U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 50-309/87-04

Docket No. 50-309

License No. DPR-36

Licensee: Maine Yankee Atomic Power

Facility Name: Maine Yankee Atomic Power Station

Inspection At: Wiscasset, Maine

Inspection Conducted: March 23-27, 1987

Inspectors: A.J. Lodewyk — July 16, 1987
A. J. Lodewyk, Reactor Engineer — date

Approved by: for J. R. Strosnider, Chief, Materials and Processes Section — July 16, 1987
date

Inspection Summary: A routine, unannounced inspection was conducted by one region based inspector of activities associated with the licensee's Inservice Inspection Program and Steam Generator integrity. Those areas examined included: review of ISI equipment receipt inspection and certification; non-destructive examination personnel training and qualifications; and, steam generator secondary water chemistry and surveillance.

Results: During this inspection, no violations were identified. One unresolved item was opened relating to the sampling program for steam generator tube eddy current testing.

DETAILS

1.0 Persons Contacted

Throughout this inspection, various site and engineering office representatives were interviewed for information and auditing purposes. Those persons contacted include the following:

Maine Yankee Atomic Power Company (MYAPC)

C. Eames, Engineering
*J. Garrity, Plant Manager
L. Lawson, Quality Assurance/Control
L. Mullins, Inservice Inspection Coordinator

Nuclear Regulatory Commission (NRC)

R. Freudenberger, Resident Inspector
*C. Holden, Senior Resident Inspector

*Denotes those persons present at the exit meeting conducted at the close of this inspection.

2.0 Steam Generator Preventive Maintenance

The licensee's steam generator (S/G) preventive maintenance program (as it is related to maintaining S/G integrity and controlling station secondary water chemistry) was reviewed relative to criteria, commitments, and recommendations provided in:

-- Condition 2.B(6)(e) of License No. DPR-36 regarding a secondary water chemistry monitoring program

-- Facility Technical Specifications Section 4.10, "Steam Generator Tube Surveillance"

-- MYAP July 12, 1985 response to Generic Letter 85-02; "Staff Recommended Actions Stemming from NRC Integrated Program for the Resolution of Unresolved Safety Issues Regarding Steam Generator Tube Integrity"

-- Electric Power Research Institute (EPRI) Report NP-2704-SR, "PWR Secondary Water Chemistry guidelines", Revision 1 (1984).

-- NUREG-0844, "NRC Integrated Program for the Resolution of Unresolved Safety Issues A-3, A-4, and A-5 Regarding Steam Generator Tube Integrity".

Licensee performance in S/G preventive maintenance was determined by: interviews with chemistry, radiation protection, maintenance, and quality assurance personnel; review of selected procedures, reports and records; and observations of plant facilities and equipment during facility tours. The review addressed the licensee's maintenance, inservice inspection (ISI) and water chemistry program procedures, policies and implementation.

2.1 Steam Generator Tube Inspections

Maine Yankee Technical Specification Section 4.10, steam generator tube surveillance, requires the steam generator tube sample to consist of at least 3% of the total number of tubes, including a representative sample of degraded and randomly selected tubes. The intent of the technical specification sampling requirements is twofold: to identify defective tubes in previously known areas of degradation; and, detect any new, service induced modes of degradation. Based upon a review of the licensee's previous outage eddy current data, it was not apparent that a random sample of tubes were selected for inspection. From the eddy current data sheets, it appears that 100% of the steam generator tube sample was selected from previously degraded tubes, within the sludge pile region. If 100% of the eddy current tube inspections are conducted within a localized area of the steam generator, the sampling criteria would not meet the full intent of the station technical specifications.

During this inspection, a copy of the present steam generator tube sampling plan was requested to assure a random tube selection is made to detect new modes of tube degradation that may occur. The licensee representative stated that the eddy current inspection contractor was responsible for identifying and inspecting the 3% tube sample. At the time of this inspection, the contractor had not arrived on site and further information regarding the tube sample criteria was not available. This item will remain unresolved pending further NRC review of the scope of the licensees steam generator tube sample to assure the intent of the technical specification surveillance requirements are being met. (Unresolved Item No. 50-309/87-04-01)

2.2 Secondary Water Chemistry Controls

License No. DPR-36, Section 2.B.(6)(e) requires Maine Yankee to maintain a secondary water chemistry monitoring program to inhibit steam generator tube degradation. Secondary System water chemistry requirements have been subject to review in an attempt to improve the environmental conditions associated with steam generators.

Maine Yankee Administrative Procedure No. 3.7.4.2 details the secondary chemistry test frequencies and specifications determined necessary for plant operation. Critical chemical variables and

sample guidelines were included. The inspector reviewed a portion of the secondary system chemical sample data taken during August, November 1986 and March 1987 for operating levels between 84% and 97% power. The cross section of data indicated typical levels of secondary chemical concentrations were maintained within the effective administrative limits during the operating cycle. Additional licensee efforts to maintain good secondary water chemistry include: removal & analyses of steam generator sludge; replacement of copper-bearing secondary system component materials; steam generator chemical cleaning; system for prevention and detection of loose parts; and routine condenser eddy current testing.

Overall, review of the licensee's secondary water chemistry program has determined the licensees activities are consistent with written commitments and meet license requirements. However, Maine Yankee Atomic Power Company policy regarding secondary water chemistry has not historically conformed to industry established guidelines.

To better understand the licensees policies and history regarding steam generator tube integrity and preventive maintenance, a meeting has been requested between cognizant licensee and NRC regional personnel. The date, location and agenda for this meeting have not been established at this time. No violations were identified in this area.

3.0 Quality Control and Inservice Inspection (ISI) Activities

The following, applicable references and procedures were used in assessing the licensee's program for review of ISI equipment and personnel qualifications prior to utilization during outage activities:

-- ASME B&PV Code, Section XI, 1980 Edition with winter 1980 addenda

-- ASNI Recommended Practice No. TC-1A (August 1984 Edition)

-- CE Procedure NQAI 2.4 "Certification Program for NDE Personnel"

-- NES 80A9068, Rev. 3, "Procedure for Certification of NDE Personnel"

-- NES 80A9069, Rev. 11, "ISI Certification of Visual Examination Personnel"

3.1 Personnel

The inspector reviewed the licensee's program for training contractor Quality Control personnel scheduled to perform ISI activities during the refueling outage. The review included: witnessing completion of eye examination; attending site specific training for ISI Procedure YA-VT-11, Rev. 2 for visual examinations; evaluation of the site-specific examination; and, discussions with cognizant personnel.

Contractor site specific training was found to be detailed and inclusive of all type activities to be performed onsite. Training was completed in a professional manner and the written examination was adequate with regard to extent, difficulty and applicability.

The inspector also reviewed the certification records for personnel contracted to perform eddy current testing on the facility steam generator tubes. Qualifications for two level IIA and two level III technicians were examined and were found to meet industry guidelines and procedure requirements. A comparison of qualification procedures and the industry guides for certification of nondestructive examination personnel determined an acceptable level of certification standards have been adopted by the licensee.

3.2 Equipment

During this inspection, the Quality Control (QC) in-process receipt inspection process for ISI materials was witnessed. Also, the material certification records and equipment calibration stickers for on site ISI supplies were audited. Specific materials reviewed using applicable ASME Code requirements included: liquid penetrant, cleaner and developer chemical contents; magnetic particle and ultrasonic gel certifications; and, transducer calibration and profile records. No discrepancies or items of non-compliance were identified during this review.

4.0 Unresolved Items

Unresolved items are matters about which more information is required in order to ascertain whether they are acceptable, violations or deviations. Unresolved items are discussed within this report in paragraph 2.1.

5.0 Exit Interview

The inspectors met with licensee representatives (denoted in paragraph 1) at the conclusion of the inspection on April 24, 1987. The inspector summarized the purpose, scope and findings of the inspection. At no time during this inspection was written material provided to the licensee by the inspector.