

INSPECTION PLAN

FACILITY: Point Beach Unit 1

INSPECTION REPORT NUMBER: 50-266/04-003; 50-301/04-003

ONSITE INSPECTION DATES: April 5-23, 2004

RESIDENT NOTIFIED: Mike Morris - Acting SRI (920-755-2309)

INSPECTORS: M. Holmberg, C. Roque-Cruz, T. Bilik

INSPECTION PROCEDURE(S): 71111.08, Inservice Inspection Activities (biennial review), TI 2515/150, Revision 2, "Reactor Pressure Vessel Head and Vessel Head Penetration Nozzles (NRC Order EA-03-009)", TI 2515/152, Revision 1, "Reactor Pressure Vessel Lower Head Penetration Nozzles (NRC BULLETIN 2003-02)".

INSPECTION TYPE: Baseline and Temporary Instructions

OBJECTIVE(S): 1.) To assess the effectiveness of the licensee's program for monitoring degradation of the reactor coolant system boundary, risk-significant piping system boundaries, and the containment boundary. 2.) To support the review of licensees' reactor pressure vessel (RPV) head and vessel head penetration (VHP) nozzle inspection activities that are implemented in accordance with the requirements of Order EA-03-009, issued on February 11, 2003 and revised order February 20, 2004. 3.) To validate that the plant is meeting its inspection commitments using procedures, equipment, and personnel that have been demonstrated to be effective in detecting signs of leakage from the RPV lower head penetration (LHP) nozzles and the detection of RPV lower head degradation.

Prepared By: M. Holmberg
Inspector

Approved By: _____
DRS Branch Chief

Reviewed By: _____
DRP Branch Chief

INSPECTION ACTIVITIES

- 1.) Review a sample of nondestructive examination (NDE) activities. The review sample should consist of:
 1. Two or three types of NDE activities
 2. Order of preference for reviewed NDE activities:
 - (a) Volumetric examinations
 - (b) Surface examinations
 - (c) Visual examinations
2. Review one to two examinations from the previous outage with recordable indications that have been accepted by the licensee for continued service.
- 3) No samples of Code welding will be reviewed as the licensee has indicated that welding on Class 1 or 2 systems has not occurred since the beginning of the previous outage (reduction in 1 from total sample size).
- 4) Review at least two Code repair/replacement activities.
- 5.) Steam Generator (SG) Tube Inspection Activities.
 - a. In-situ Pressure Testing (licensee will likely not have to perform this reduction in 1 from total sample size).
 - (1) Assess whether the in-situ screening criteria are in accordance with the EPRI Guidelines.
 - (2) Assess whether the appropriate tubes are to be in-situ pressure tested.
 - (3) Observe in-situ pressure testing activities.
 - (4) Review in-situ pressure test results for conformance with the performance criteria.
 - b. Compare the estimated size and number of tube flaws detected during the current outage against the previous outage operational assessment predictions to assess the licensee's prediction capability.
 - c. Confirm that the SG tube eddy current examination (ECT) scope and expansion criteria meet technical specification (TS) requirements, EPRI Guidelines, and commitments made to the NRC .
 - d. If the licensee has identified new degradation mechanisms, the inspector should verify that the licensee has fully enveloped the problem in its analysis of extended conditions including operating concerns, and has taken appropriate corrective actions before plant startup (e.g., additional inspections, in-situ pressure testing, preventive tube plugging, etc.).
 - e. Confirm that all areas of potential degradation (based on site-specific experience and industry experience) are being inspected, especially areas which are known to represent potential ECT challenges (e.g. top-of-tubesheet, tube support plates, U-bends).
 - f. Confirm that all repair processes being used have been approved in the technical specifications for use at the site.
 - g. Repair Criteria.
 1. Confirm that the TS plugging limit is being adhered to, unless alternate tube repair techniques (e.g., sleeving or alternate repair criteria) have been approved by the NRC. Typically, the TS plugging limit is 40 percent

through wall, although most licensees "plug on detection" due to the unavailability of qualified depth sizing techniques.

- 2 Determine whether the depth sizing repair criterion (typically 40 percent through wall) is being applied for indications other than wear or axial primary water stress corrosion cracking (PWSCC) in dented tube support plate intersections.
 - h. If steam generator leakage greater than 3 gallons per day was identified during operations or during post-shutdown visual inspections of the tubesheet face, assess whether the licensee has identified a reasonable cause for this leakage based on inspection results. In addition, determine whether corrective actions are planned or were taken to address the cause. (Additional guidance on this issue is available in Part 9900: Technical Guidance, "Steam Generator Tube Primary-to-Secondary Leakage.")
 - i. Confirm that the ECT probes and equipment are qualified for the expected types of tube degradation. Assess the site specific qualification of one or more techniques (e.g., equipment, data quality/noise issues, degradation mode).
 - j. If the licensee has identified loose parts or foreign material on the secondary side of the steam generator, focus on licensee corrective actions in conjunction with step 02.03 below. Specifically, confirm that the licensee has taken/planned appropriate repairs of affected SG tubes, inspected the secondary side of the SG to remove foreign objects (if possible). If the foreign objects are inaccessible, determine whether the licensee has performed an evaluation of the potential effects of object migration and/or tube fretting damage.
 - k. If serious questions arise regarding eddy current data analyses from steps 02.02a., d., or i., review one to five samples of eddy current data. If adequate expertise for this activity does not reside in the regional office, NRR/DE should be contacted via telephone call or e-mail and it will provide this resource.
- 3.) Identification and Resolution of Problems Verify that the licensee is identifying ISI/SG problems at an appropriate threshold and entering them in the corrective action program by evaluating number and type of NRC identified findings during this inspection with licensee identified issues. In addition, a licensee's evaluation of industry operating experience can be critical. Determine whether licensees are correctly assessing the applicability of operating experience to their respective plants, by a sample review of condition reports evaluating NRC information notices or other industry wide OE reports .
- 4.) TI-2515/150, Revision 2, Review licensee's activities regarding RPV closure head inspection in response to NRC Order EA-03-009 (February 11, 2003 and revision issued February 20, 2004).
- 5.) TI-2515/152, Revision 1 Review licensee's activities regarding RPV lower head penetration inspection in response to NRC Bulletin 2003-02. Inspectors will notify NRR staff if any deposits bridge annulus gap at lower head penetrations and participate in any followon calls between NRR and licensee staff.
- 6.) Completion Status Inspection of the minimum sample size for IP 71111.08 will constitute completion of this procedure in the Reactor Program System (RPS). That minimum sample size will consist of 5 non-SG ISI samples representing the review of 2 types of NDE activities, 1 examination from the previous outage accepted by licensee, 1 weld on a pressure boundary (may not achieve this sample based on lack of welding),

and 1 ASME repair. In addition for PWRs, 1 sample of the SG inspection activities stated in Section 02 (likely will not achieve sample due to lack of active tube degradation).

- 7.) Resource Estimate Inspection procedure 71111.08 is estimated to take, on the average, 32 to 64 hours per PWR unit, respectively, every refueling outage. TI-2515-150 is estimated to take 20 to 50 hours. TI-2515-152 is estimated to take 15 to 30 hours.