

U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 50-333/85-15

Docket No. 50-333

License No. DPR-59

Priority -

Category C

Licensee: New York Power Authority
P.O. Box 41
Lycoming, New York 13093

Facility Name: James A. FitzPatrick Nuclear Power Plant

Inspection At: Scuba, New York

Inspection Conducted: May 12 - 15, 1985

Inspectors: DJ Vito
D. J. Vito, Reactor Engineer

7/23/85
date

DJ Vito for
J. Hodson, Reactor Engineer

7/23/85
date

Approved by: P. Eslegroth
P. Eslegroth, Chief, Test Programs
Section, DRS

8/5/85
date

Inspection Summary: Inspection on May 12-15, 1985 (Inspection Report
No. 50-333/85-15)

Areas Inspected: Routine, announced inspection of the containment leakage testing area including CILRT witnessing, test results review and general tours of the facility. The inspection involved 70 inspection-hours onsite by two region based inspectors.

Results: No violations were identified.

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DETAILS

1.0 Persons Contacted

New York Power Authority

- *W. Fernandez, Operations Superintendent
- *H. Glovier, Resident Manager
- *J. Greene, Operating Experience Engineer, Asst.
L. Johnston, QA Supervisor
- *H. Keith, I&C Superintendent
- *P. Swinburne, Performance Engineer, ILRT Test Director

Stone and Webster

- *R. Bone
- *J. Busa
- *R. Samson

NRC

- *L. Doerflein, Senior Resident Inspector

*denotes those present at the exit meeting on May 15, 1985.

2.0 Containment Integrated Leak Rate Testing

2.1 Documents Reviewed

- Procedure F-ST-39F, Type A Test (60 psi) Primary Containment Integrated Leak Rate Test, Rev. 4, March 27, 1983 (as-run copy)
- CILRT Instrumentation Records
- CILRT Log Book
- Test Results
- Selected Piping and Instrument Drawings

2.2 Scope of Review

The inspector reviewed the above listed documents for technical adequacy and to determine compliance with the regulatory requirements of Appendix J to 10 CFR 50, Technical Specifications and applicable industry standards. The inspector witnessed portions of the CILRT and the subsequent verification test. The inspector also performed an independent calculation of the test results.

2.3 Procedure Review

The inspector reviewed the "as-run" copy of Procedure F-ST-39F to determine if appropriate changes had been made as a result of previous inspection findings (50-333/85-08). The inspector determined that appropriate changes had been made, including the use of instantaneous data values to calculate the leak rate. Several of the CILRT valve lineups were verified during the performance of the test. The test log and test data were maintained in accordance with the procedure.

No unacceptable conditions were identified.

2.4 CILRT Instrumentation

The inspector reviewed the calibration records for the resistance temperature detectors, devices and precision pressure detectors. The calibrations met applicable accuracy requirements and were traceable to the National Bureau of Standards. The inspector also reviewed the calibration curves for the flow meter used during the superimposed leak verification test. The validity of the flow meter readings were questioned during a previous inspection (50-333/85-08) because the data sheet for the flow meter did not state whether it could be used in the 50-100 psi pressure range. The manufacturer provided the licensee with documentation stating that the instrument was suitable for use in the 50-100 psi range. The instrument performed accurately during the verification test.

No unacceptable conditions were identified.

2.5 Test Witnessing/Chronology

A large portion of the CILRT and subsequent verification test was witnessed by the inspector. Inspector observations of licensee test performance and test control are delineated in Section 2.6 of this report. The test chronology was as follows:

Test Chronology

| | | |
|---------|------|--|
| 5/13/85 | 0600 | Commenced containment pressurization after resolution of torus water level problems |
| | 1230 | Reached test pressure, commenced temperature stabilization period |
| | 1630 | Completed temperature stabilization period. Acceptance criteria met. Commenced taking data for CILRT |

2000 Test personnel note that measured mass appears to be increasing. Investigations reveal a large water leak into the torus from a relief valve on the RHR Shutdown Cooling line. Test director decides to continue with the test and account for the torus level change at the end of the test

5/14/85 1630 Completed taking data for CILRT

Measure Leak Rate at 95% UCL =
 $-0.23952 \text{ wt\%/day}$

Type B & C leakage correction
 $= 0.0416 \text{ wt\%/day}$

Water Level Correction =
 0.44015 wt\%/day

Total Leak Rate = $-0.23952 +$
 $0.0416 + 0.44015 = 0.24223$
 wt\%/day

Acceptance criterion = 0.75 La
 $= 0.375 \text{ wt\%/day}$

1730 Commenced data collection for superimposed leak verification test

2130 Verification test completed. Acceptance criteria met.

2.6 Test Performance/Control

The test was performed strictly within the procedural guidelines. The inspector also noted that the licensee had attempted (after the completion of the verification test) to isolate the water leak into the torus to try to measure the leak rate directly with the instrumentation. Although the licensee was not successful in stopping the leak, the inspector commended them for making the attempt.

No unacceptable conditions were identified.

2.7 Test Results Review

The calculated leakage rate at the 95% Upper Confidence Limit (UCL) was $-0.23952 \text{ wt\%/day}$. The leakage correction for Type B and C penetrations isolated or in use during the CILRT totalled 0.0416 wt\%/day . The water level correction for changes in the reactor vessel, torus, and drywell equipment sump water level was 0.44015 wt\%/day . The sum of these values (0.24223 wt\%/day) reflects the "As-Left" integrated leak rate and is below the allowable limit of 0.75 La (0.375 wt\%/day).

The inspector performed an independent calculation of the test results using a sample of raw data from the test to estimate the accuracy of the licensee's leak rate and volume correction calculations. The inspector's calculated results were identical. The inspector concluded that the licensee's calculations were appropriately performed and accurate and that the test was successful.

The CILRT was followed by a successful superimposed leak verification test. The licensee imposed a leak of 0.5005 wt%/day onto the existing leak. The measured verification test leak rate was 0.32608 wt%/day. The result was within the acceptance criteria band. The inspector also verified this result by independent calculation.

The licensee also stated that an "As-Found" leak rate calculation would be performed and reported in the CILRT final report.

No unacceptable conditions were identified.

3.0 Independent Calculations

The inspector performed independent calculations of the CILRT and verification test results. Details are included in Section 2.7 of this report.

4.0 QA/QC Involvement

The inspector verified QA/QC involvement in CILRT activities by observation of the QA personnel monitoring the test. The inspector also reviewed two QA Surveillance Reports (Nos. 1014 and 1021) to determine the QA coverage of local leak rate testing activities. This had been indicated as an area of concern in Inspection Report 50-333/85-08 since the last audit of the LLRT area had been performed in 1980. During this previous inspection, the inspector found the surveillance to be satisfactory but asked that QA pay more attention to the scheduling of LLRT surveillances in the future. The licensee acknowledged that because of the frequency of local leak rate testing, the audit sampling process could create a long time between audits, as happened in this case. The licensee agreed that attempts would be made to preclude this from recurring.

5.0 Tours

The inspector toured the reactor building and other areas of the facility to observe containment leakage testing activities, component tagging, other work in progress, and general housekeeping.

No unacceptable conditions were identified.

6.0 Exit Meeting

A meeting was held on May 15, 1985, to discuss the scope and findings of the inspection as delineated in this report. At no time during this inspection was written information provided to the licensee.