John Richmond

From: John Richmond , RI
Sent: Thursday, December 11, 2008 12:11 PM
To: Richard Conte
Subject: OC DRAFT Exit Notes Rev-6
Attachments: OC LRI 2008-07_Exit Notes_rev-6.doc

attached

I/17

Received: from R1CLSTR01.nrc.gov ([148.184.99.7]) by R1MS01.nrc.gov
([148.184.99.10]) with mapi; Thu, 11 Dec 2008 12:11:29 -0500
Content-Type: application/ms-tnef; name="winmail.dat"
Content-Transfer-Encoding: binary
From: John Richmond <John.Richmond@nrc.gov>
To: Richard Conte <Richard.Conte@nrc.gov>
Date: Thu, 11 Dec 2008 12:11:29 -0500
Subject: OC DRAFT Exit Notes Rev-6
Thread-Topic: OC DRAFT Exit Notes Rev-6
Thread-Index: Aclbs4H5akxlgjwmQV+Unf9AmK8Xxg==
Message-ID: <2856BC46F6A308418F033D973BB0EE72AA5CFF3B01@R1CLSTR01.nrc.gov>
Accept-Language: en-US
Content-Language: en-US
X-MS-Has-Attach: yes
X-MS-Exchange-Organization-SCL: -1
X-MS-TNEF-Correlator:
<2856BC46F6A308418F033D973BB0EE72AA5CFF3B01@R1CLSTR01.nrc.gov>
MIME-Version: 1.0

Oyster Creek
License Renewal Commitments Inspection
Exit Meeting - TBD

Introductions
- NRC Region 1
- NRC HQ
- NRC Residents
- AmerGen
- NJ DEP (Observers)

Excellent Overall Cooperation
from everybody
>>> use of the Certrec Internet Database was quite helpful

Special Thanks
- Pete Tamburro (LR Program Owner)
- Chris Hawkins (NDE Level-III)
- Cal Taylor & Jhansi Kandasamy

Inspection Schedule Slippage
- LR outage schedule slipped due to unexpected issues
  - Some NDE UTs re-scheduled, due to unanticipated physical interference issues
  - Bay 11 Coating Blisters
  - Bay 3 Moisture Barrier Seal Problem
  - Cavity Leakage and Water Intrusion into 4 bays
- As a result, our inspection ran into a 2nd on-site week and a 3rd in-office week

Documentation
Team Report 45 days after the Exit Meeting (early Feb)

Exec Summary of Inspection Results
- Satisfactory Actions to evaluate primary containment structural integrity
- [(b)(5)
  These items were also licensee established actions for Generic Letter 87-05
  - Strippable Coating to Prevent Water Intrusion
  - Monitoring of Sand Bed Drain Lines
  - Monitoring of Cavity Trough Drain Line
- For the selected samples, [(b)(5)
  - Sampled 9 AMPs to Verify Commitment Implementation
  - No Problems or Issues Identified, with Three Exceptions
- [(b)(5)
  - Perform Full Scope inspections of sand bed region every other outage
  - Monitor drywell trenches for water every refueling outage (until trenches restored)
- Verified 2 commitment changes were done iaw Exelon commitment management program
  - Bolting Integrity Program (commitment 12)
  - Rx Vessel Axial Weld Examination Relief Request (commitment 48)

Inspection Details - Three Issues will be Documented
[?? maybe 3 examples of one URI]

(1) Commitment 27, ASME Section XI, Subsection IWE, Item (2) Not Fully Implemented
A strippable coating will be applied to the reactor cavity liner to prevent water intrusion into the gap between the drywell shield wall and the drywell shell during periods when the reactor cavity is flooded.

- The strippable coating initially limited leakage into the cavity drain trough at < 1 gpm. On Nov 7, the leakage rate took a step change to 4 to 6 gpm. Water was subsequently identified in 4 sand bed bays.

- This was a licensee internally established action in response to Generic Letter 87-05
  (NOT a clearly identified commitment to NRC, and NOT a clearly identified corrective action to a CAQ)
  FSAR revised to state "... measures [will be taken] to prevent water intrusion into the gap..." and
  "... keeping the vessel dry was also identified as a requirement..."

[(b)(5)]

(2) Commitment 27, ASME Section XI, Subsection IWE, Item (3) Not Fully Implemented
Sand bed region drains will be monitored daily during refueling outages.

- Sand bed drains were remotely monitored by checking poly bottles, attached via tygon tubing to funnels hanging below the drain lines. The drain lines were not directly observed.

- This was a licensee internally established action in response to Generic Letter 87-05
  (NOT a clearly identified commitment to NRC, and NOT a clearly identified corrective action to a CAQ)

[(b)(5)]

(3) Commitment 27, ASME Section XI, Subsection IWE, Item (3) Not Fully Implemented
Reactor cavity seal leakage trough drains and the drywell sand bed region drains will be monitored for leakage. Periodically.

(b)(5)

- Drain line was found isolated during a boroscope examination to verify no line blockage.
- This was a licensee internally established action in response to Generic Letter 87-05 (NOT a clearly identified commitment to NRC, and NOT a clearly identified corrective action to a CAQ)

(b)(5)

ANY QUESTIONS up to this point

(b)(5)

Inspection Observations that will go into the report

ASME IWE, Containment In-service Inspection

- D/W UT Examinations
  - We reviewed over 2000 separate UT readings [41 7x7 arrays & 7 1x7 arrays]
  - We reviewed all sand bed region UT readings [111 UTs]
  - No on-going corrosion or trend was identified
  - No statistically significant deviations from 2006 data values
- Leakage Monitoring of cavity drain and sand bed drains
  - Problems with the Method of monitoring -- as already discussed
  - Good Actual monitoring practices and log keeping [people in the plant]
  - Good pro-active monitoring actions during cavity flood-up (continuous Ops monitoring)
  - Good compensatory actions, when strippable coating de-laminated
  - You are re-thinking action levels, based on cavity drain leakage rates
    - Calc and Action plan established 12 gpm Admin Limit
    - Didn't expect water intrusion at observed leakage values
- Moisture Barrier Seal inside Sand Bed Bays
  - A number of deficiencies identified in 7 of 10 bays (none in 2006). All problems were repaired.
  - Moisture barrier function not impaired, no cracks or separation fully penetrated the seal
    - Surface cracks
    - Separation from shell or floor
    - Inadequate epoxy cure -- initial installation issue, from 1992

Protective Coating Monitoring and Maintenance Program

- D/W Exterior Service Level II Coating, in Sand Bed Bays
  - Bay 11, one small 1/4 inch broken blister identified, with a 6" rust stain
  - During initial investigation, 3 smaller unbroken blisters also found
  - All 4 blisters were within a 1-2 inches square area, and all were thoroughly evaluated and fixed.
  - Good extent of condition, 4 bays re-inspected by a different level-II
  - During follow-up, you identified a 2006 video that showed the same 6" rust stain
  - Estimated corrosion of ~ 3 mils, over a 16 year period
  - No impact to D/W structural integrity, when compared to existing thickness margins

Observations that DON'T go into the report

ASME IWE, Containment In-service Inspection

- Moisture Barrier Seal inside D/W (floor curb to shell)
  - Newly installed in 2006. Turned out to be an interference item to D/W UTs.
  - Done as part of Structural Monitoring Program. No issues or problems identified.
  - Commitment for post-PEO is per ASME Sec-XI IWE.
    - We asked whether your Structural Monitoring examination satisfied IWE requirements. You initiated an engineering action item to evaluate this question.

Protective Coating Monitoring and Maintenance Program

- D/W Interior Service Level I Coating
  - Some minor issues identified. Documented results indicated a good quality inspection

Electrical Cables and Connections

- Drywell Cable Inspections
  - Good attention to detail & good questioning attitude
  - Good engineering planning, prep, and participation
  - Excellent cooperation between work group and engineering

Inaccessible Medium Voltage Cables

- Cable Test - as part of the Doble Test on Auxiliary Transformer (bank 4)
  - Some industry experience suggests that large transformer characteristics can de-sensitize the test results regarding cable insulation degradation

Buried Piping

- ESW Pipe Replacement and Tie-in
  - FME control and pipe handling (to protect pipe coating) adequate to ensure a quality installation

Structures Monitoring Program

- Intake tunnel and expansion joints
  - Good hand-offs between night-shift and day-shift engineering

No Noteworthy Observations

One-Time Inspection Program

- Isolation Condenser Inspection and UT below the water line

Periodic Inspection Program

- Condensate System expansion joint inspection
- Fire barrier inspection inside a switchgear

Metal Fatigue Program

- No changes to the high cumulative usage factor components list

ANY QUESTIONS for US