

U.S. NUCLEAR REGULATORY COMMISSION  
REGION I

Report No. 50-410/89-03

Docket No. 50-410

License No. NPF-69

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

Facility Name: Nine Mile Point Nuclear Station, Unit 2

Inspection At: Scriba, New York

Inspection Conducted: January 22-27, 1989

Inspectors: Robert A. McBrearty 2/28/89  
R. A. McBrearty, Reactor Engineer, MPS, date  
EB, DRS

for Robert A. McBrearty 2/28/89  
H. W. Kerch, Senior Reactor Engineer, MPS, date  
EB, DRS

Approved by: Jack Strosnider 2/28/89  
R. Strosnider, Chief, Materials and date  
Processes Section, EB, DRS

Inspection Summary: Inspection on January 23-27, 1989 (Report No.  
50-410/89-03)

Areas Inspected: A routine, unannounced inspection was conducted of inservice inspection activities to ascertain whether the licensee's activities were conducted in compliance with applicable ASME code and regulatory requirements. Particular emphasis was placed on the qualification/certification of NDE personnel including the type of examination used for the SNT-TC-1A required Specific Examination, and the method of testing. Other areas of ISI activities which were inspected include NDE data and tracking of ISI related nonconformance reports. Also inspected were Technical issues identified in an anonymous letter addressed to a member of Niagara Mohawk management which alleged that problems existed in areas related to inservice inspection an Nine Mile Unit 2.

Results: The inspectors concluded, based on the areas inspected, that the licensee's ISI activities were performed in compliance with applicable requirements of the ASME Code, Section XI. One unresolved item was identified regarding the SNT-TC-1A mandated specific examination for certifying NDE personnel.



## DETAILS

### 1.0 Persons Contacted

- \* C. Beckham, Manager, Nuclear Quality Assurance - Operations
- \* W. Connolly, Quality Assurance Program Manager - Unit 1
- \* G. Dolney, Unit Supervisor - ISI
- \* M. Dooley, Supervisor, Nuclear Regulatory Compliance
- \* M. Falise, Superintendent, Maintenance.
- \* A. Kovac, Manager, Q1P
- C. Moss, NDE Level III
- \* V. Perry, Quality Assurance Program Manager
- \* N. Rademacher, Director of Compliance
- \* J. Shepherd, Nuclear Quality Assurance Operations NDE Supervisor

### 2.0 Introduction

At the time of this inspection the plant was in cold shutdown for a mid cycle outage. The areas inspected included: Inservice Inspection (ISI) documentation, tracking of nonconforming items, nondestructive examination (NDE) personnel certification records, QA audits and followup of an ISI program related allegation.

### 3.0 Inservice Inspection Program

The program review performed during this inspection utilized the Inservice Inspection (ISI) program plan, the draft of the First Ten Year Inservice Inspection Plan, the mid cycle outage (Oct 1988) plan and the relief requests submitted to the NRC. The purpose of this review was to ascertain compliance with applicable ASME Code requirements, licensee commitments and regulatory requirements. The licensee's ISI program is intended to meet the requirements of the ASME Boiler and Pressure Vessel Code, Section XI, 1983 Edition through Summer 1983 Addenda. The Nine Mile 2 ISI Program is in its first ten year interval first outage and was prepared and supplemented by the licensee.

Results: Review of a sample of the scheduled ISI inspections indicated that the scheduled first ISI outage examinations were accomplished and met the program schedule. This review also indicated that the requirements of ASME Section XI, 1983 Edition including Summer 1983 Addenda were met.

#### Examination Data Review

During this inspection a random selection of pipe weld examination records were reviewed. The following welds were selected:



- 01-15 SW020
- 2-MSS-01-14-FW027
- 2-RHS-66-13-FW002
- 2RCS-64-00-SW012
- 2RCS-64-00-FWB14
- 2RCS-64-00-FWA13
- 2CSL-26-01-FW029

The purpose of this review of examination records was to verify the adequacy of the licensee's ISI NDE inspections and the quality control of ISI data.

Results: The NDE data reports were neat, comprehensive, and complete. The inspector determined that, when appropriate, comparisons of current NDE outage examination reports were made with the preservice data by the level III in order to resolve issues.

#### 4.0 Quality Audits

The inspector reviewed Niagara Mohawk Audits of National Inspection and Consultants, Inc. (NIC) performed during October 30-31, 1985 and October 13-14, 1988. These audits formed the basis for placing NIC on the Niagara Mohawk approved vendors list for NDE services. The audits were found to be thorough and all findings were satisfactorily resolved.

Results: No violations were identified.

#### 5.0 NDE Personnel Qualification/Certification Records

Qualification/Certification records of National Inspection and Consultants, Inc. (NIC), the contractor supplying ISI personnel to the licensee, were selected for inspection to ascertain that the technicians were certified in accordance with SNT-TC-1A, the governing document. Records of those onsite NIC personnel who were responsible for the ultrasonic examination of austenitic stainless steel piping systems demonstrated that they were trained and certified at the EPRI NDE center for the detection of intergranular stress corrosion cracking as required by NUREG-0313, Revision 2, and Generic Letter 88-01.

An additional inspection area included the type and administration of the Specific Examination required by SNT-TC-1A for the certification of NDE personnel. The American Society for Nondestructive Testing (ASNT) document SNT-TC-1A requires that a Specific Examination be administered to each candidate for certification to a NDE method, and provides guidance regarding the content of the examination. Paragraph 8.3 of the 1980 Edition of SNT-TC-1A states that "the written examination should be administered without access to reference material (closed book) except that necessary data, such as graphs, tables, specifications, procedures, and codes, may be



provided." Also, SNT-TC-1A Interpretation Panel response to Inquiry 77-5 states: "It is intended that codes, specifications, and/or procedures are "necessary data" under Paragraph 8.5 of the 1975 edition of SNT-TC-1A, provided that examination questions are asked that require reference to such data and that such data cannot be used to answer questions related to other closed book portions of the examination."

The inspector determined that contractor ISI personnel are required to successfully complete the licensee's certification examination in the method which they will perform examinations. However, the inspector's review of the licensee's specific examination and accompanying procedure which was used for the certification of ultrasonic examiners showed that the examination was administered as an "open book" test in that reference material was provided for each question in the test and the appropriate reference material was identified. The licensee's NDE Level III stated that he interpreted SNT-TC-1A to allow the use of reference material and that he was not aware of interpretation 77-5, requiring closed book examinations. The Level III was provided the interpretation by the inspector. Based on inspections at other facilities, the NRC has determined that uncertainties exist within the industry regarding the requirement for closed book examinations. In this regard, NRC is aware that another utility has requested further interpretation from the ASNT Interpretation Panel and the licensee was advised to contact the Panel to verify the intent of SNT-TC-1A regarding the use of reference material and "closed book" tests. Cognizant licensee management agreed to pursue the topic with the SNT-TC-1A panel and to correct any deficiencies that are found in the certification process at the facility. This issue is considered unresolved pending licensee action and subsequent NRC review. (50-410/89-03-01)

Notwithstanding the issue of closed book specific examinations, the personnel who performed ISI at the site were experienced technicians who had gained their experience with various organizations prior to their employment at the Nine Mile 2 facility, and their qualifications/certifications, with the exceptions of the foregoing issue, were considered by the inspectors to be satisfactory. The records indicated that the NIC technicians were certified to Level II under the licensee's program, and in addition, the technician's involved in the inspection of austenitic stainless steel were listed on the latest EPRI registry of personnel qualified for the detection of IGSCC.

#### 6.0 Inservice Inspection Related Nonconformance Reports

Nonconformance reports (NCRs) are written by the licensee to document ISI results which do not meet applicable requirements, or require further evaluation to determine their status.





The inspector reviewed selected NCRs to ascertain that corrective actions and dispositions were provided, and that the closeouts were based on completion of the corrective action. The following NCRs, opened during the current outage, were selected for review by the inspector:

- NCR #2-88-0042
- NCR #2-88-0043
- NCR #2-88-0047
- NCR #2-88-0050
- NCR #2-88-0053
- NCR #2-88-0056
- NCR #2-88-0058
- NCR #2-88-0062

The inspection determined that the NCRs were written for a variety of reasons and no particular trend was established. The licensee's program requires that each NCR be reviewed for trending purposes.

Each of the above listed NCRs were closed with the exception of 2-88-0047 which documents a cracked 1" nut on the outlet flange of safety relief valve S/N 160966. The closeouts were based on engineering dispositions which were documented with technical justification.

The tracking and closeout of each NCR was found to comply with the requirements of the governing QA Procedure No. QAP 15.01, Revision 5, entitled "Control of Nonconforming Items." The present system of controlling NCR's assures that all ISI related NCR's will be dispositioned prior to plant restart.

## 7.0 Allegation Followup

NRC Region I received a copy of an anonymous letter which was addressed to the Niagara Mohawk Manager of Nuclear Quality Assurance Operations (NQAO) and which received wide distribution among Niagara Mohawk management. The letter alleged that problems existed in areas related to inservice inspection at Nine Mile Unit 2. The technical concerns expressed in the letter and the relevant NRC inspection findings are presented below.

1. Welds received a surface preparation process with no followup surface examination.

The inspectors found that the subject surface preparation involved surface cleaning in which metal was not removed. The Niagara Mohawk Corporate ISI Coordinator discussed this with Site Engineering (Memo dated January 23, 1989, K. Thomas to R. Pastornak) and concluded that the code does not require surface examination following cleaning operations to prepare a weld for examination. The scope and method



of weld cleaning is identified in Field Letter No. 72 dated September 29, 1988 in which the method of cleaning and cleaning materials are identified.

2. Discrepancies between preservice inspection data and inservice inspection resulted because some indications were removed by the surface preparation operation due to the removal of metal and due also to the use of a shorter dye penetrant dwell time for ISI than was used with PSI.

The surface preparation method was determined to be an acceptable cleaning method that did not result in significant metal removal. Also, the inspector noted that removal of indications during surface preparation is acceptable.

The use of a shorter dwell time (the time liquid penetrant is left on the examination surface) for ISI than for PSI was alleged to be another reason for not detecting some PSI indications by ISI. The ASME Code permits a dwell time ranging from 10 minutes to 30 minutes. The PSI used a 20 minute dwell time vs. a 10 minute ISI dwell time, each of which is permitted by the code and considered to produce comparable results. The major difference between PSI and ISI is that PSI requires that all indications be documented regardless of size, and that ISI reporting requirements are limited by size. The result is that fewer indications would be reported by ISI if PSI reported indications below the ISI reporting threshold. The inspectors found that relevant PSI indications were detected by ISI.

3. Wrong welds were identified and examined.

No evidence was found that wrong welds were identified or examined. Surveillance Report #88-10424 documents that an incorrect snubber support was examined. The correct support was identified and examined, and corrective action was taken to preclude similar problems from recurring.

4. Unapproved isometric drawings were used by ISI technicians.

The inspectors examined weld packages which were provided to ISI technicians for their use in identifying welds to be examined. Each package was found to include an approved isometric and, in some cases, an enlarged copy of the approved isometric which was not, in itself, controlled. The enlargements were found to be exact duplicates of the approved, controlled isometrics and helpful in identifying the correct weld for examination.

Based on the above, the inspectors determined that the allegations were unsubstantiated as addressed in the letter to the Niagara Mohawk NQAQ Manager. The inspectors further determined that the inservice activities which were performed during the current outage were properly done in accordance with applicable code and regulatory requirements except as noted.



## 8.0 Unresolved Items

Unresolved items are matters about which more information is required to ascertain whether they are acceptable items or violations. An unresolved item is discussed in paragraph 5.

## 9.0 Exit Meeting

The inspectors met with licensee representatives (denoted in paragraph 1) at the conclusion of the inspection on January 26, 1989. The inspectors summarized the scope and findings of the inspection.

At no time during the inspection was written material provided by the inspectors to the licensee. The licensee did not indicate that proprietary information was involved within the scope of this inspection.

