

**Rivera-Ortiz, Joel**

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**From:** Fletcher, Cecil - R D  
**Sent:** Wednesday, September 14, 2011 5:20 PM  
**To:** Murphy, Emmett; Karwoski, Kenneth  
**Cc:** Murphy, Martin; Rivera-Ortiz, Joel  
**Subject:** RE: Planned Inspections for North Anna Unit 1

Emmett,

The reason the licensee is inspecting SG A (only) is because this is the SG that was originally scheduled to receive the next eddy current testing. SG A was originally scheduled to be inspected spring 2012. Given that SG A hasn't been inspected for a longer period of time than SG B and C, there is more of a probability that any unknown degradation that could have been exacerbated by the earthquake would be worse in SG A.

The licensee did not attempt to calculate which SG would bound the others with regards to the orientation and the actual axial forces on the tubes. They did however, write a CR to ensure if there is any indication that the earthquake had any negative effects on the tubes in SG A, then they would also inspect B and C. So, instead of trying to determine which SG has the most limiting orientation, they are essentially using SG A as a 33.3% sample of all the unit 1 SGs, with regards to tube integrity after the earthquake.

Also, their DA has a section that discusses the possible effects of the earthquake on the tubes and they believe that the biggest indication of damage would be dents/dings and bulges at the TSP and AVB locations. All dents/dings and bulge indications are being compared to historical data to ensure none were due to the earthquake.

As far as the U-bend planes being parallel for all 3 SGs, I have yet to see the drawings to confirm that, but that's what I've been told.

Cecil

**From:** Murphy, Emmett  
**Sent:** Tuesday, September 13, 2011 5:22 PM  
**To:** Karwoski, Kenneth; Fletcher, Cecil  
**Cc:** Murphy, Martin  
**Subject:** RE: Planned Inspections for North Anna Unit 1

Cecil, I work in the Steam Generator and Chemical Engineering Branch, NRR. In terms of what you might be looking for, you might want to have a good look at their degradation assessment supporting this SG inspection. In particular, you might want to review the justification for inspecting SG A as opposed to one or more of the others. Inspecting one SG for each unit seems reasonable if the U-bend planes are parallel for all three steam generators. It's not clear from information available to me that this is the case. Are they? The steam generators, including the tube bundles are not axi-symmetric. For example, the tubes are supported by AVBs normal to the plane of the u-bend. So, depending on the ground motion, the tube bundles of the different SGs may respond differently depending on how each SG is oriented relative to the ground motion. If the plane of the u-bends are not parallel among the three SGs, has this been evaluated such that SG A is concluded to have the most limiting orientation? If not, one might argue they should look at the other SGs as well. Also, a major focus of their inspection should be on whether there are any deltas in signal response compared to the most recent inspection. Widespread, noticeable deltas might also call into question whether additional SGs should be inspected.

**From:** Karwoski, Kenneth  
**Sent:** Saturday, September 10, 2011 9:59 AM

Information in this record was deleted  
in accordance with the Freedom of Information  
Act, exemptions 6  
FOIA 2011-0357

P/66

**To:** Fletcher, Cecil  
**Cc:** Murphy, Emmett; Murphy, Martin  
**Subject:** Re: Planned Inspections for North Anna Unit 1

Cecil,

This looks reasonable to me.

If anything comes out of these inspections, let us know.

Thanks,

Ken

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**From:** Fletcher, Cecil  
**To:** Karwoski, Kenneth  
**Sent:** Sat Sep 10 09:32:22 2011  
**Subject:** FW: Planned Inspections for North Anna Unit 1

Ken,

Due to the recent earthquake and subsequent events at NA, they have decided to perform eddy current on one SG in Unit 1 to ensure integrity prior to startup and I will be performing the SGISI for SG A only.

Their planned inspections are in the email just below.

Is there anything outside of the normal items that I should be paying particular attention to?

Cecil

**From:** (b)(6) [mailto:(b)(6)@dom.com]

**Sent:** Friday, September 09, 2011 7:32 AM

**To:** Fletcher, Cecil

**Cc:** (b)(6); (b)(6); (b)(6); (b)(6); (b)(6)

**Subject:** Planned Inspections for North Anna Unit 1

Cecil,

Below I've identified the scope of inspections to be performed on Steam Generator A in Unit 1 at North Anna Power Station during the period September 10 through September 17. I also provided a brief description of our inspection schedule. The degradation assessment is currently out for review and comments and will be ready for your review next week.

Tony

### SG "A" ONLY

**The primary side work scope is defined to include:**

9.13.11

- i. There will be no visual inspection for evidence of leakage of previously installed plugs in the hot and cold legs since there are no installed plugs.
- ii. Bobbin coil inspection of the full length of all tubes in service, except for the U-bend region of Row 1 tubes.
- iii. Rotating coil inspection of the U-bend region of all Row 1 tubes in service (approximately 98 tubes).
- iv. Rotating coil inspection of the hot leg top of tubesheet region (TSH +3 to TSH -3) of 993 tubes. The tubes selected for inspection will include a 50% sample of tubes in the defined special interest areas as shown in the Dominion Outage Plan documents.
- v. Rotating coil inspection of the cold leg top of tubesheet region (TSC +3 to TSC -3) of 570 tubes.
- vi. Rotating coil inspection of 100 additional locations of interest as defined by Dominion.

**The secondary side base scope work includes:**

- i. SSI/FOSAR at the top of the tubesheet if possible loose parts are detected by ECT
- ii. Visual inspection of the internal blowdown piping and wrapper supports at the top of the tubesheet
- iii. steam drum visual inspection
- iv. 7th TSP visual inspection
- v. J-nozzle visual inspections

The primary work scope is scheduled to begin on Saturday September 10 mid day and end on Saturday September 17. We will have a common day off on Sunday September 11 and we are only running 1 robot. Bobbin inspections will last about 3 to 3½ days and RPC exams will last another 3 to 3 ½ days. Dependent on having no equipment issues we should finish by the end of that week.

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EX. 6

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