U.S. NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT

Region I

Report No. 50-333/78-26

Docket No. 50-333

License No. DPR-59 Priority -- Category C

Licensee: Power Authority of the State of New York

P. O. Box 41

Lycoming, New York 13093

Facility Name: James A. FitzPatrick Nuclear Power Plant

Inspection at: Scriba, New York

Inspection conducted: November 22-26, 1978

Inspectors: J. C. Higgins, Reactor Inspector — 12/6/78 date signed

_____ — _____ date signed

_____ — _____ date signed

Approved by: D. L. Caphton, Chief, Nuclear Support Section No. 1, RO&NS Branch — 12/6/78 date signed

Inspection Summary:

Inspection on November 22-26, 1978 (Report No. 50-333/78-26)
Areas Inspected: Routine, unannounced inspection by a regional based inspector of the Containment Integrated Leak Rate Test (CILRT) and of licensee action on previous inspection findings. The inspection involved 43 inspector-hours on site by one NRC regional based inspector.
Results: No items of noncompliance were identified.

DETAILS

1. Persons Contacted

The below listed technical and supervisory personnel were contacted.

*E. Abbott, Operating Superintendent
*R. Baker, Maintenance Superintendent
W. Fernandez, Assistant to Maintenance Superintendent
*J. Ford, Instrument and Control Superintendent
*C. Gilbert, Supervisor of Engineering Systems Testing (S&W)**
S. Hudson, Shift Supervisor
H. Keith, Assistant to Instrument and Control Superintendent
S. Lew, Plant Engineer
R. Locy, Shift Supervisor
*R. Parry, Test Engineer (S&W)
*R. Pasternak, Superintendent of Power
K. Roberts, Shift Supervisor
W. Sanborn, Shift Supervisor

* denotes those present at the exit interview.
** S&W - Stone and Webster Engineering Corporation.

The inspector also talked with and interviewed several other members of the technical and operating staffs and several reactor operators.

2. Licensee Action on Previous Inspection Findings

(Closed) Unresolved Item (333/78-22-03): The inspector reviewed F-ST-39B with Change 4, "Type B and C LLRT of Containment Penetrations." The equipment hatch is now tested by F-ST-39B and the two personnel hatches are tested by F-ST-39A. All of these penetrations were testing satisfactorily during the current outage. The inspector had no further questions regarding this item.

(Closed) Unresolved Item (333/78-22-04): A temporary change was issued for Maintenance Procedure 4.2 on November 21, 1978, and was titled "Bolt-up Procedure for Drywell Head." Based upon this change specifying both torque requirements and a tightening sequence for the drywell head studs, this item is considered resolved.

(Open) Unresolved Item (333/78-22-06): The licensee has drafted many procedures to implement the Inservice Testing Requirements of Section XI. Additionally, he has drafted a Technical Specification Change Request to consolidate requirements in this area and to remove any conflict. The licensee's representative stated that he will implement his program as submitted to the NRC, effective November 28, 1978. The various procedures involved will be reviewed during a subsequent inspection. This item is reclassified as an inspector follow item.

(Open) Unresolved Item (333/78-22-01): The below numbers correspond to those in the original item description. Numbers 3 and 6 require further action.

1. Attachment 11 to the CILRT procedure gives guidance on areas to inspect and types of deterioration for which to look. It also provides a data sheet for recording the inspection results.

2. The procedure has been modified to expose all drywell pressure instrumentation to test pressure.

3. The procedure prohibits leak repairs without approval of the test director. During the test the inspector noted that all leaks found appeared to have been properly logged and to have received the proper approval for isolation or repairs. The TIP D-line ball valve, the B recirculation pump mini-purge line, and the A main steam line were isolated and this requires local leak rate tests before and after repair. The post-repair leakage must then be added to the Type A test results to determine test acceptability.

4. The inspector verified that the test pressure was greater than 45 psig at the start of the test.

5. The procedure now records all pertinent before and after tank levels and contains provision for leakage rate corrections in Section IX.2.c.

6. The procedure does not discuss the instrument error corrections required by Section III.A.3.c of Appendix J. The licensee's representative stated that corrections for instrument calibration error would be applied either to the raw data or to the final leak rate.

7. During the course of the test witnessed by the inspector no instrumentation was lost.

8. During the course of the test witnessed by the inspector there were no outlying data points which required rejection.

9. The inspector reviewed Memo to File number OPS-78-82 from E. C. Abbott, dated November 21, 1978. This memo detailed the systems which would not be completely vented and drained during the CILRT and either specified a Type C correction or gave justification for the actual lineup.

3. Containment Integrated Leak Rate Test (CILRT)

a. General

On November 24-28, 1978, the J. A. FitzPatrick Nuclear Power Plant performed its first periodic CILRT at a pressure of Pa or 45 psig. The test was performed in accordance with Procedure F-ST-39F, "Type A Test (60 PSIA) Primary Containment Integrated Leak Rate Test," Revision 1, dated November 17, 1978. The inspector reviewed the test procedure, witnessed various portions of the test, and independently verified many of the test calculations. Details of the test are discussed below.

b. Chronology

11/24	1100	Briefing of operators in control room on test purpose and procedure.
	1200	Commenced pressurization of containment.
	1220	At approximately 2 psig Core Spray was initiated and the Diesel Generators started due to not all Drywell Pressure switches being jumpered. Containment was depressurized.
	1445	Recommenced pressurization.
	1800	First leak survey conducted. Leak discovered through CNS 77 due to incorrect valve lineup.
	2215	Containment at 60.4 psia. Secured pressurization.

11/25	0015	Second leak survey conducted. Found large leak from TIP system D ball valve and isolated it.
	0300	Stabilization complete. Pumping drywell equipment sump 2-3 times an hour due to valve packing and bonnet leaks in drywell.
	0600	Limited data indicates leak rate is ≈ 0.5 %/Day.
	0930	Identified 9 valve packing leaks and placed duct seal on these.
	1040	Found and isolated leak on B recirculation pump mini-purge line.
	1405	Initiated shutdown cooling and destabilized containment atmospheric conditions.
	1730	Leak rate now indicates several times La. Tightened various ECCS valves to stop water leakage from Torus.
	1800	Secured shutdown cooling and mechanically corrected packing leaks.
11/26	0930	Unable to maintain reactor coolant temperature without shutdown cooling. Reinitiated shutdown cooling.
11/27		Identified leakage through A main steam line and pressurized between MSIV's to approximately 58 psia to stop leakage.
11/28		Completed CILRT with a leak rate at the 95% upper confidence level of approximately 0.30 %/Day which is below the maximum acceptance criteria of 0.75 La or 0.375 %/Day.

c. Instrumentation

The inspector reviewed the calibration information for the test resistance temperature detectors (RTD's), dewcels, and pressure instruments to verify traceability to nationally recognized standards and to determine calibration errors. All instrumentation was suitably traceable except the dewcels. The licensee's representative stated that records would be obtained for the dewcel calibration. This item is unresolved pending review of the documentation (333/78-26-01).

d. Future CILRT Schedule

Based on the initial high CILRT leakage rate, the TIP ball valve leak, the recirculation pump mini-purge line leak, the A main steam line MSIV leakage, and the nine valve packing leaks, the inspector and the licensee's representative agreed that the initial attempt at the CILRT failed to meet the acceptance criteria. Thus, in accordance with paragraph III.A.6.(a) of Appendix J to 10 CFR 50, the test schedule applicable to subsequent Type A tests is subject to review and approval by the Commission. The future schedule is thus unresolved pending completion of the review and approval (333/78-26-02).

e. Reportability

The inspector stated that the initial failed Type A test and the failed Type B and C local leak rate tests during the current outage were reportable under Technical Specification section 6.6.4.2.b. The licensee's representative acknowledged this comment.

4. Unresolved Items

Items about which more information is required to determine acceptability are considered unresolved. Paragraphs 3.c and 3.d of this report contain unresolved items.

5. Exit Interview

At the inspection's end the inspector held a meeting (see Detail 1 for attendees) to discuss the inspection scope and findings. The unresolved items were identified.