



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

Report Nos.: 50-250/91-02 and 50-251/91-02

Licensee: Florida Power and Light
9250 West Flügler 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 7-11, 1991

Inspector: *[Signature]*
W. P. Kleinsorge, P.E., Reactor Inspector

January 25, 1991
Date Signed

Approved by: *[Signature]*
J. J. Blake, Chief
Materials and Processes Section
Engineering Branch
Division of Reactor Safety

1/25/91
Date Signed

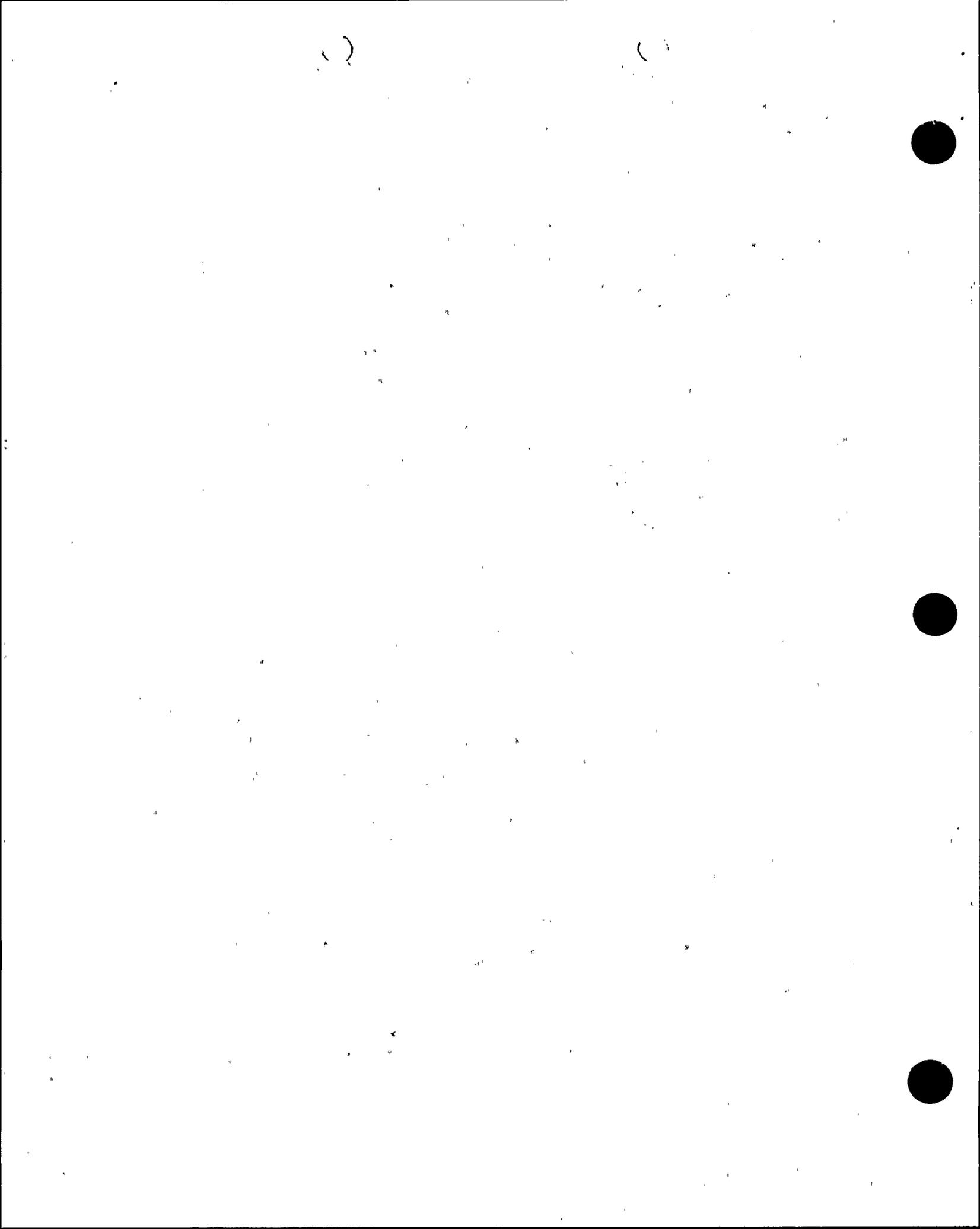
SUMMARY

Scope:

This routine, unannounced inspection was conducted in the areas of Inservice Inspection (ISI) which included a review of the ISI program, review of the nondestructive examination (NDE) procedures; review of personnel qualifications and NDE equipment and material certifications; review of completed NDE data and implementation of Generic Letter 90-05.

Results:

In the areas inspected, no violations or deviations were identified. The licensee's ISI program is very effective in most areas reviewed. Licensee management involvement and the licensee's technical staff assure that technical issues are resolved from a conservative standpoint. The licensee appears to be very sensitive to any NRC initiatives and the responses to these initiatives usually have good technical basis.



REPORT DETAILS

1. Persons Contacted

Licensee Employees

- E. Anderson, Sr ISI Specialist
- W. Bladow, Quality Manager
- *M. Blew, ISI Coordinator
- S. Franzone, Lead Nuclear Engineer JPN
- *L. Pearce, Plant Manager
- *T. Plunkett, Site Vice President
- *D. Powell, Licensing Superintendent
- *K. Remington, System Performance Supervisor
- *R. Turner, ISI Staff Specialist

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

Other Organization

- *E. Boger, Factory Mutual ANII

NRC Resident Inspectors

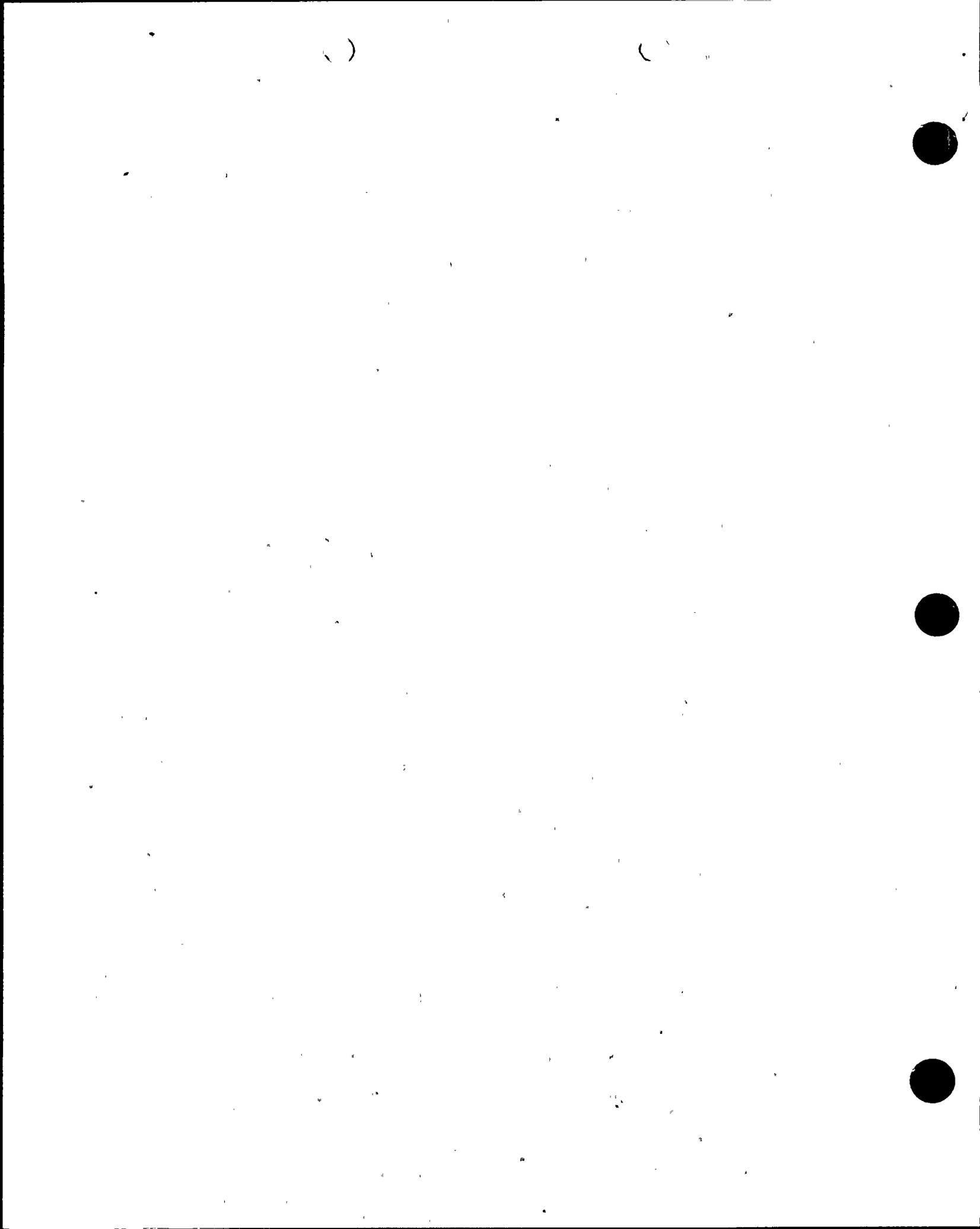
- *R. Butcher, Senior Resident Inspector (SRI)
- *G. Schnebli, Resident Inspector (RI)
- *L. Trocine, Resident Inspector (RI)

*Attended exit interview

Acronyms and initialisms used throughout this report are listed in the last paragraph.

2. Inservice Inspection (ISI)

The inspector reviewed documents and records, and observed activities, as indicated below, to determine whether ISI 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 XI, 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 (10,3P,2I) ending February 21, 1994 for Unit 3 and April 14, 1994, for Unit 4. Unit 4 is currently in refueling. Unit 3 received its Operating License July 19, 1972, and commenced commercial operations on December 14, 1972. Unit 4 received its Operating License on April 10, 1973, and commenced commercial operations on September 7, 1973. The licensee's nondestructive



examination personnel, augmented by contract personnel from EBASCO, are performing the liquid penetrant (PT), magnetic particle (MT), visual (VT), and manual ultrasonic (UT) examinations, under the umbrella of the Florida Power and Light (FPL) Quality Assurance (QA) Program. The Automated Ultrasonic Examination (AUT) of the Reactor Pressure Vessel (RPV) is being accomplished by Southwest Research Institute (SwRI) under the umbrella of the SwRI QA Program. The Remote Visual Examination (RVT) of the Reactor internals and the RVT of the RPV interior, is being performed by Westinghouse Electric Corporation (W), under the umbrella of the W QA program.

a. ISI Program Review, Units 3 and 4 (73051)

The inspector reviewed the following documents relating to the ISI program to determine whether the plan had been approved by the licensee and to assure that procedures and plans had been established (written, reviewed, approved and issued) to control and accomplish the following applicable activities.

SwRI(R3)	Nuclear Quality Assurance Program Manual
SwRI December 1990	Examination Plan for Automated Ultrasonic Examinations Of Selected Components at Turkey Point Plant Unit 4
<u>W</u> December 1990	Westinghouse Reactor Vessel Internals 40-Month Plan Turkey Point Unit 3 Interval-2 Period-3 Outage-1 1991
<u>W</u> WCAP 9545(R10&ICA)	Quality Assurance Plan
<u>W</u> (R48)	Operating Manual
FPL PTN-PP-300(R2/cA)	Second Inservice Inspection Interval Program Plan and Schedule Unit 3
FPL JNS-PTP-400(R2)	Second Inservice Inspection Interval Program Plan Unit 4
FPL ESI-PTN-300-40-3(R2)	Third Inspection Period Plan Unit 3
FPL JNS-PTN-4-2-3(R1/c1)	Third Inspection Period Plan Unit 4
FPL JNS-MCI QI 2.14(R5)	Nuclear Energy Manual for ASME Section XI Inservice Inspection of Nuclear Power Plants FPL Activities
FPL ADM-CIS-9.1(R1)	Procedure For Qualification of Nondestructive Examination Procedure Calibration Blocks/Standards

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b. Review of NDE Procedures, Units 3 and 4 (73052)

The inspector reviewed the procedures listed below to determine whether these procedures were technically correct, consistent with regulatory requirements, and licensee commitments. The procedures were also reviewed in the areas of procedure approval, requirements for qualification of NDE personnel, and compilation of required records; and, if applicable, division of responsibility between the licensee and contractor personnel if contractor personnel are involved in the ISI effort.

<u>W</u> ISI-8(R9)	Visual Examination
<u>W</u> ISI-88(R5)	Underwater Remote Visual Examination
SwRI-AUT2(R2/w ICN1)	Automated Inside Surface Ultrasonic Examination Indication Resolution and Sizing
SwRI-TKY-AUT14 (R14/wICN1,2,3)	Automated Ultrasonic Examination of Austenitic Dissimilar Piping Welds
SwRI-TKY-AUT15 (R0/w ICN1&2)	Automated Inside Surface Ultrasonic Examination of Ferritic Vessels Greater than 2.0 Inches in Thickness
FPL CAL 1(R1)	Ultrasonic Instrument Linearity
FPL CAL 2(R2)	Calibration of Magnetic Particle Equipment
FPL CAL 3(R1)	Calibration Verification of Temperature Measurement Devices
FPL CAL 4(R0)	Qualification Procedure for "BLACK LIGHT" Units and Light Meters
FPL NDE 1.3(R3)	Eddy Current Examination of NonFerromagnetic Tubing with Multi Frequency Techniques MIZ-18
FPL NDE 2.2(R2&FCA)	Magnetic Particle Examination
FPL NDE 3.3(R2)	Liquid Penetrant Examination Solvent Removable Visible Dye Technique
FPL NDE 4.1(R3)	Visual Examination VT-1 Welds/Bolting/Bushing/Washers
FPL NDE 4.2(R1)	Visual Examination VT-2 Conducted During System Pressure Test
FPL NDE 4.3(R2)	Visual Examination VT-3/VT-4

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FPL NDE 5.1(R5)	Ultrasonic Examination of Pressure Vessel Welds, Except Reactor Vessels
FPL NDE 5.2(R4)	Ultrasonic Examination of Ferritic Piping Welds
FPL NDE 5.4(R7)	Ultrasonic Examination of Austenitic Piping Welds
FPL NDE 5.5(R2&FCA)	Ultrasonic Examination of Main Coolant Piping Welds
FPL NDE 5.7(R2&FCA)	Ultrasonic Examination of Reactor Pressure Vessel Studs and Reactor Coolant Pump Studs
FPL NDE 5.10 (R2)	Ultrasonic Examination of Nuts Two Inch in Diameter or Greater
FPL NDE 5.11(R3)	Ultrasonic Examination of Dissimilar Metal Piping Welds
FPL NDE 5.12(R2&FCA)	Ultrasonic Examination of Reactor Pressure Vessel Flange to Vessel Weld and Stud Hole Threads
FPL NDE 5.13(R3)	Ultrasonic Examination of Nozzle Inner Radius Areas
FPL NDE 5.14(R1)	Manual Ultrasonic Examination of Reactor Vessel Welds
FPL NDE 5.16(R3)	Ultrasonic Examination Technique for Evaluation of Cracking in Steam Generator Feedwater Piping
FPL NDE 5.18(R2)	Ultrasonic Thickness Measurement
FPL NDE 5.19(RO&FCA)	Ultrasonic Examination of Socket Welds on the Pressurizer-Auxiliary Spray Line

c. Inservice Inspection, Data Review and Evaluation, Unit 4 (73755)

The "Final Report of Inservice Inspection for the 1988 refueling Outage of Turkey Point Nuclear Power Plant Unit 4", including records of completed nondestructive examinations were reviewed to ascertain whether: the methods(s), technique, and extent of the examination complied with the ISI plan and applicable NDE procedures; findings were properly recorded and evaluated by qualified personnel; programmatic deviations were recorded as required; personnel, instruments, calibration blocks, and NDE materials (penetrants, couplants) were designated.

A sample of approximately ten examinations results were compared with historical examination results.

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d. Observations

- (1) Personnel Training and qualifications safeguards are effective and many of the licensee's administrative and NDE procedures are well written and contain good technical information.
- (2) NRC Report 50-250,251/90-12 conducted during May 1990 identified that Procedures NDE 2.2 and CAL 4 require the "Black Light" to be calibrated by ultraviolet intensity meter calibrated by the manufacturer, a repair facility or other facilities with traceable meters. At that time there was no traceability from the fluorescent MT examination records to the certification documentation for the meter used to calibrate the ultraviolet light. The licensee has amended the data sheets for both the PT and MT examinations to assure traceability of the ultraviolet intensity meters used for calibration of the ultraviolet light source, but changes to the implementing procedures are still in the review cycle.
- (3) Recently the nuclear industry has experienced degradation of video recording tape. The inspector noted that the licensee does not have any program to examine special process records to include microfilm radiographs and magnetic media records for early signs of degradation. With early detection the data could be salvaged. At present the licensee would only identify degraded records in the course of a routine record search.

In the areas inspected, no violations or deviations were identified.

3. Followup on Generic Letter 90-05 Regarding Guidance for Performing Temporary Non-Code Repair of ASME Code Class Piping

The inspector discussed the implementation of Generic Letter 90-05 with the licensee who indicated that they had issued letter JNP-PTN-90-505, dtd October 25, 1990 to provide guidance for performing temporary non-code repairs to ASME Class 1,2, and 3 piping. The licensee indicated by Inter Office Correspondence dtd December 20, 1990, that FPL procedures O-ADM-073 and AP.0191.89 will be amended to programmatically address the guidance of the Generic Letter.

The inspector reviewed the present revision of the above procedures and noted that procedure O-ADM-0190.89, dtd December 1, 1989, "ASME Section XI Repair/Replacement" uses vague and confusing language to describe the scope and exemptions for the ASME Section XI Repair and Replacement Program. This procedure could easily be interpreted to exclude every thing but the pressure boundary parts of Section XI components. Section XI addresses both system pressure boundary integrity and system operability.

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Therefore, non structural parts such as disks, stems, bearings, bushings, springs and like parts that could effect the operability of the components, are required to be covered by the Section XI repair and replacement program.

In the areas inspected, no violations or deviations were identified.

4. Exit Interview

The inspection scope and results were summarized on January 11, 1991, with those persons indicated in paragraph 1. The inspector described the areas inspected and discussed in detail the inspection results. Although reviewed during this inspection, proprietary information is not contained in this report. No dissenting comments were received from the licensee.

5. Acronyms and Initialisms

AC	- Alternating Current
ANII	- Authorized Nuclear Inservice Inspector
ASME	- American Society of Mechanical Engineers
AUT	- Automated Ultrasonic Examination
B&PV	- Boiler and Pressure Vessel
DAC	- Distance Amplitude Curve
DPR	- Demonstration Power Reactor
FPL	- Florida Power and Light
ID	- Identification
ISI	- Inservice Inspection
MT	- Magnetic particle
NDE	- Nondestructive Examination
No.	- Number
NRC	- Nuclear Regulatory Commission
P.E.	- Professional Engineer
PT	- Liquid penetrant
QA	- Quality Assurance
QC	- Quality Control
R	- Revision
RI	- Resident Inspector
RPV	- Reactor Pressure Vessel
RVT	- Remote Visual Examination
SRI	- Senior Resident Inspector
SwRI	- Southwest Research Institute
UT	- Ultrasonic
VT	- Visual
<u>W</u>	- Westinghouse Electric Corporation

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