

## Conference Call – Containment Liner Corrosion

Thursday, September 3, 2009 11:00am

### Participants

#### FENOC

Cliff Custer  
Tom Lentz

Mark Manoleras  
Jim Hester

Carmen Mancuso

David Jenkins

#### NRC

Kent Howard  
Kamal Manoly  
Bill Rogers

Allen Hiser  
Dave Wrona

Rajender Auluck  
Lloyd Subin

Abdul Sheikh  
Bennett Brady

### Discussion

- NRC (KH) The purpose of this phone call is to discuss an apparent disconnect between our telephone call of yesterday and the letter submitted. During the phone call FENOC said that if there was a statistical failure a second set of 75 locations would be tested. The Amendment 40 letter we received did not include that statement.
- FENOC (MM) This was discussed with our executive leadership. We commit to the following: if a statistical failure is identified, it will be placed into the corrective action program and evaluated in accordance with 10 CFR 50, Appendix B, Criterion XVI. The sample population would be increased as required to meet the 95/95 confidence level.
- NRC (AH) The point that we had 75 was the standard ASME code sample expansion, if you had one failure, then you would double the population. Then we were comfortable with the 95/95. Doubling the sample size would show fidelity with the code.
- FENOC (MM) Our executive leadership says that if a statistical failure is identified, it will be placed into the corrective action program and evaluated in accordance with 10 CFR 50, Appendix B, Criterion XVI. We feel that is the most appropriate answer, even at the ACRS, and closes issue.
- NRC (AH) We would have to step back and take a look at that. You did say you would double it during the phone call, and then maintenance of 95/95 with any subsequent findings. It might take a few days and another phone call.
- NRC (DW) Because some of us are remote, we cannot caucus on this matter.
- NRC (RA) You did say a second 75 during the phone call, twice. We will have to caucus and get back to you.
- NRC (KH) We do have another issue to discuss. Regarding Commitment No. 32 (for Unit 1), the Staff (Abdul Sheikh) wonders why, if your third refueling outage is scheduled for 2013, why is the commitment date 2016.
- NRC (RA) That is not a problem.
- NRC (DW) Your cover letter states that there are no regulatory commitments. Are these License Renewal commitments? And if so, what is the difference?
- FENOC (TL) Regulatory commitments are against the current licensing basis. License Renewal commitments are relative to License Renewal, which is not yet in place, and the period of extended operation (PEO). There is past precedent for us and past licensees for these not to be regulatory commitments.
- NRC (DW) Is the change process the same?
- FENOC (TL) Yes. We follow the NEI guidance and it is called out in our plant procedures.

Temporary End of Call – for NRC Discussions

Call Continues – Thursday, September 3, 2009 11:50am

- NRC (AH) Regarding Question 1 – part of your answer states, “The statistical sample failure criteria for volumetric (ultrasonic testing (UT)) examinations of the concrete to liner interface is defined as greater than 10% loss of material from the nominal thickness that is characterized through engineering evaluation as pitting corrosion degradation indicative of foreign material.” I’d like to discuss the phrase “indicative of foreign material.” That’s a little more specific.
- FENOC (MM) That is the wording that we read to you during the phone call.
- NRC (AH) I thought it was going to be anything that was >10% and not fabrication or erection.
- FENOC (MM) And that has measurable depth and shape.
- NRC (AH) This is not what I expected to see.
- NRC (BR) You stated “as caused by foreign material” but it appears that you’ll evaluate anything >10% regardless.
- FENOC (CC) That is correct, anything >10% is flagged and evaluated.
- NRC (BR) To paraphrase, the purpose is to look for foreign material caused corrosion, but your response to any type would be the same for anything greater than the threshold.
- FENOC (CC) True. If >10% it will be flagged and evaluated.
- NRC (AH) That narrows down what the 95/95 confidence means. Now it’s only pitting corrosion from foreign material. There comes a point where it is not clear how you are demonstrating containment liner integrity.
- FENOC (CC) The purpose of the random samples is to find foreign material induced corrosion.
- FENOC (MM) Industry OE supports pitting corrosion from foreign material.
- NRC (AH) True, for the OE to date. I’m not sure who has looked behind the liner like FENOC did in 2006 with the steam generator replacement. I guess with the random and non-random samples you are generating unique data for the industry. I’m leery of narrowing down how will it be interpreted.
- FENOC (MM) We want to get these examinations done in the next three refueling outages so data will be available prior to the inspection in 2016, so all the data is available, and the summary reports will be provided to the industry following each outage.
- NRC (AH) Ok, I need to cogitate. It is not sitting well. We’ll talk. This was my main concern.
- NRC (BB) Regarding the response to Question 2, paragraph #1, last sentence. My concern is not with your conclusion, but with your statement. I think you could make one statement about what the statistical test is showing you, and another statement about your conclusion. (Reads the last sentence, as sent. “The completion of the random sampling is designed to provide a confidence level of 95% that 95% of the ultrasonically untested containment liner is not experiencing localized pitting corrosion degradation that would challenge the integrity of the containment liner.”) I’d like to suggest a new sentence. “If no statistical sample failure is found, the completion of the random sample will provide a confidence level of 95% that 95% of the accessible ultrasonically untested containment liner is not experiencing localized pitting corrosion degradation with >10% loss of material.” And then maybe propose that you add another sentence that says that this demonstrates that the integrity of the containment liner is not being challenged. We’d leave that wording to you.

NRC (AH) (To B. Brady) We need to make sure the other “if” statement is removed. The part about indicative of foreign material.

NRC (BB) (To A. Hizer) What about the other “if” statement, the one about pitting corrosion. Do we need to make that point again?

NRC (AH) (To B. Brady) I think so, because they narrow down what a statistical failure is. You can’t claim it proves on thing if you’ve used different criteria.

FENOC (CC) (Reads back the FENOC understanding of the suggested statement.) “If no statistical failure is found, the completion of the random sampling will provide a confidence level of 95% that 95% of the accessible ultrasonically untested liner is not experiencing localized pitting degradation >10% loss of the containment liner.)

NRC (BB) That’s close, you could drop the first part and we’ve made some other changes to it. Let me read the new version.  
 “The completion of the random sample, plus any enhanced sampling (which refers to the 75 plus 75), will provide a confidence level of 95% that 95% of the accessible ultrasonically untested containment liner is not experiencing localized pitting corrosion, indicative of foreign material, with >10% loss of material.”

NRC (AH) That sounds consistent.

FENOC (MM) Completion of the random sample plan is the whole plan (random plus any additional).

NRC (AH) As long as it is defined somewhere what the plan includes.

FENOC (MM) “The plan” will provide a 95/95 confidence level.

NRC (RA) Whatever it takes to get to 95/95.

FENOC (MM) With a minimum of 75 locations. A random sample plan that will maintain that confidence level.

NRC (BB) (Rereads latest version.) “The completion of the random sample plan, with a minimum of 75 samples, will provide a confidence level of 95% that 95% of the accessible UT untested containment liner is not experiencing localized pitting corrosion degradation indicative of foreign material with >10% loss of material.”

FENOC (MM) That is our understanding.

NRC (BB) If you want to add a statement that the integrity of the liner would not be challenged, that would be acceptable.

NRC (AH) That’s fine. The statement now provides correct statistical description, and it provides for the engineering evaluation that they would have to add.

NRC (?) Why have you dropped the second 75 locations, as mentioned in the original phone call?

FENOC (MM) The new wording is consistent with what we just went over.

NRC (BB) What if there is a failure? You said you would double the 75 samples. What if you do a second 75 and you find more failures?

FENOC (MM) No. Our new response is that we will do a minimum of 75 samples and will do what needs to be done to achieve 95/95. This response handles all the hypothetical results options.

NRC (BB) Yes, you have got our concern addressed.

NRC (RA) You are going to do required extra samples to get the 95/95 but you do not know where that will take you.

FENOC (MM) Yes. We’ll do whatever it takes to achieve 95/95.

NRC (RA) We need the new language today. Share it with Kent before you formally send it.

NRC (?) A question regarding the new wording about doing whatever it takes to maintain 95/95 – are you going to include that in writing?

FENOC (MM) Yes. Our sample plan will be consistent with 95/95 at the end.

NRC (AH) In Question #2, you mention the random sample plan and that only included the first 75. Can you clarify in writing that now the plan includes the first 75 plus whatever it else is necessary.

FENOC (MM) The plan will maintain the confidence level. The first 75 will be done in the first three refueling outages.

NRC (AH) What's the schedule for any follow-on?

FENOC (MM) Difficult to say. There are too many unknowns. The first 75 will be done in the first three refueling outages.

FENOC (CC) Commitment #32 says all examinations will be done by the PEO.

NRC (RA) That's kind of an issue. The typical time for the next three refueling outages indicate that it should be much sooner.

FENOC (CC) Commitment #32 says the initial 75 will be completed during the next three refueling outages. Any extra testing required will be done by the PEO.

NRC (RA) But your third outage will be before 2016.

NRC (AH) What they're saying is, what if they have to extra testing, an extra 30 locations for example.

NRC (RA) Ok

NRC (AH) Question – regarding the first 75, when will you decide if there is a failure? On the first finding or on subsequent reexamination (for trending)?

FENOC (MM) If we meet the criteria in Question #1, that is a failure, at that time.

NRC (AH) At the end of the third refueling outage, you will have a determination as to whether the 75 had any failures?

FENOC (MM) That is correct. And the data will be available prior to the 71003 inspection.

NRC (AH) Let me ask about one scenario called an acceptance by your program. If you find an area that is 9%. It is ok statistically but you decide to track it and over the next two inspections you find growth, how does that factor into your program, does it stay in the corrective action program or become a statistical failure?

FENOC (CC) We need to keep hypothetical situations out of the discussion. Pete Sena's commitment to Brian Holian is that we would to the first 75 in the first three refueling outages. That would give us time to analyze and address anything (or have it contested by the staff, if required) prior to the PEO. Let's understand that as a basis.

NRC (RA) We have no disagreement with that.

FENOC (CC) This new hypothetical situation, if <10% it would be a point of interest, and we would trend it. If it is due to foreign material we will address it at that time.

NRC (AH) You'll get a lot of questions about this from the ACRS.

FENOC (CC) Agreed, there will be time to assess these situations as they are found, but there is a lot, at this time, we cannot say with certainty.

NRC (RA) Bennett Brady changed Question #2. Are you going to change Question #1 also?

FENOC (MM) "The sample plan" will maintain the 95/95 confidence level.

NRC (BB) Question #1 says "pitting corrosion degradation indicative of foreign material." Allen Hizer didn't like that, not thinking it was the same as discussed in the earlier conference call.

NRC (AH) The point is not clear in the commitment. Change the commitment to say that all (the random sampling plan) will be done by 2016, and the first 75 done in the first three refueling outages.

NRC (RA) Add one sentence to Question #1 regarding Commitment 32.

FENOC (CC) The random sample plan, with maintenance of the 95/95, will be done by the PEO.

NRC (RA)      Change Question #1 and Question #2.  
We need to support getting to the ACRS on the 11<sup>th</sup>.  
Docket a change to L-09-242 as soon as possible.

End of Call

Action items – Letter to NRC as soon as possible.