UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W.
ATLANTA, GEORGIA 30323

Report Nos.: 50-250/91-04 and 50-251/91-04

Licensee: Florida Power and Light Company
9250 West Flagler Street
Miami, FL 33102

Docket Nos.: 50-250 and 50-251 License Nos.: DPR-31 and DPR-41

Facility Name: Turkey Point 3 and 4

Inspection Conducted: January 7-18, 1991

Inspector: James L. Coley 2-8-91
J. L. Coley Date Signed

Approved by: 2/6/91
J. J. Blake, Chief Date Signed
Material and Processes Section
Engineering Branch
Division of Reactor Safety

SUMMARY

Scope:

This routine uannounced inspection was conducted in the areas of observation of inservice inspection work and work activities which included ultrasonic examination of the Unit 3 Reactor Vessel and eddy current examination of the Unit 3 Component Cooling Water Heat Exchanger 3-C. The inspector also assisted personnel on the NRC-Nondestructive Examination (NDE) van by providing an interface with Florida Power and Light (FP&L) management to expedite the NDE Van inspections.

Results:

Inservice Inspection activities observed by the inspector were performed in an excellent manner by highly qualified and capable personnel. Management at all levels were involved in assuring quality as evident by the Computer based programs initiated by the licensee and their vendors, excellent work practices observed, and FP&L's upper tier management's assistance to ensure that the NRC NDE Van examiners could adequately audit work accomplished by the licensee. All work observed was performed in a conservative manner which exceeded code requirements. The ISI program reviewed during this inspection, for this site was excellent.

In the areas inspected, violations or deviations were not identified.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

*E. Anderson, Senior Specialist, Unit 3, Inservice Inspection (ISI)
*W. Bladow, Quality Manager
M. Blew, ISI Coordinator
F. Carr, NDE Supervisor/Juno Beach Staff
*R. Daly, Outage Manager
*J. O'Brien, Quality Control Superintendent
*L. Pearce, Plant Manager
*T. Plunkett, Site Vice President
*D. Powell, Licensing Superintendent
*W. Skelley, Supervisor, Nuclear Engineering
R. Turner, Senior Specialist, Unit 4, ISI

Other licensee employees contacted during this inspection included engineers, technicians, and administrative personnel.

Other Organizations

D. Rosow, Director, Southwest Research Institute, Department of NDE Services

NRC Resident Inspectors

*G. Schnebli
L. Trocine

*Attended exit interview

2. Inservice Inspection (73753)

The inspector observed activities as indicated below, to determine whether ISI work was being conducted in accordance with applicable procedures, regulatory requirements, and licensee commitments. The applicable Code for ISI, for both Unit 3 and Unit 4 is the American Society of Mechanical Engineers Boiler and Pressure Vessel (ASME B&PV) Code, Section X1, 1980 edition with addenda through Winter 1981 (80W81). Both Units are in the first outage, of the third 40 month period, of the second ten year ISI Interval ending February 21, 1994 for Unit 3 and April 14, 1994 for Unit 4.

The inspector's objectives for this inspection were to audit the automated Ultrasonic examinations which were inprocess on the Unit 3 reactor vessel, to observe eddy current examinations and evaluate the MIZ-18 data for the Unit 3-C Component Cooling Water Heat-Exchanger and to assist in

coordinating the NRC nondestructive test van's independent examination efforts at the Turkey Point site.

a. Volumetric examination of Unit 3 reactor vessel welds using the automated ultrasonic technique

The inspector observed Southwest Research Institute (SwRI) Nondestructive Test examiners perform ultrasonic examinations of welds in the Unit 3 reactor vessel. In addition to observing the inprocess ultrasonic examinations and their required calibrations, the inspector concurrently reviewed ultrasonic data which had been processed with SwRI's Enhanced Data Acquisition System (EDAS). The ultrasonic procedure for the examination of the reactor vessel welds was SwRI's Procedure, TKY-AUT-15, "Automated Inside Surface Ultrasonic Examination of Ferrtic Vessels Greater Than 2.0 inches in Thickness". The ultrasonic procedure for the reactor vessel nozzle welds was SwRI's Procedure, TKY-AUT-14, "Automated Ultrasonic Examination of Austenitic and Dissimilar Pressure Piping Welds". The following in-process ultrasonic examinations were observed by the inspector:

Exam No.	Exam Area	Exam Angles
79	Nozzle-Pipe 29"-RCS-130 1305-1(@10°)	45RL
30A	Int.-Upper Shell 3-WR-33 (5°-125°)	50/70
51	Nozzle - Vessel (Wall) 3,DI-B (@320°)	0,45T,60T, 50/70T
68	Elbow - Nozzle 27-½"-RCS-1307-14 (@80°)	50/70
70	Elbow-Nozzle 27-½"-RCS-1309 -14 (@200°)	50/70
72	Elbow-Nozzle 27½" RCS-1306-14 (@320°)	50/70
33	Upper Shell-Flange 3-WR-18	0,45,60,50/70T
74	Elbow-Nozzle 27½"-RCS-1307-14 (@80°)	50/70 CW/CCW
76	ELbow-Nozzle 27½-RCS-1309-14 (@200°)	50/70 CW/CCW
78	Elbow-Nozzle 27½-RCS-1306-14 (@320)	50/70 CW/CCW

The above examinations were observed to ensure that the approve procedures were available, were being followed, by competent test examiners and the specified nondestructive examination equipment was being used.

In addition to the above observations, the inspector concurrently reviewed EDAS data with SwRI data analysts (Level II and III examiners) for the following welds:

Exam No.	Exam Area	Exam Angles
40	Nozzle-Vessel (Wall) 3-DO-B (@10°)	0,45T,60T,50/70T CW
41	Nozzle-Vessel (Wall) 3-DO-B (@10°)	0,45T,60T,50/70T CCW
45	Nozzle-Vessel (Wall) 3DO-A @130°	0,45T,60T,50/70T CCW
25A	INT Upper Shell 3-WR-33	50/70 DN rerun due to final calibration being out
27A	INT Upper Shell 3-WR-33 (5°-125°)	50/70 CW rerun due to final calibration being out
81	Nozzle - Pipe 29"-RCS-1304-1 @130°	45RL
32-A	INT Upper Shell 3-WR-33 (245°-365°)	50/70 CCW rerun due to final calibration being out
31A	INT Upper shell 3-WR-33 (125°-245°)	50/70 CCW rerun due to final calibration being out
79	Nozzle-Pipe 29"-RCS-1305-1 @10°	45 Shear Wave
81	Nozzle-Pipe 29"-RCS-1304-1 @130°	45 Shear Wave
74	Elbow-Nozzle 27½"-RCS-13097-14 @80°	50/70 CW/CCW
76	Elbow-Nozzle 27½" RCS-1309-14 @200°	50/70 CW/CCW
78	Elbow-Nozzle 27½"-RCS 1306-14 @320°	50/70 CW/CCW

The inspector reviewed the data for the above welds to ensure that examination results, evaluation of results and any corrective actions were being recorded as specified in the ISI program and the NDE procedures. The inspector's review concluded that the SwRI examinations were conservatively performed and data was effectively evaluated and recorded. No recordable indications were observed in the reactor vessel or nozzle examinations.

b. Evaluation of eddy current examination data for the Component Cooling Water (CCW) Heat-Exchanger 3-C

The inspector reviewed Zetec's MIZ-18 data for the eddy current examinations of the CCW heat-exchanger 3-C to determine whether FP&L's evaluation of the examination results were accurately dispositioned and recorded. FP&L's procedure for these examinations was Procedure NDE-1.3, "Eddy Current Examinations of Non-Ferromagnetic Tubing with the Multi-Frequency Technique MIZ-18". Evaluations for 201 tubes were verified by the inspector. Twenty-four of the examinations had been performed with a pancake coil and 177 of the tube examinations had been performed with a bobbin coil. During the evaluation, cracks were observed on the inside surface of some tubes @ the tube sheet. Depth numbers were assigned to these indications and the results were put in a data base computer program for comparisons to the previous examination data for each tube. Tubes showing unacceptable crack growth are selected by the data base program and these results are sent to the Nuclear engineering to determine tube plugging or replacement criteria. Final dispositioning of the tubes identified during the inspection was not complete prior to the inspector's departure. The inspector's audit of evaluations by the FP&L analysts for the eddy current examinations indicated that these individuals were very knowledgeable of procedural requirements, operation of the test equipment, and their responsibilities to accurately disposition and record the results.

c. Coordination of NRC Independent Measurements NDE Van Activities

The inspector also assisted the NDE Van personnel in interfacing with cognizant licensee personnel to achieved their independent inspection goals. The plant Manager for the Turkey Point facility was very helpful in establishing this effort as a priority, although the plant ISI of piping had not started at this time.

The van objectives were completed within the time limits scheduled and none of the sample selected was found to be deficient.

Within the areas examine, no violations or deviations were identified.

3. Exit Interview

The inspection scope and results were summarized on January 18, 1991, with those persons indicated in paragraph 1. The inspector described the areas inspected and discussed in detail the inspection results. Proprietary information is not contained in this report. Dissenting comments were not received from the licensee.