U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 50-220/84-08

Docket No. 50-220

License No. DPR-63 Priority -- Category C

Licensee: Niagara Mohawk Power Corporation

300 Erie Boulevard West

Syracuse, New York 13202

Facility Name: Nine Mile Point Unit 1

Inspection At: Scriba, New York

Inspection Conducted: May 9-11, June 6-8, 1984

Inspector: D. J. Vito 6/26/84
D. J. Vito, Reactor Engineer date

Approved By: L. H. Bettenhausen 6/29/84
L. H. Bettenhausen, Chief, Test Programs Section, DETP date

Inspection Summary: Inspection on May 9-11, June 6-8, 1984 (Inspection Report Number 50-220/84-08)
Areas Inspected: Routine, unannounced inspection of the containment leakage testing program including procedure review of Integrated Leak Rate Test and Local Leak Rate Test procedures, local leak rate test witnessing, ILRT and LLRT test results review, followup to previous inspection findings, and general tours of the facility. The inspection involved 35 hours onsite by one region based NRC inspector.

Results: No violations were identified.

Region I Form 12
(Rev. February 1982)

DETAILS

1. Persons Contacted

The technical and supervisory personnel listed below were contacted:

J. Aldrich, Operations Supervisor
W. Connolly, Supervisor QC Operations
#* W. Drews, Technical Superintendent
P. Mazzaferro, Licensing Engineer
R. Nield, Technical Services Engineer
#* T. Roman, Station Superintendent
#* J. Spadafore, Superintendent of Technical Services
P. Sweeney, I&C Foreman
* B. Taylor, I&C Supervisor

NRC Personnel

#* S. Hudson, Senior Resident Inspector

The inspector also talked with and interviewed other licensee personnel during the inspection.

* denotes those present at exit interview on May 11, 1984.
# denotes those present at exit interview on June 8, 1984.

2. Followup on Previous Inspection Findings

(Closed) Unresolved Item (220/75-21-01): This item relates to the licensee's compliance with 10 CFR 50, Appendix J and identified containment isolation valves for several systems which were not being leak rate tested. The licensee agreed to submit an evaluation of the containment leak rate testing program and its conformance to 10 CFR 50, Appendix J requirements and has done so with a submittal dated November 1, 1983 to NRR/DL. The inspector reviewed the submittal package and related changes and determined that the licensee's actions appear to be appropriate and acceptable. The inspector also reviewed those procedures related to containment leak rate testing and containment integrity to determine if the containment system modifications of the past several years have been included in the leak rate testing program. From these reviews, the inspector determined that the licensee has made every effort to conform to the requirements of 10 CFR 50, Appendix J and has appropriately changed the containment leak rate testing program in accordance with these efforts. This matter is resolved.

(Closed) Unresolved Item (220/81-14-03): This item relates to the plant history of containment leakage testing problems and is similarly related to the licensee's recent attempts to conform to the requirements of 10 CFR 50, Appendix J. Based on the inspectors review of the changes to the containment leak rate testing program, the physical modifications performed, and the submittal to NRR/DL, this matter is resolved.

(Closed) Unresolved Item (220/83-13-01): This item deals with the performance and documentation of the surveillance to be performed in order to meet the requirements of Technical Specification (TS) 4.3.3.g. This TS states that when the primary containment is inerted, the containment shall be continuously monitored for gross leakage by review of the inerting system makeup requirements. The licensee first attempted to monitor nitrogen makeup via a data sheet located in Operating Procedure NI-OP-9, Nitrogen Inerting and H_2-O_2 Monitoring Systems for Primary Containment. This allowed the Operating Superintendent to review the records until confidence was gained for data reliability and appropriate procedures were revised or developed. The licensee determined and the inspector agreed that the use of the data sheet in the operating procedure has not provided adequate trending of nitrogen makeup and that determination of a continuous containment leakage using this system would be difficult.

The licensee has revised Surveillance Test N1-ST-DO, Operator Surveillance Test - Daily Checks to include a daily monitoring of nitrogen gas makeup to containment. The procedure also requires that nitrogen addition be plotted as a function of time and that the data be evaluated for the identification of possible containment leakage paths. The inspector concluded that the surveillance test appeared to provide a technically adequate method for containment leakage monitoring and that evaluation of historical data generated by the performance of the test would provide an indication of its usefulness. The inspector also verified the documented acceptance of the revision by the Site Operations Review Committee (May 24, 1984).

Based on these findings, this item is closed.

3. Containment Local Leakage Rate Testing

3.1 Documents Reviewed

-- Procedure N1-ISP-25.2, Primary Containment Isolation - Leak Rate Tests

-- Procedure N1-ISP-25.3, Containment Spray/Raw Water Heat Exchanger Local Leak Rate Test

-- Procedure N1-ISP-25.4, Cleanup System Isolation Valves Local Leakage Tests

-- Procedure N1-ISP-23.4, Local Leak Rate Test Summary

-- Procedure N1-ISP-25.1, A-W Primary Containment Isolation Main Steam Isolation Valves Leak Rate Tests

-- Records of LLRT activities conducted during the recent outage including test results, related repair and retest documentation

-- Selected System Drawings, Piping and Instrument Drawings

3.2 Scope of Review

The inspector reviewed the above documents to ascertain compliance with regulatory requirements of Appendix J to 10 CFR 50, Technical Specifications and applicable industry standards and with station administrative guidelines. The inspector also witnessed selected local leak rate testing activities and held discussions regarding the documentation of test results, the repair and retesting following failed tests, and the relationship of these items to the "As-Found" and "As-Left" conditions as applied to Containment Integrated Leak Rate Test (CILRT) results. Further details are discussed below.

3.3 Test Witnessing

On May 10, 1984, the inspector witnessed local leak rate tests performed on Liquid Poison System Check Valve 42.1-03 and on Main Steam Isolation Valve 01-01. Both valves had failed initial local leak rate testing and were being retested after repairs. The inspector verified the documentation of the "As-Found" test result, the maintenance and repair of the valves, and QA involvement in repair and testing. The tests were conducted in accordance with an approved procedure and the results were acceptable. The test instruments used were properly calibrated (Volumetrics Leak Rate Monitors 7262 and 7493, calibrated on February 1, 1984 and December 14, 1983 respectively). The inspector observed that the test personnel performing the tests appeared to be quite familiar with the test equipment and the use of the test procedure. No unacceptable conditions were identified.

3.4 Test Results

The inspector reviewed the Local Leak Rate Test Results Summary and discussed analysis of test results and the status of repairs and retests with the licensee. The inspector was satisfied with the licensee's understanding of application of these test results to the "As-Found" condition of containment. The licensee acknowledged the application of these results to the technical specification overall leakage limits and to CILRT failure criteria. The combined total of the Type B&C leak rate test results was approximately 0.18 La (Tech. Spec. limit is 0.60 La). The inspector also verified that the test results of those Type B&C leakage additions to the Type A test result were included in the Type A test procedure.

4. Integrated Leak Rate Test

4.1 Documents Reviewed

-- Procedure N1-ISP-23.4, Integrated Leak Rate Test of Primary Containment, Revision 14

-- Procedure N1-ICP-ILRT, Integrated Leak Rate Test Instrument Calibration, Revision 2

-- Procedure N1-ISP-23.2, Drywell - Torus Atmosphere RTD Calibration for ILRT, Revision 1

-- Procedure N1-ISP-IC-23.3, Drywell - Torus RTD Calibration Verification (In-situ Check), Revision 1

-- Type A Test Log

-- Test data and results

4.2 Scope of Review

The inspector reviewed the documents listed above for technical adequacy and to determine compliance with the regulatory requirements of Appendix J of 10 CFR 50, Technical Specifications and applicable industry standards. The inspector also performed a calculation of the test results to serve as an independent check of the ILRT data processing system for the Type A test performed on May 28-29, 1984.

4.3 Procedure Review

The inspector reviewed the "as-run" copy of the ILRT Procedure for technical adequacy and for consistency with regulatory requirements, guidance and licensee commitments. Review of procedure acceptance criteria, test methods, and references indicated adequate conformance with 10 CFR 50, Appendix J. The procedure referenced and was in general conformance with industry standard ANSI/ANS 56.8-1981, Containment System Leakage Testing Requirements. The procedure valve lineups were reviewed to ensure that systems were properly vented and drained to expose the containment isolation valves to containment atmosphere and test differential pressure with no artificial leakage barriers. Also, the valve lineups were reviewed to verify that valves added by recent modifications had been included.

Calibration procedures and records for the ILRT instrumentation appeared to be complete and acceptable and included certificates of calibration and standard traceability documentation. The test log and test data were maintained in accordance with accepted industry standards.

4.4 Test Results Review

The inspector performed an independent calculation of the test results by selecting a random sampling of test data points and determining a containment leakage rate (containment air mass loss rate) from the slope of the line generated by a linear least squares fit. The results of the calculation as compared to the licensee's calculations are as follows (units are in weight percent per day):

	Lt (Mass Point)	95% UCL (Mass Point)
NMP-1	0.340	0.347
NRC	0.341	0.372

The inspector concluded that the licensee's calculations were properly performed and accurate. The inspector also verified that after adding the leakage correction for those Type B&C penetrations in use or isolated during the Type A test (0.088 weight percent per day), the Type A test result remained below the Technical Specification limit of 0.75 Lt = 0.820 weight percent per days.

Immediately following the Type A test, a technically accurate and successful leakage verification test was done using an imposed leak of 6.0 SCFM. No unacceptable conditions were identified.

5. QA/QC Involvement

Both local leak rate testing and integrated leak rate testing activities were monitored by plant QA/QC personnel. The inspector verified this through discussions with QA management and other QA/QC audit personnel and by review of the following documents:

-- QC Inspection Report 84-828

-- Surveillance Checklist RS-84-043

-- Surveillance Reports RS-84-020
RS-84-021
RS-84-022
RS-84-024
RS-84-027
RS-84-030
RS-84-034
RS-84-037
RS-84-046

The documentation review indicated QA/QC surveillance in the following areas:

(1) valve mark-ups and lineups

(2) test instrument installation

(3) test instrument calibration verification

(4) procedure use

(5) pre-test containment inspection

(6) data acquisition

The inspector concluded that the QA/QC coverage of containment leakage testing activities is appropriately planned, technically comprehensive and well documented.

During the review of the QA documentation, the inspector noted that a local leak rate test (Feedwater System Isolation Valves) had been done using a pressure gauge that was out of calibration. Although the problem was discovered by QA and quickly remedied by I&C Department personnel, the inspector commented that this practice was not condoned and should be avoided in the future. The licensee stated that I&C test personnel were informed of this incident and reminded of the need to follow procedures and use only calibrated instruments. This corrective action was documented in Surveillance Report RS-84-024. The inspector had no further questions with regard to this item.

6. Tours

The inspector made several tours of various areas of the facility to observe local leak rate testing activities, component tagging, other work in progress and general housekeeping. The inspector also observed a portion of the refueling activities being performed on the refueling floor. No unacceptable conditions were identified.

7. Exit Interview

A management meeting was held on May 11, 1984 and on June 8, 1984 to discuss the scope and findings of the inspection as detailed in this report. No written information was provided to the licensee at anytime during the inspection.