

Cheryl Miskey

From: John Richmond, *RI*
Sent: Wednesday, November 19, 2008 2:58 PM
To: Doug Tift
Subject: RE: OC PN issue
Attachments: NJ engineer comments on OC PN_rev-1.doc

update attached

From: Doug Tift
Sent: Wednesday, November 19, 2008 12:27 PM
To: John Richmond
Subject: OC PN issue

I wrote up something for when we have to brief management. Can you look over it for accuracy, and add in our take on item #5, I couldn't remember that one.

thanks,
-Doug

Received: from R1CLSTR01.nrc.gov ([148.184.99.7]) by R1MS01.nrc.gov
([148.184.99.10]) with mapi; Wed, 19 Nov 2008 14:58:51 -0500
Content-Type: application/ms-tnef; name="winmail.dat"
Content-Transfer-Encoding: binary
From: John Richmond <John.Richmond@nrc.gov>
To: Doug Tiff <Doug.Tiff@nrc.gov>
Date: Wed, 19 Nov 2008 14:58:05 -0500
Subject: RE: OC PN issue
Thread-Topic: OC PN issue
Thread-Index: AclKbAC79eMuDRUzRkSz81xFBeW7FgAFQ91w
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Oyster Creek License Renewal Inspection
NRC Discussions with NJ DEP Engineers

Background

On Tuesday 11/18, John Richmond had a conversation with two NJ DEP engineers (Rich Pinney and Ron Zak). These engineers observed portions of the license renewal commitments inspection, and expressed concerns that the NRC PN, issued Monday 11/17, omitted some relevant (their words: "important and significant") information. Additionally, the NJ DEP engineers felt that the MOU was effectively a 'gag order' preventing them from informing the public. John Richmond explained to the NJ DEP engineers that the purpose of the PN was an outreach to provide preliminary inspection information to the public prior to the inspection report being issued (mid Jan-2009). It was also explained to the NJ DEP engineers that the NRC had not come to a conclusion on the issues they expressed, although we did conclude there are no immediate safety concerns to prevent restart. The conclusions will be included in our inspection report, scheduled for issuance in mid January.

After our inspection report is issued, NJ DEP stated that they intend to send a letter to the NRC that may contradict information in the NRC inspection report.

NJ DEP Engineer Concerns

NJ DEP engineers' concerns are listed below, along with the NRC's perspective on each issue:

1. Strippable coating de-lamination
 - The strippable coating used to line the reactor refueling cavity did de-laminate, resulting in leakage into the cavity drain trough. Some water entering the cavity drain trough spilled over into a gap between the drywell shell and the concrete shield wall, resulting in water entry into 4 of 10 sand bed bays. There appears to be no consequences for the water intrusion into the sand bed bays.
2. Disconnected tubing from sand bed drain line poly bottles
 - During the outage, tygon tubing from two of five sand bed drain lines, to the poly bottles in the torus room, were found disconnected. The poly bottles are used to detect whether any water has leaked into the associated sand bed bay. The two affected sand bed bays had been visually inspected before and after the tubing was found disconnected. The two affected sand bed bays never had any moisture or water in them. There were no consequences.
3. 1/2 inch deep standing water in the sand bed bays
 - AmerGen identified water inside four of ten sand bed bays. This was initially characterized by the licensee as moisture, then as puddles, then as less than 1/2 inch deep puddles the bay with the most water. The NRC does not believe "1/2 inch deep standing water in the sand bed bays" is an accurate characterization.
4. No confidence [sic] in AmerGen's monitoring of sand bed drains, while the plant is on-line (e.g., water could enter a sand bed bay and go undetected)
 - During refueling, with reactor cavity flooded, there is a potential for water to leak into the sand bed bays. When the cavity is empty (plant at power), there is no realistic water source to leak into the sand bed bays. The NJ DEP engineers did not postulate a source of water, but kept saying that because AmerGen had

problems monitoring sand bed drain lines during the outage, AmerGen could not be trusted to adequately monitor them while the plant was at power.

5. Brightly rust colored water found in bay 17, on Friday 11/14 [in other bays, the water was not described as brightly rust colored]
 - The NJ DEP engineers were concerned because this water was described as "brightly colored" where as water in other bays was not. They stated this water must have come from a different source than the water in the other bays. They also said the color may be indicative of significant unidentified corrosion. Based on my direct visual inspections, inside 2 ½ bays, the differences in water color (from mostly clear to rust colored) is consistent with direct observations of conditions in the bays.
6. No proof that there is not large [entire surface] areas of rust under the epoxy coating (e.g., the issue may have been mischaracterized as only a small area of one identified blister, versus significant corrosion that has not been evaluated)
 - The epoxy coating was applied to arrest corrosion (prevent moisture contact on the steel). In one small area, in one bay, the epoxy coating had four small blisters, with surface corrosion under each blister. 100% visual examination determined the epoxy coating was tightly adhered, with no other blisters identified. UT data results indicate there is no statistically significant on-going corrosion.
7. Corrosion rate of steel shell, in a broken blister, would be the same as uncoated steel, and will be significantly higher than the predicted corrosion rate of the same steel inside an unbroken blister, because in the past, the sand bed region experienced the loss of at least 1/2 inch of steel due to corrosion
 - Corrosion rates of steel are well known. OC did experience high corrosion rates, with ~½ inch of thickness wasted during the 1980s, before the sand was removed from the sand bed bays. Wet sand directly against the steel significantly accelerated the corrosion rate. The current configuration, no sand and epoxy coated steel, is not conducive to such a high rate of corrosion. The broken blister, identified and repaired this outage, was determined to have existed prior to the 2006 outage, because the rust stain below it showed up in a video made at the end of the 2006 outage. Based on laboratory analysis of that blister, the calculated corrosion rate is very small. The actual broken blister existed at least 2 years, with no significant adverse effect. Therefore, it is reasonable to conclude that if another blister did form, and broke, the predicted surface corrosion would not significantly reduce the thickness margin of the steel shell, before the broken blister would be reasonably identified and repaired.

Next Steps

1. Inform this distribution of any follow-up communication from Pat Mulligan, NJDEP, resulting from his discussion today with Jill Lipoti.

Owner	McLaughlin
Date	11/19/08, or later as applicable

2. Maintain communications with NJDEP regarding this inspection and respond to any requests for further discussion.

Owners	SLOs & DRS
Date	Ongoing