U2 AFW piping to be okay, that they don't need a relief request, and they are now doing a root cause to prove their case.

Conte, Richard

From: Patnaik, Prakash
Sent: Friday, May 07, 2010 10:21 AM
To: Ennis, Rick
Cc: Taylor, Robert; Conte, Richard; Michael Simpson
Subject: Salem Unit 2 AFW Buried Piping Pressure Test

Rick,

I agree with Michael and Rich on this issue. In response to your question, the licensee does not need a relief from NRC to defer performance of the IWA-5244 test during the upcoming outage. Needless to say, the ASME Section XI Code recommends scheduling ISI with planned outages under IWA-2430. To my knowledge, there is no Tech Specs violation for not having performed the subject test as of now but it will be Carl's interpretation whether or not it's a Tech Specs surveillance. We have seen this test not being performed timely and not in accordance with the Code at other sites. Lastly, the following excerpt from Michael's memo is noteworthy and is my belief too.

"Structural integrity is determined by meeting design, doing preservice NDE and testing and maintaining it by inservice inspection. A failure to meet one test does not necessarily invalidate structural integrity." The ASME Code, Section XI, Paragraph IWA-5250 "Corrective Action" further gives escape routes if the test identifies breach of pressure boundary integrity. The requirement of the Code tends to take us away from the realm of so called Tech Specs surveillance.

Thanks!

Pat

Conte, Richard

From: OHara, Timothy
Sent: Thursday, May 06, 2010 9:42 PM
To: Modes, Michael; Conte, Richard
Cc: Ennis, Rick; Burritt, Arthur; DeFrancisco, Anne; Farrar, Karl
Subject: RE: Salem Violation Consensus

Rich,

I think this is the best way to handle the situation and address all the possibilities.

I propose we arrange a call with PSEG on Monday to communicate the following:

(1) "clarify" the preliminary violation we informed them about at the Debrief on Wednesday with the details (below), i.e. add that they are in violation of the structural integrity tech. spec. and,

(2) inform PSEG that a relief request explaining the missed "inservice inspections (pressure tests)" will be needed to eventually restore compliance (when approved by NRR).

I'll be working at home on Monday and I'll be available to lead the call or participate. I can call Howard Berrick on Friday to ask him to coordinate the PSEG people for a Monday call if you want. Please keep me involved in what happens on this so that I get the violation and report correct.

Tim OHara

From: Modes, Michael
Sent: Thursday, May 06, 2010 4:15 PM
To: Conte, Richard
Cc: OHara, Timothy; Ennis, Rick; Burritt, Arthur; DeFrancisco, Anne; Farrar, Karl
Subject: Salem Violation Consensus

We are going to site the regulation 50.55a

In turn the ASME requirement they did not comply with.

This will then result in a failure to show structural integrity.

We will cover the absence of a NOED by also citing, concurrently, the tech spec violation as a subtier of the violation.

We will issue an NOV (with 30 day reply) if they have not submitted the relief request by the time we issue the report in order to facilitate the correct behavior.

If NRR has the request in hand we will issue this as non-cited.

As a secondary benefit we establish a precedent for pressure testing and structural integrity for buried piping that will stand in the absence of the tech spec requirement. This tech spec requirement does not exist in Standard Tech Specs, nor will it last long in the Salem tech specs.

All in favor say "Aye".

The ayes have it ... the motion carries.

Conte, Richard

From: Tsao, John
Sent: Friday, May 07, 2010 10:20 AM
To: Modes, Michael; Ennis, Rick; Conte, Richard
Cc: Lupold, Timothy; Patnaik, Prakash; Taylor, Robert; Chernoff, Harold; Schulten, Carl; Manoly, Kamal; Bowman, Eric; Schroeder, Daniel; Balian, Harry; Cline, Leonard; Hardies, Robert; Alley, David
Subject: RE: Salem Violation Consensus

Rick,

You asked if I agree with your statement that "...It's also not clear if there is a lack of structural integrity on the Salem 2 buried AFW piping...". Your statement and the Salem Unit 2 buried AFW issue caused me to ponder as to what is the definition of structural integrity of a pipe. Below is what I have come up with.

10 CFR 50.55a(a)(1) states that "...Structures, systems, and components must be designed, fabricated, erected, constructed, tested and inspected to quality standards commensurate with the importance of the safety function to be performed..." I suppose that 10 CFR 50.55a(a)(1) establishes the definition of the "structural integrity" of a pipe. Note that the wording "designed, fabricated, erected, constructed" are related to the preservice condition of a pipe. The wording "tested and inspected" probably meant for preservice tests and inspections, but I think that they can be applied to inservice tests and inspections.

In the ASME Section III arena, NB-3600 provides requirements for the piping design. NB-3611 *Acceptability*, provides requirements for acceptability of a piping system. If a piping system satisfies the requirements in NB-3600, then the pipe establishes its structural integrity. The analysis requirements of NB-3200 also apply to the piping design.

But how does a pipe maintain its structural integrity after a plant is placed in service? I do not believe the ASME Code section XI has an explicit definition for the structural integrity of a pipe. The closest I can find is in ASME Section XI IWA-9000, *Glossary*, which includes a "Structural Integrity Test" term, but it is related to the pressure test of the containment building.

However, for Class 2 and 3 piping, ASME Section XI, IWC-3132, *Acceptance*, states that if inspection results (flaws) satisfy the acceptance standards then the component is acceptable for continued service. IWB-3112, *Acceptance*, provides similar requirements for Class 1 piping. I suppose that "acceptable for continued service" implies that the component has maintained the "structural integrity" as defined in 10 CFR 50.55a(a)(1). If a flaw exceeds the acceptance standards, the component can be accepted by analysis of IWB-3600 to show structural integrity.

ASME Section XI, IWA-1310 requires inspection and testing. IWB-5000, IWC-5000, and D-5000 provide requirements for pressure test. The pressure test, I suppose, is one of the measures to satisfy the "test" requirement in 10 CFR 50.55a(a)(1). Inspection is another measure to satisfy the "Inspection" requirement in 10 CFR 50.55a(a)(1).

A pressure test has not been performed for Salem Unit 2 AFW pipe. Therefore the Unit 2 AFW pipe has not satisfied 10 CFR 50.55a or ASME Code Section XI.

The licensee has inspected wall thickness at some locations in Unit 2 AFW pipe. But how many length of the buried unit 2 AFW pipe needs to be examined to demonstrate its structural integrity?

The problem with buried pipe is that operating experience (e.g., buried Unit 1 AFW pipe) shows that wall thinning can occur in any location of the pipe. For an above-ground pipe, say Class 1 pipe, a licensee needs to inspect only 25% (or less) of the welds in that piping system under the ASME Section XI requirement. However, for the buried pipe it seems that any location in the AFW pipe could be degraded with wall thinning.

Wall thinning at a location of the AFW pipe does not imply that there is no structural integrity because ASME Code Section XI allows acceptance by analysis for a degraded pipe for "continued service" as a way to demonstrate structural integrity of a component. However, if too many locations of the AFW pipe are degraded then the pipe may not satisfy the safety margins of the ASME Code, Section XI.

It seems to me that to satisfy 10 CFR 50.55a(a)(1), the licensee needs to perform a pressure test, NDE, AND stress analysis for the AFW pipe.

In lieu of the NDE, I suppose the licensee can perform a stress analysis of the AFW pipe to demonstrate its structural integrity. The licensee could perform a bounding stress analysis using the minimum required wall thickness and perform some sort of PRA or statistical analysis to show that the probability of a wall thickness that is lower than the minimum required thickness is not likely.

So, Rick, to answer your question, I would say that it is not clear if there is or there is not a lack of structural integrity on the Salem 2 buried AFW piping without the licensee performing a pressure test, NDE AND stress analysis.

Thanks.

John

From: Modes, Michael

Sent: Friday, May 07, 2010 7:35 AM

To: Ennis, Rick; Conte, Richard

Cc: Lupold, Timothy; Patnaik, Prakash; Taylor, Robert; Chernoff, Harold; Schulten, Carl; Tsao, John; Manoly, Kamal; Bowman, Eric; Schroeder, Daniel; Balian, Harry; Cline, Leonard

Subject: RE: Salem Violation Consensus

Rich I responded to your original email. I have repeated my response here since you have expanded the audience in this email. My apologies to anyone getting the email twice.

Disclaimer. My response addresses the need to cite the licensee's egregious failure to implement a Code requirement. I still have no reasonable technical basis to question the integrity of the U2 AFW piping. I am not suggesting, in any way, the U2 should be shut down and the piping tested. I am only addressing our regulatory response to the licensee's omission.

I vote Nah. In sum, I am not sure the Aye votes fully appreciate the ramifications of being beyond the structural integrity LCO when we all agreed it is ok to wait for them to do the test next outage.

On what technical basis is it okay to wait for them to do the test next outage? The only thing I have heard is we "think" it is okay.

Using the NOED process which will be forced on the licensee since they do not plan to shutdown sounds like bureaucratic response to this issue as unnecessary.

We obviated the need for a NOED by citing the violation and demanding a response. However a NOED is not an unnecessary bureaucratic response. It is a necessary, orderly, process to force the licensee to address the likelihood the AFW piping at Unit 2 may have no structural integrity. In this case it seems the licensee has prejudged the U2 AFW piping to be okay, that they don't need a relief request, and they are now doing a root cause to prove their case.

I am guided by 50.55a and the code not the TS with all of its nuisances for which there is a TS amendment to fix it.

Fixing the TS does not fix the U2 AFW pipe nor does it prove the pipe has integrity.

The operability guidance presumes operability and gives examples of not meeting code as examples of degraded, not being beyond the limits of the LCO.

TI9900, which I helped write, does not, like the constitution, presume innocent until proven guilty. The TIA was originally written to give guidance to an inspector in the gray area between the technical specifications and the ASME. That is ... when you fail the design requirements of ASME the system may still be able to perform its function, and within the more general constraints of the regulations you may still be able to run the plant. In the absence of any valid test of the U2 AFW I have no choice but to assume it fails the pressure test, that in turns means it fails its design requirements, which then gets me into TI9900. Although I may be able to use the guidance in TI9900 to justify continued operation (and we have) I can not use it as a basis to over look a violation of Code and Tech Spec requirements.

We have a TIA that confirms ISI is not a surveillance requirement. The pressure drop test is clearly an NDE or ISI process.

Agreed.

Structural integrity is determined by meeting design, doing preservice NDE and testing, and maintaining it by Inservice. A failure to meet one test does not necessarily invalidate structural integrity.

It does, indeed, invalidate the structural integrity when it is the only test to determine the structural integrity in ASME Section XI. Using the same logic I can say: "The reactor nozzle that just failed ultrasonic testing, under the authority of Section XI, does not necessarily lose its structural integrity because I did preservice NDE, etc.". ASME assumes if you fail the acceptance criteria in Section XI then you do not meet the design. In the case of the AFW U2 piping, in the absence of any testing at all, we have to conservatively assume the pressure test fails, and the piping no longer meets its design.

As Harold said, even a failure of the test as noted by leak does not necessarily imply a loss of structural integrity, thus the IWA 4160 to evaluate for suitability in this case structural integrity which we told the license at the outbrief.

That is assuming the piping has enough integrity to only leak at one location. You have no basis to assume the pipe will do that nor do you have a single measurement of the pipe wall in U2 to make any determination about integrity. These are arguments that apply to an immediate safety concern. We are talking about a violation of ASME Section XI and tech specs.

Salem TS is confusing in the above point; so how can we say it is violated.

You are correct it is confusing. That, however, is not a basis to avoid it. We cite it because we are the ultimate interpreter of the tech spec and in concert with the TS branch we have decided what it says.

We all anticipate this test when done is going to pass. It would have passed at Unit 1 with the known external degradation.

We have no basis, none, to predetermine the state of the pipe they have not examined. NONE.

From: Ennis, Rick

Sent: Friday, May 07, 2010 7:02 AM

To: Conte, Richard; OHara, Timothy; Modes, Michael

Cc: Burritt, Arthur; DeFrancisco, Anne; Farrar, Karl; Lupold, Timothy; Patnaik, Prakash; Taylor, Robert; Chernoff, Harold; Schulten, Carl; Tsao, John; Manoly, Kamal; Bowman, Eric; Schroeder, Daniel; Balian, Harry; Cline, Leonard

Subject: RE: Salem Violation Consensus

I've copied Pat Patnaik and Rob Taylor on this email since, if a relief is submitted, I believe Pat would likely be the reviewer. Pat - based on our discussions last week, please confirm that you think a relief request is needed to justify not performing the IWA-5244 pressure test on the Salem 2 buried AFW piping until the next outage.

Rich - I agree with your assessment that it's not clear that there is a TS violation. Carl/Eric - do you agree?

It's also not clear if there is a lack of structural integrity on the Salem 2 buried AFW piping. John/Kamal – do you agree?

Thanks,

Rick

From: Conte, Richard
Sent: Friday, May 07, 2010 6:13 AM
To: OHara, Timothy; Modes, Michael
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We all anticipate this test when done is going to pass. It would have passed at Unit 1 with the known external degradation.

I do agree they need a code relief to cover the situation from now to the next outage - this appears to be the main issue in all of this as a reasonable next step.

That is the relief is not to cover the failure to do the test in the first two periods of the interval, that would condone the violation and turn it into acceptable status should the relief be approved on those grounds..

Since I have the alternate view and Darrell loves listening to alternate views I will try to set up something today with Darrell. Harold and Tim it sounds like you will be available to to discuss with him so I don't prejudice any view.

I will let you know what time. How is this; Darrell is acting RA.

I do agree with Rick Ennis; this is all as clear as mud; but thanks for your help.

In an open collaborative work environment I would propose we get guidance from the Acting RA and bring the views to Lupold and company on Monday. I would not set up anything with PSEG just yet.

I plan to call Len Rajkowski today to better understand what they view are the degraded LCOs

Art Burritt if you are in the office today, you are welcome to join us.

I still don't have an immediate safety issue; nothing indicates otherwise in these emails.

I added Tim Lupold as a heads up.

From: OHara, Timothy
Sent: Thursday, May 06, 2010 9:42 PM
To: Modes, Michael; Conte, Richard
Cc: Ennis, Rick; Burritt, Arthur; DeFrancisco, Anne; Farrar, Karl
Subject: RE: Salem Violation Consensus

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All in favor say "Aye".

The ayes have it ... the motion carries.