



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

Report Nos.: 50-250/91-28 and 50-251/91-28

Licensee: Florida Power and Light
 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: July 29 - August 2, 1991

Inspector: J. L. Coley 8-16-91
Date Signed

Approved by: J. J. Blake 8/19/91
Date Signed
 J. J. Blake, Chief
 Materials and Processes Section
 Engineering Branch
 Division of Reactor Safety

SUMMARY

Scope:

This routine, unannounced inspection was conducted in the areas of review of completed inservice inspection (ISI) examination records which also included augmented inspections, evaluations, and disposition of examination findings; and review of radiographic film for new welds resulting from modifications performed during the 1991 extended outage of Units 3 and 4.

Results:

In the areas inspected, violations or deviations were not identified. The licensee's ISI examination records documented examinations and discontinuities in a very effective manner. Evaluations and disposition of examination findings were also effectively analyzed and resolved. The inspector's review of radiographic film revealed excellent radiographic technique, good work practice, and sound judgment in the evaluation and disposition of discontinuities. In addition, it was obvious from the review of data and discussions with cognizant personnel that management and the licensee's technical staff assure that technical issues are resolved conservatively.

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REPORT DETAILS

1. Persons Contacted

Licensee Employees

- *J. Arias Jr., Senior Technical Advisor to the Vice President
- *W. Bladow, Quality Manager
- *M. Blew, ISI Coordinator
- *D. Councill, Quality Control Specialist, Mechanical and Welding
- *M. Huba, Lead Nuclear Engineer JPN
- *J. O'Brien, Quality Control Superintendent
- *T. Plunkett, Site Vice President
- *D. Powell, Licensing Superintendent
- *K. Remington, System Performance Supervisor
- *R. Turner, ISI specialist
- *M. Wayland, Maintenance Superintendent
- *A. Zielonka, Technical Department Supervisor

Other licensee employees contacted during this inspection included managers, engineers, specialists, and technicians.

NRC Resident Inspectors

- *R. Butcher, Senior Resident Inspector
- *G. Schnebli, Resident Inspector

*Attended exit interview

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

2. Inservice Inspection Data Review and Evaluation, Units 3 & 4 (73755)

The inspector reviewed completed examination records, evaluations, and engineering disposition of findings, to determine whether ISI records were in fact complete, within previously established acceptance criteria, and whether the licensee's disposition of adverse findings and subsequent re-examination if necessary was consistent with regulatory requirements. 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.

Completed examinations records for all of the nondestructive examination (NDE) methods were reviewed for completeness. However, the inspector selected a sample with findings for detailed review by using the ISI Customer Notification Reports (CNR's) and then working backwards to the examination reports that recorded the findings. The following CNR's and applicable examination reports including all other supporting information were reviewed by the inspector:

| <u>Summary RPT.NO.</u> | <u>Unit</u> | <u>Method</u> | <u>Component/Weld ID</u> | <u>CNR #</u> |
|------------------------|-------------|---------------|--------------------------|--------------|
| 288500 | 4 | MT | 14" FWC-2403-10 | 024 |
| 061300 | 4 | PT | 29" RCS-1408-4 | 045 |
| 120300 | 4 | PT | 10" SI-1401-14 | 040 |
| 066500 | 4 | VT-1 | RV-4-551C BOLTING | 026 |
| 066450 | 4 | VT-1 | 4"-RC-1403-FB1 | 027 |
| 062250 | 4 | VT-1 | 14"-RC-1401 | 034 |
| 116700 | 4 | VT-1 | MOV-4-751 BOLTING | 035 |
| 174750 | 4 | VT-1 | 2"-CH-1403-FB | 036 |
| 115300 | 4 | VT-1 | MOV-4-750 BOLTING | 038 |
| 122440 | 4 | VT-3 | 8073-H-826-01 | 043 |
| 071320 | 4 | VT-3 | 4-RCH-30A | 044 |
| 071550 | 4 | VT-3 | 4-RCH-30 | 044 |
| 135440 | 4 | VT-3 | M-711A-5 | 044 |
| 163440 | 4 | VT-3 | 4-VCH-74 | 044 |
| 163460 | 4 | VT-3 | SR-488 | 044 |
| 317900 | 4 | VT-3 | 4-ACH-185 | 015 |
| 303000 | 4 | VT-3 | SR-705 | 016 |
| 304500 | 4 | VT-3 | 4-ACH-28 | 017 |
| 306700 | 4 | VT-3 | 4-ACH-46 | 018 |
| 301000 | 4 | VT-3 | 4-ACH-207IA | 019 |
| 30900 | 4 | VT-3 | 4-ACH-207 | 019 |
| 327700 | 4 | VT-3 | 80117-H-341-06 | 020 |
| 302400 | 4 | VT-3 | SR-694 | 021 |
| 314200 | 4 | VT-3 | 4-ACH-182 | 022 |
| 299300 | 4 | VT-3 | 4-ACH-50 | 023 |
| 288450 | 4 | VT-3 | 4-FWH-13 | 025 |
| 128150 | 4 | VT-3 | SR-451 | 031 |
| 275850 | 4 | VT-3 | 78102B-H-422-05 | 037 |
| 119450 | 4 | VT-3 | SR-450C | 039 |
| 287400 | 4 | VT-3 | 4-FWH-26 | 005 |
| 209490 | 4 | VT-3 | 4-SR-626 | 001 |
| 314000 | 4 | VT-3 | 4-ACH-267 | 002 |
| 217740 | 4 | VT-3 | 4-SR-623 | 003 |
| 280650 | 4 | VT-3 | 4-FWH-38 | 004 |
| 280250 | 4 | VT-3 | 78102B-H-423-06 | 007 |
| 279050 | 4 | VT-3 | 78102B-H-423-17 | 007 |
| 279650 | 4 | VT-3 | 78102B-H-423-11 | 007 |
| 322400 | 4 | VT-3 | 80117-H-324-04 | 009 |
| 300600 | 4 | VT-3 | 4-ACA-212 | 011 |
| 329300 | 4 | VT-3 | 8123-H-254-02 | 012 |
| 327400 | 4 | VT-3 | 80117-H-341-08 | 013 |
| 077450 | 4 | VT-3 | 4-RCH-4 | 014 |
| 325500 | 3 | MT | 6" BDC-2306-FW-30 | 007 |
| 323700 | 3 | MT | 6" BDC-2303-FW-29 | 024 |
| 014500 | 3 | MT | 3-WH-12 | 052 |
| 145500 | 3 | PT | 2" SI-1303-8 | 002 |
| 128300 | 3 | PT | 10" SI-1302-14 | 003 |
| 122400 | 3 | PT | 14" RHR-1301-9 | 004 |

| <u>Summary RPT.NO.</u> | <u>Unit</u> | <u>Method</u> | <u>Component/Weld ID</u> | <u>CNR #</u> |
|------------------------|-------------|---------------|--------------------------|--------------|
| 126000 | 3 | PT | 8" RHR-1301-1 | 005 |
| 247100 | 3 | PT | 16" SI-2301-6 | 006 |
| 048800 | 3 | PT | 31-RCS-1303-5 | 049 |
| 202800 | 3 | PT | RCP-SPB-L2 | 056 |
| 060900 | 3 | VT-1 | PCP-3-355B | 018 |
| 154100 | 3 | VT-1 | 3-866-B VALVE BOLTING | 037 |
| 141200 | 3 | VT-1 | 3-868-B VALVE BOLTING | 044 |
| 145300 | 3 | VT-1 | 3-868-C VALVE BOLTING | 045 |
| 139000 | 3 | VT-1 | 3-868-A VALVE BOLTING | 046 |
| 051200 | 3 | VT-1 | GENERAL VISUAL/BU-88-80 | 048 |
| 127000 | 3 | VT-1 | 3-875B VALVE BOLTING | 059 |
| 123300 | 3 | VT-3 | 3-875D VALVE BOLTING | 053 |
| 321200 | 3 | VT-3 | 78101B-H-322-05 | 043 |
| 278100 | 3 | VT-3/4 | SR-165-SPRING HANGER | 039 |
| 175000 | 3 | VT-3 | FSK-M-146 BOX RESTRAINT | 038 |
| 153500 | 3 | VT-3/4 | 8086-H-010-14 | 036 |
| 356200 | 3 | VT-3 | 3-SMH-15 ROD HANGER | 032 |
| 346010 | 3 | VT-3 | 3-ARH-105 RIGID HANGER | 030 |
| 364800 | 3 | VT-3 | 3-BAH-26 SPRING CAN | 023 |
| 212000 | 3 | UT | 3-SG-C-CL | 050 |
| 289400 | 4 | UT | 14" FW LOOP-C(AUGMENTED) | 028 |
| 286900 | 4 | UT | 14" FW LOOP-B(AUGMENTED) | 029 |
| 283300 | 4 | UT | 14" FW LOOP-A(AUGMENTED) | 030 |
| 2670700 | 4 | UT | 14" MSC-2405-1 | 006 |

The inspector's review of the above examination records revealed that they were in compliance with the licensee's ISI program, the applicable nondestructive examination (NDE) procedure, commitments to NRC for augmented examination, and the ASME Code. In most cases the examination records were strongly supported with sketches, photographs, video tapes, and descriptive documentation. One exception was noted however. Evaluations of discontinuities found during ultrasonic examinations were inconsistent in providing calculations for determining their acceptance. This concern was discussed with plant management who indicated that the matter would be properly addressed. Not all of the CNR's reviewed, particularly on Unit 3, had been completed because repair work, or re-examination of the repair, required by the engineering disposition were still in-process.

The inspector also noted that the licensee had detected acceptable crack initiation in the elbows off the A, B, and C Steam Generator Feedwater Nozzles on Unit 4. These examinations were conservatively examined in accordance with NRC Bulletin 79-13, "Cracking in Feedwater System Piping". All of the reported indications were below 25% DAC and

exhibited very little through-wall travel. The steam generator feedwater pipe cracking has been a recurring problem on Unit 4 and has resulted in this piping being replaced twice previously (1980 & 1984). The new indications will be re-examined for growth during each subsequent outage. Examinations performed on Unit 3 steam generator feedwater piping did not reveal any cracks.

Within the areas examined, no violation or deviation was identified.

3. Review of Radiographic Film - Units 3 & 4 (57090)

The inspector reviewed radiographic film and associated weld packages for the welds listed below to determine whether they had been examined in accordance with regulatory requirements and the licensee's approved Radiographic Procedure No. TS-9.3 Rev. 1. All of the welds examined were the result of plant modifications performed on Units 3 and 4 during the 1991 extended outage on each unit. The inspector's review of the radiographic procedure revealed it to be well written technically, covering all code requirements in a clear and conservative manner. Radiographs for the following ASME Code Class 1 and 2 welds were examined:

| <u>WELD ID NO.</u> | <u>UNIT/IR</u> | <u>SYSTEM</u> | <u>SIZE</u> | <u>COMMENTS</u> |
|--------------------|----------------|---------------|-------------|--------------------|
| FW-3A-2 | 3 | RCS | 3"Dia. | RTD Loop "A" |
| FW-3B-2 | 3 | RCS | 3"Dia. | RTD Loop "B" |
| FW-3C-4 | 3 | RCS | 3"Dia. | RTD Loop "C" |
| W-4A-2 | 4 | RCS | 3"Dia. | RTD Loop "A" |
| W-4B-2 | 4 | RCS | 3"Dia. | RTD Loop "B" |
| W-4C-4 | 4 | RCS | 3"Dia. | RTD Loop "C" |
| Weld 5 | 3 | RHR | 10"Dia. | Pipe Replacement |
| FW-3 | 3 | RHR | 10"Dia. | Pipe Replacement |
| FW-1 | 3 | RHR | 10"Dia. | Pipe Replacement |
| FW-4 | 3 | RHR | 10"Dia. | Pipe Replacement |
| FW-8 | W91-1116 | MS | 6"Dia. | Atmosphere Disch. |
| FW-5 | W91-7101 | MS | 6"Dia. | Atmosphere Disch. |
| FW-6 | W91-6833 | MS | 6"Dia. | Atmosphere Disch. |
| FW-4 | W91-7100 | MS | 6"Dia. | Atmosphere Disch. |
| FW-1 | W91-5846 | MS | 6"Dia. | Atmosphere Disch. |
| FW-2 | W91-5778 | MS | 6"Dia. | Atmosphere Disch. |
| FW-17 | W91-1066 | MS | 6"Dia. | Atmosphere Disch. |
| FW-7 | W91-1037 | MS | 6"Dia. | Atmosphere Disch. |
| FW-5 | W91-1036 | MS | 6"Dia. | Atmosphere Disch. |
| FW-4 | W91-1035 | MS | 6"Dia. | Atmosphere Disch. |
| FW-16 | W91-0662 | MS | 6"Dia. | Atmosphere Disch. |
| FW-3 | W91-5757 | MS | 6"Dia. | Atmosphere Disch. |
| FW-4 | W91-7038 | MS | 6"Dia. | Atmosphere Disch. |
| FW-6 | W91-7037 | MS | 6"Dia. | Atmosphere Disch. |
| FW-37 | W91-3594 | CVCS | 2"Dia. | Discharge R/V Line |
| FW-39 | W91-3596 | CVCS | 2"Dia. | Discharge R/V Line |
| FW-45 | W91-3599 | CVCS | 2"Dia. | Discharge R/V Line |

| <u>WELD ID NO.</u> | <u>UNIT/IR</u> | <u>SYSTEM</u> | <u>SIZE</u> | <u>COMMENTS</u> |
|--------------------|----------------|---------------|-------------|--------------------|
| FW-49 | W91-3601 | CVCS | 2"Dia. | Discharge R/V Line |
| FW-57 | W91-3604 | CVCS | 2"Dia. | Discharge R/V Line |
| FW-59 | W91-3605 | CVCS | 2"Dia. | Discharge R/V Line |
| FW-61 | W91-3606 | CVCS | 2"Dia. | Discharge R/V Line |
| FW-1 | W91-3607 | CVCS | 2"Dia. | Discharge R/V Line |
| FW-6 | W91-3608 | CVCS | 2"Dia. | Discharge R/V Line |
| FW-13 | W91-3609 | CVCS | 2"Dia. | Discharge R/V Line |

The inspector reviewed the radiographs listed above to verify that the following radiographic parameters were in accordance with the approved procedure: penetrameter type, size, and placement; penetrameter sensitivity; film density, and density variation; film identification; film quality; and weld coverage. In addition to the preceding radiographic quality and coverage verifications, the inspector reviewed the radiographs to determine whether they were evaluated and dispositioned in accordance with the requirements and acceptance criteria of the approved procedure. The inspector's review concluded that the radiographs for the welds listed above met or exceeded code requirements for both radiographic quality and weld acceptance.

Note: Densitometer used: S/N FPL-PTP-4302 Calibrated 7-27-91

Within the areas examined, no violation or deviation was identified.

4. Exit Interview

The inspection scope and results were summarized on August 2, 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. No dissenting comments were received from the licensee.

5. Acronyms and Initialisms

| | |
|------|--|
| ASME | American Society of Mechanical Engineers |
| B&PV | Boiler and Pressure Vessel |
| DAC | Distance Amplitude Curve |
| FPL | Florida Power and Light |
| ID | Identification |
| IR | Inspection Report |
| ISI | Inservice Inspection |
| MT | Magnetic Particles |
| NDE | Nondestructive Examination |
| No. | Number |
| NRC | Nuclear Regulatory Commission |
| PT | Liquid Penetrant |
| QA | Quality Assurance |
| QC | Quality Control |
| UT | Ultrasonic |
| VT | Visual |
| CNR | Customer Notification Report |
| RHR | Residual Heat Removal System |
| CVCS | Chemical and Volume Control System |
| RCS | Reactor Coolant System |
| MS | Main Steam System |
| DISH | Discharge |
| RTD | Reactor temperature Detector |