U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Report No. 50-410/87-40

Docket No. 50-410

License No. NPF-69 Category B

Licensee: Niagara Mohawk Power Corporation
301 Plainfield Road
Syracuse, New York 13212

Facility: Nine Mile Point, Unit 2

Location: Scriba, New York

Dates: October 19, 1987 through October 22, 1987

Inspectors: N. S. Perry, Resident Inspector, Ginna Nuclear Power Plant

G. W. Meyer, Project Engineer

Reviewed by: J R Johnson, for G. W. Meyer, Project Engineer 12/2/87 Date

Approved by: Jon R Johnson J.R. Johnson, Chief, Reactor Projects Section 2C, DRP 12/2/87 Date

INSPECTION SUMMARY

Areas Inspected: Unannounced special inspection of the Inservice Testing (IST) Program (a subset of the licensee's Inservice Inspection (ISI) Program). The inspection involved 56 hours by a Resident Inspector and Project Engineer.

Results: No violations or deviations were identified. The ISI Program is planned to be fully implemented by commercial operation and is currently under review by the NRC. The inspectors concluded that the program for inservice testing (IST) of pumps and valves was acceptable as implemented thus far. Staffing of the Unit 2 ISI Department appeared to be a potential problem. (paragraph 6)

DETAILS

1. Persons Contacted

Niagara Mohawk Power Corporation

R. Abbott, Station Superintendent, Unit 2
S. Agarwal, Lead Licensing Engineer
C. Beckham, Manager, QA Operations
G. Dolney, ISI Specialist, Unit 2
J. Doud, ISI Supervisor, Unit 2
F. Hawksley, ISI Site Superintendent
R. Neild, Assistant to Station Superintendent
A. Pinter, NMPC Site Licensing
R. Smith, Operations Manager

United States Nuclear Regulatory Commission

W. Cook, Senior Resident Inspector, Nine Mile Point
G. Meyer, Project Engineer
N. Perry, Resident Inspector, Ginna
W. Schmidt, Resident Inspector, Nine Mile Point

All above persons were present at the exit meeting on October 22, 1987.

2. Inservice Inspection and Testing Program

10 CFR 50.55a and Technical Specification 4.0.5 require that Unit 2 meet the inspection and testing requirements of Section XI of the 1980 Edition of the ASME Boiler and Pressure Vessel Code through the Winter 1981 Addenda. The program for meeting these requirements is provided in the Nine Mile Point Unit 2 Ten Year Inservice Inspection (ISI) Program Plan, Rev. 0, May 29. 1987. The Program Plan is currently under review by the NRC. Niagara Mohawk has implemented the Program Plan pending NRC approval and has committed to have it fully implemented by commercial operation (scheduled for January 1988). Within the Program Plan are the program commitments for the inservice testing of pumps and valves. In this report this inservice testing (IST), a subset of the ISI requirements, will be referred to as IST.

At Unit 2 the ISI Program is the responsibility of the Unit 2 ISI Department, which is a separate and distinct group from the Unit 1 ISI Department. The Unit 2 ISI Specialist stated that his department has a small staff of engineers, procedure writers, and clerical personnel but noted that all except himself are contractors. The Unit 2 ISI Supervisor has given his termination notice to Niagara Mohawk, but no replacement had been named at the time of the inspection. The existing site administrative procedures concerning ISI activities reflect the Unit 1 methods. The Unit 2 ISI Specialist stated that the administrative procedures are being revised to reflect the more extensive methods utilized at Unit 2 and will be

fully implemented prior to commercial operation. The inspectors reviewed a summary of the procedure revision status, which showed the progress toward the commercial operation goal. Also, the inspectors performed a technical review of some of the draft procedures and had no concerns.

Based on review of the program and discussions with the Unit 2 ISI Specialist, the inspectors concluded that the IST Program is administered as follows. The IST requirements for pump and valve testing are met by means of the scheduled surveillance tests. The ISI Department is responsible for assuring the test data meet IST requirements and for review and analysis of the test data. The station departments assigned responsibility for the individual surveillance tests, i.e., Operations, Maintenance, Intrumentation & Control (I&C), etc., perform the surveillance tests on the planned schedule. The IST acceptance criteria for each component are listed in the surveillance test procedure, and the test personnel compare the test results with the IST limits as part of the test. Any questions or problems are resolved with the help of the ISI Department and Site Engineering. A pager is maintained by ISI to respond promptly to problems onshift. The completed test data are transmitted to the ISI Department within one working day following the test, and the ISI Department reviews, tabulates, and trends the test data. The ISI Specialist attempts to observe a significant portion of the tests in the plant, with a goal of 50%. The ISI Department also reviews all Work Requests to verify that IST testing requirements have been properly specified. The inspectors concluded that the approach discussed above appeared to meet IST requirements and to be responsive to the actual testing in the plant.

No unacceptable conditions were identified.

3. Observations of ISI/IST Work in Progress

The inspectors observed portions of the following two ISI/IST surveillances:

-- N2-OSP-HVK-Q001 CONTROL BUILDING CHILLED WATER VALVE OPERABILITY TEST

-- N2-OSP-RHS-Q004 RHR SYSTEM LOOP A PUMP & VALVE OPERABILITY TEST

These surveillance tests were performed by the Operations Department with the ISI Specialist present.

The RHR system test was performed satisfactorily with only one minor Temporary Change Notice (TCN) required. This TCN was handled adequately by the operator performing the test.

During the chilled water test, the inspector noted the following:

-- The "A" train makeup check valve (2HVK*V95) failed its reverse flow test. The operators continued the surveillance and discovered that the "B" train pump discharge check valve (2HVK*V105) also failed its reverse flow test. The Operations Department declared both trains

of control building chilled water inoperable, entered a Technical Specification (TS) action statement concerning control room ventilation, and proceeded to remedy the situation. Work Requests (WRs) were initiated for both check valves, and work was begun on 2HVK*V95 first. The inspectors observed the repair work and verified that corrosion buildup was the cause of the valve's failure. The inspectors reviewed the retest data on the check valve and determined it to be satisfactory. In addition, the inspectors reviewed the Problem Reports initiated by the ISI Department to look into a future solution since this problem with the check valves has occurred before.

-- While stroking valve 2HVK*SOV36A (computer room chilled water supply valve), the inspector noticed that the valve's light indication was dark when the valve was in mid-position, i.e. both indicating lights were off. The operator performing the test also noticed the lack of light indication but did not question the situation. The procedure provided a note to measure the closing time of the valve by starting the stopwatch when closure was initiated with the control switch and stopping the stopwatch when the red indicating light extinguished. The valve however continued to move until the green indicating light lit. After further investigation with the ISI Department, it was determined that this indication was not correct for this valve; that is, both of the indicating lights for the valve should have been lit during mid-stroke position according to print 12177-ESK-7HVK02, revision 7. The other train's corresponding valve, 2HVK*SOV36B, was also stroked and its indication also was dark when the valve was in mid-position.

Given the existing light indications, if the test procedure's note had been followed literally, it would have resulted in a nonconservative closure time. The inspector reviewed the test data file for SOV36A and found that during a half dozen tests a nonconservative closure time had resulted once and had not been questioned by the IST review. However, during the other tests when accurate closure times had been recorded, apparently none of the operators had questioned the incorrect indication lights. From questioning licensed operators, the inspectors found that they had been trained to expect dual light indication when valves are mid-position. These discrepancies were brought to the Operations Supervisor, who agreed with the inspector that it was important that test procedures be correct and be followed and that concerns regarding incorrect equipment be raised to supervisors. As corrective action the Supervisor planned to reemphasize these messages to operators. Later, the inspectors found an example in the Standby Gas Treatment System where a similar light indication error was noted during an April 29, 1987 surveillance test and corrected. The inspectors had no further questions in these matters.

-- The inspector noted that the test procedure included 6 TCNs, some of which had been in effect for over a year. Some of the TCNs revised major sections of the test procedure and were handwritten. This appeared to be a bad practice. The ISI Specialist noted that his department was responsible for revision of the test procedure but had not yet revised it because of other higher priority work.

-- The inspector noted that the two trains of chilled water each have a pump discharge check valve, but the check valves appeared to serve no purpose as each train is a closed loop with one pump and has no connection to the other train. There are piping connections to the Service Water System, but the use of Service Water must be manually valved in, and the installed pump isolation valves would be better suited to prevent reverse loop flow. Given the apparently insignificant design purpose of the check valve, the disturbance to the plant for the reverse flow testing of this valve and the entrance into a TS action statement based on its inoperability appeared to the inspector to be counterproductive to plant safety. The Unit Superintendent of Unit 2 concurrently reached the same conclusion. The ISI Specialist stated a Problem Report would be initiated to evaluate the design of the chill water system regarding the discharge check valves.

The licensee's actions were considered acceptable. No violations were identified.

4. Review of IST Records

The inspectors selected four systems and utilized these systems to review the testing requirements in the Nine Mile Point Unit 2 Ten Year Inservice Inspection Program Plan, Rev. 0. The inspectors utilized the system design drawings to review the testing of the installed pumps and valves. Also, the inspectors reviewed surveillance test procedures and IST data records to ascertain that the data was complete, accurate, within acceptance criteria, and met applicable ASME code and regulatory requirements. The inspectors' review included the program requirements, design drawings, testing procedures, data, and trend analyses associated with the following systems:

-- Reactor core isolation cooling system
-- High pressure core spray system.
-- Primary containment purge system
-- Standby gas treatment system

The procedures reviewed are listed in Attachment A. The design drawings reviewed are listed in Attachment B.

The inspectors found the following:

-- Regarding the reactor core isolation cooling system, the inspector noticed that 2ICS*MOV126 was only required to be stroke timed in the closed direction. This valve is in the injection path and is normally closed. Further investigation by the NMPC Engineering Department confirmed that this valve should also be stroke timed in

the open direction. The inspector reviewed an ISI Change Request that was subsequently initiated and had no further questions in this matter.

-- The review of the high pressure core spray system revealed no discrepancies.

-- Minor errors existed in the trend analyses of two valves in the primary containment purge and standby gas treatment systems. Once identified by the inspector, IST personnel corrected the errors satisfactorily.

No violations were identified.

5. Review of ISI Deficiency/Corrective Action (DCA) Notices

The inspector reviewed Deficiency/Correcitve Action (DCA) Notices, the mechanism used to resolve problems identified in the ISI Program. Typically, the DCA provides for technical evaluation of specific component problems by engineering personnel, but it is also used to correct administrative problems. The DCA Log contained 22 1987 DCAs, including two for late transmittal of IST data. The resolution and closeout of the DCAs appeared timely, i.e., rarely longer than a month and frequently within a week. Based on a sample of closed DCAs, the technical resolutions appeared to be thorough and acceptable. The inspector identified no problems with corrective action in the ISI Program.

6. Overall Program Conclusions

Although the ISI/IST Program is not yet fully implemented, the inspectors concluded that the program appeared to be acceptable. The ISI/IST Program is applied in a meaningful way with conscientious, technically qualified people implementing the program. Communication was observed between the ISI/IST Department, the Operations Department, and Site Engineering. Problems brought out during the inspection were handled with appropriate concern, and TCNs and WRs were properly initiated and implemented. However, current and future staffing of the Unit 2 ISI Department may be a problem. The inspectors noted the use of many contractor employees in the ISI/IST Department and questioned who would be implementing the program in the future. Also, the postponement of test procedure revisions and the minor errors in the IST records appeared to indicate that the ISI staffing was marginally acceptable. Further, the planned departure of the Unit 2 ISI Supervisor and the lack of a replacement further complicated the staffing area.

The inspectors found no violations. These testing activities will be reviewed further in a subsequent inspection following full implementation of the ISI Program.

7. Exit Meeting

At periodic intervals and at the conclusion of the inspection, meetings were held with senior station management to discuss the scope and findings of this inspection. Based on the NRC Region I review of this report and discussions held with Niagara Mohawk representatives, it was determined that this report does not contain Safeguards or 10 CFR 2.790 information.

ATTACHMENT A

N2-OSP-ICS-CS001	RCIC VALVE OPERABILITY TEST (COLD SHUTDOWN), Rev. 0
N2-OSP-ICS-Q001	RCIC VALVE OPERABILITY TEST, Rev. 1
N2-OSP-ICS-Q002	RCIC PUMP AND VALVE OPERABILITY TEST AND SYSTEM INTEGRITY TEST, Rev. 1
N2-OSP-ICS-R003	RCIC VALVE POSITION INDICATOR VERIFICATION, Rev. 0
N2-OSP-ICS-R@001	RCIC PRESSURE ISOLATION VALVE LEAKAGE TEST, Rev. 1
N2-OSP-CSH-CS001	HPCS COLD SHUTDOWN VALVES OPERABILITY TEST, Rev. 0
N2-OSP-CSH-M001	HPCS DISCHARGE PIPING FILL AND VALVE LINE-UP VERIFICATION AND CHECK VALVE OPERABILITY TEST, Rev. 0
N2-OSP-CSH-Q001	HPCS VALVE OPERABILITY TEST, Rev. 0
N2-OSP-CSH-Q002	HPCS PUMP AND VALVE OPERABILITY AND SYSTEM INTEGRITY TEST, Rev. 1
N2-OSP-CSH-R002	HPCS VALVE POSITION INDICATION VERIFICATION, Rev. 0
N2-OSP-CSH-R@001	HPCS PRESSURE ISOLATION VALVE LEAKAGE TEST, Rev. 0
N2-OSP-CPS-Q001	PRIMARY CONTAINMENT PURGE VALVE OPERABILITY TEST, Rev. 0
N2-OSP-CPS-R001	PRIMARY CONTAINMENT PURGE VALVE POSITION INDICATION VERIFICATION, Rev. 0
N2-OSP-GTS-Q001	STANDBY GAS TREATMENT SYSTEM VALVE OPERABILITY TEST, Rev. 1
N2-OSP-GTS-R001	STANDBY GAS TREATMENT SYSTEM POSITION INDICATION VERIFICATION, Rev. 0

ATTACHMENT B

12177-PID-33A-8	HIGH PRESSURE CORE SPRAY SYSTEM
12177-PID-33B-6	HIGH PRESSURE CORE SPRAY SYSTEM
12177-PID-35A-4	REACTOR CORE ISOLATION COOLING
12177-PID-35B-5	REACTOR CORE ISOLATION COOLING
12177-PID-35C-6	REACTOR CORE ISOLATION COOLING
12177-PID-35D-3	REACTOR CORE ISOLATION COOLING
12177-PID-61A-4	PRIMARY CONTAINMENT PURGE & STANDBY GAS TREATMENT
12177-PID-61B-7	PRIMARY CONTAINMENT PURGE & STANDBY GAS TREATMENT