

Sarah Rich

From: Richard Conte, *RI*
Sent: Friday, November 07, 2008 9:16 PM
To: John Richmond; Doug Tiff; David Pelton
Subject: FOR MY CONFIDANTS
Attachments: OC PNO-Nov2008_Rev0_Drywell.doc; OC 2008 Outage Comm Plan Rev 1.doc

John Richmond call me when you get a chance over the weekend if you read this

K/I

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Content-Transfer-Encoding: binary
From: Richard Conte <Richard.Conte@nrc.gov>
To: John Richmond <John.Richmond@nrc.gov>, Doug Tiff <Doug.Tiff@nrc.gov>,
David Pelton <David.Pelton@nrc.gov>
Date: Fri, 7 Nov 2008 21:16:19 -0500
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Preliminary Notification

DCS No.: 0500021911XX08

Date: November XX, 2008

PRELIMINARY NOTIFICATION OF EVENT OR UNUSUAL OCCURRENCE PNO-1-08-XXX

Facility

Licensee Emergency Classification

AmerGen Energy Company, LLC
Oyster Creek
Forked River, New Jersey
Docket: 50-219

- Notification of Unusual Event
- Alert
- Site Area Emergency
- General Emergency
- Not Applicable

Subject: RESULTS OF IMPLEMENTATION OF OYSTER CREEK LICENSE RENEWAL COMMITMENTS RELATED TO THE CONTAINMENT DESIGN FUNCTION

The NRC staff conducted an on-site inspection of AmerGen's actions related to license renewal commitments to be implemented during the 2008 refueling outage at the Oyster Creek Nuclear Generating Station (OCNGS). In particular, the NRC review involved a multi-week inspection of AmerGen's three aging management programs associated with the primary containment (drywell and torus structures): Observable aspects of other aging management programs were also reviewed such as:..... In accordance with the NRC's agreement with the State of New Jersey, State Engineers observed portions of the NRC's staff review. Based on the results of the NRC's inspection activities, the NRC staff found: 1) for the areas sampled by the inspectors, the results of aging management program data gathering indicated proper implementation and no significant adverse conditions; 2) there were no safety significant conditions with respect to the primary containment that would prohibit plant startup, and [??? that there is reasonable assurance that the primary containment is capable of performing its design function throughout the upcoming operating cycle ????].

[NOT SURE THIS IS NEEDED AS BACKGROUND: In the mid-1980s, GPU Nuclear (as licensee) identified corrosion of the shell of the OCNGS containment drywell in the sandbed region. Initial licensee actions were not effective in arresting corrosion, and in 1992, all sand was removed from the sandbed region and the accessible exterior surfaces of the drywell shell were cleaned and coated with an epoxy paint. Ultrasonic test (UT) measurements of the drywell shell thickness were taken in 1992 and 1996, and indicated that the corrosion had been effectively arrested. This information was confirmed in the outage of 2006.]

On October 24, 2008, OCNGS shut down for a refueling and maintenance outage. Scheduled outage work included: inservice inspection of the drywell shell thickness (UT), material condition of accessible internal and external portions of the drywell (Visual Testing), and.....

The NRC staff inspection throughout the outage focused on:

1. Non-destructive examination results of the drywell shell and torus and related AmerGen evaluations.
2. The condition of the inside of the drywell, including trenches in the floor, and the outside of the drywell shell in the sand bed region.
3. The integrity of the epoxy coating in light of four blisters found in Bay No. 11 and the integrity

Preliminary Notification

of the seal joint between the drywell and sandbed region floor in light of the seal separation noted in Bay No. 3.

4. The potential impact from various repairs to the containment on the design and licensing bases of the drywell.

Short paragraph story on the blisters in bay 11

Short paragraph story on the separated seal in bay 3

On a sampling basis, the NRC staff had the following observations as a result of Amergen's implementation of license renewal commitments for the 2008 refueling outage:

1. UT measurements on the drywell met the licensee acceptance criteria and the acceptance criteria was based on the current licensing basis.
2. Work repair for the problems noted restored functionality to the epoxy coating on the outside of the drywell shell in the former sandbed region and to the seals between the drywell and sandbed region floor.
3. The problems found during the course of implementation of the various aging management programs for the primary containment had no adverse impact on the structural integrity.
4. There are no adverse conditions with respect to the drywell or torus structural integrity that preclude restart.

Based on a review of the technical information, the NRC staff determined that AmerGen has sufficient justification to restart OCNGS.

The State of New Jersey has been notified and no further updates are planned.

This PN is being issued for information only and will not be updated.

ADAMS Accession Number: ML.....

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COMMUNICATIONS PLAN

Preliminary Results of Oyster Creek Licensee Renewal Commitment Inspection

Goal

To effectively communicate the preliminary evaluation results of recent Oyster Creek license renewal commitments inspection with particular focus on problems found related to primary containment (drywell) and the imminent reactor restart.

To informing stakeholders of the preliminary notification issued by the staff within the ongoing license renewal process.

Key Messages

On a sampling basis, the NRC staff had the following observations on the review of the implementation of license renewal commitments for the 2008 refueling outage:

1. UT measurements on the drywell met the licensee acceptance criteria and the acceptance criteria are based on the current licensing basis.
2. Work repair restored functionality to the epoxy coating on the outside of the drywell shell in the former sandbed region and to the seals between the drywell and sandbed region floor.
3. The problems found during the course of implementation of the various aging management programs for the primary containment had no adverse impact on the structural integrity.
4. There are no adverse conditions with respect to the drywell or torus structural integrity that precluded restart.
5. Based on a review of the technical information, the NRC staff determined that AmerGen has sufficient justification to restart OCNCS.

Audience / Stakeholders

AmerGen (Oyster Creek Nuclear Generating Station)

Senators' DC Offices (Senators Lautenberg & Menendez)

House of Representatives for NJ (Rep. Saxton, Smith, Andrews, Holt, Pallone & Pascrell)

New Jersey Dept. of Environmental Protection

Local officials ?

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Communication Team

Eugene Dacus	Office of Congressional Affairs	301.415.3693
Richard Conte	Chief, Engineering Branch 1, DRS	610.337.5183
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Stephen Pindale	Senior Reactor Inspector (acting)	610.337.5116
Diane Screnci	Senior Public Affairs Officer	610.337.5330
Neil Sheehan	Public Affairs Officer	610.337.5331

Timeline:

Time Sequence	ACTION	Responsible Organization/Individual
T= 0 Hour	Inspection Report Is Signed By Region I Management and emailed to Oyster Creek	RI - Conte
T = 0.5 Hour	Call Site VP and Communicate Key Messages	RI - Conte/Collins
T = 1 Hour	E-Mail Inspection Report & Key Messages to New Jersey	RI - McLaughlin
T= 1 Hour	E-Mail Inspection Report & Key Messages to NJ Congressional Offices	OCA - Dacus
T= 24 Hour +	Respond to Media Inquiries	RI - Screnci/Sheehan

Add a line within table for DRP to notify local officials at 1 hour?

License Renewal Background

AmerGen submitted a License Renewal Application (LRA) for Oyster Creek on July 22, 2005. The license renewal team inspection occurred in March 2006; Inspection Report 50-219/2006-007 dated May X, 2006, documented the inspection results. The LRA addressed managing the aging of the drywell shell; corrosion of the shell, primarily in the sand bed region, had been identified in the mid-1980s.

ASLB held a hearing on a contention regarding the frequency of planned ultrasonic (UT) inspections of the drywell shell in the sand bed region. On December X, 2007, the ASLB ruled in AmerGen's favor. Citizens (intervenor) appealed this decision to the Commission on January 14, 2008. In May 2008, the Commission requested that the ASLB resolve concerns related to planned 3-D analysis of the drywell shell. The ASLB held oral arguments on September 18, 2008, and anticipates responding to the Commission in October.

Citizens has another appeal to the Commission related to a July 2008 ASLB decision to deny admitting a new contention on metal fatigue. The Commission plans to act by November 10, 2008.

Subsequent Actions:

Region I issue Inspection Report 50-219/2008-007 – Deadline: December 21?, 2008

NRC Commissioners decide on two ASLB appeals related to renewed license - ?

Region I perform non-outage license renewal inspection – planned for March 9 - 27, 2008

The current operating license for Oyster Creek expires on April 9, 2009?.

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Anticipated Questions and Answers

- Q1: Why issue a preliminary notification with the preliminary results of an inspection?
- A1: Given the continuing interest in the drywell shell, particularly in the review of the Oyster Creek license renewal application, and the ASLB hearing and oral argument on this subject, the timely public disclosure of the results of this inspection was determined to be desirable.
- Q2: When will the inspection results be final?
- A2: The inspection results will be final when issued in Inspection Report 50-219/2008-007. The planned deadline for report issuance is December 21st, 2008.
- Q3: What prompted the inspection?
- A3: This was a scheduled inspection in accordance with the license renewal process under Inspection Procedure 71003. Generally, the inspection addresses license renewal activities which occur during the refueling outage prior to the period of extended operations and which relate to equipment inaccessible (such as the drywell) during reactor operation.
- Q4: How do the preliminary evaluation results affect the license renewal process?
- A4: They confirm the completion of commitment made by the applicant (licensee) during the course of the application review and as documented in the NRC's staff's safety evaluation report.
- Q5: What are the next steps following the inspection, and what is done with the findings?
- A5: There were not findings as defined in our process (NRC Inspection Manual Chapter 0612). A number of observations will be documented as a result of this review.
- Q6: Why is the reactor safe to operate with these findings?
- A6: There were not findings of safety significance. The observations comport the fact the commitments were properly implemented by the licensee.
- Q7: What was found and what is the problem?
- A7: Two more than minor problems were found that needed to be addressed, evaluated and fixed by Amergen.

First in Bay No. 11, on October 31, 2008, the lead inspector for the license renewal commitment inspection received information that a blister was observed in the epoxy coating in the sand bed region of the drywell in one bay. The blister is located in bay 11 very close to the ultrasonic test ("UT") location 11A (which is on the inside of the drywell shell). This was the only blister observed during licensee visual inspection of the coating in all bays. On November 2, 2008, the inspector entered the affected bay and observed the blister. The blister is about one quarter of an inch in diameter with an approximately 6 inch brown stain, dry to the touch, trailing down from the blister. Three additional blisters were also observed in the same area but without any evidence of a brown stain (unbroken blisters). As part of the investigation of this observation,

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the Amergen reviewed a videotape taken during the 2006 refueling outage that was taken before returning shielding to the access tunnels specifically cut in the concrete containment to provide access to the sand bed region of the drywell shell. The the blister with the brownish stain was visible on this videotape taken in 2006 and apparently missed then.

Second, on October 31, 2008, during a routine moisture barrier seal inspection, AmerGen identified a 4 inch crack in the seal, between the sandbed floor and the drywell shell. Some reddish discoloration was observed on the seal in the vicinity of the crack. AmerGen identified a number of seal cracks during this inspection period in seven of ten bays but this one in Bay 3 was separated from the drywell. When a portion of the damaged seal was removed for analysis, a small area of exposed drywell shell appeared to have surface corrosion. The drywell shell corrosion is one to two inches above the floor level, in the sand bed bay. Based on a review of the photos, it's not clear whether the drywell shell was coated with epoxy between the top elevation of the seal and the floor. AmerGen continues to evaluate this issue.

Q8: What does this mean for continued operation?

A8: The size of the blisters were small and evaluated by Amergen to be NOT significant even during the last entire last cycle of operation. Although the defective seal and coating involving the blisters could be viewed as not functional, there was no significant effect on drywell structural integrity.

Q9: What does this mean for license renewal?

A9: The problems found were identified by Amergen through proper implementation of several aging management programs which were in place to manage the effects of aging - sand bed region of the drywell shell. Commitment 27 in the OCNCS License Renewal Application describes the program for conducting the inspections of the epoxy coating in the sand bed region of the drywell shell. There will be a 100 percent inspection of the coating in the sand bed region every other refueling outage. The program in place will provide reasonable assurance that any aging effects will be detected before serious damage occurs to the drywell shell in the sand bed region.

Q10: Why was the coating inspected during this outage?

A10: As stated above, AmerGen committed to do this inspection in the LRA during this outage, which is the last outage prior to entering the period of extended operation.

Q11: When will the coating in the sand bed region of the drywell shell be inspected again?

A11: The next visual inspection of the coating in the sand bed region of the drywell shell is currently scheduled for every other refueling outage. Amergen reports that this frequency will be reviewed and evaluated as a result of observing the blisters during the current inspection.

Q12: What has the NRC done in response to this observation?

A12: The NRC Region I staff was on site conducting the license renewal commitment inspection and had been closely following the licensee's investigation, including performing an independent inspection of the blister and observation of the removal of the blister. The Region I staff had been in contact with the state of New Jersey and the NRC Headquarters staff. The NRC staff will continue to follow the licensee's investigation.

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Q13: Will the UT data collected during this outage regarding the drywell liner will be used as an input for the 3-D finite element analysis AmerGen must perform prior to entering a period of license renewal. Is that the case?

A13: During this outage, AmerGen is taking ultrasonic thickness (UT) measurements of the drywell shell in numerous locations, as required by license renewal commitments. Those UT data values will be used as inputs for the 3-D analysis. This is independent of the on-going coating and moisture barrier seal re-work.

Q14: When will the results of the chemical analysis of the blister be available?

A14: AmerGen expected some of the lab analysis, including chemical analysis, to be available November 7, 2008. The requested lab analysis should include chemical (e.g., was it really rust {thrust me, there was rust}), thickness measurements of each layer of the epoxy coating (e.g., was the coating too thin), volume calculations of the blister cap to back calculate, based on rust volume, how much steel was lost (e.g., how much thinner did the shell get). This is just the highlights of what they asked the lab to do.

Q15: Can NRC staff provide some context with regard to the blister, i.e., the blister area is a quarter of an inch but the sandbed region of the drywell liner that was coated with epoxy is xx hundred square feet in size?

A15: In Bay-11, the total area of surface rust (4 separate spots, very near each other) is about 3/4 inch square. Total area of drywell shell steel in sand bed bays is between 600 to 800 feet square. We don't have enough information to estimate the area that's rusted in Bay-3, but the estimate is in units of square inches, not square feet.

Details for Answer # 15

The surface area in the sand bed bays (all 10 bays) is roughly between 600 to 800 square feet (see my crude math below). In Bay 11, there were four (4) rust spots identified. AmerGen claimed that the 3 spots I identified were NOT blisters, but only surface irregularities. However, when the 3 "bumps" were removed, there were rust spots behind them. So, there were 4 small rust spots, each was no larger than about 1/4 inch in diameter. That equates to a total area of about 3/4 of a square inch. AmerGen continues to only talk about the one blister they identified, and characterize it as 1/4 inch in diameter (they haven't talked about the other 3 spots, but are fixing them).

Areas of sand bed epoxy coating -- my arithmetic's a little rough (these aren't design numbers). The cavity in the sand bed (when you crawl in and try to stand up) is about 5 ft. the epoxy coating does not go all the way up. The bathtub ring is part way up, then the steel plate surface transitions from very rough (due to previous severe corrosion) to flat. So lets say there's about 4 vertical feet of coating. The NDE inspection instructions say to inspect each bay from 8 foot to the left to 8 foot to the right, from the tunnel entrance. This allows some inspection overlap between the bays. One inside a bay, you can crawl around to the next bay, and the next bay beyond, but not all the way around (there is some interference in places). So, each bay is a little less than 16 feet long, times 10 bays, times 4 feet in height.