NIAGARA MOHAWK

NMP-1071

NIAGARA MOHAWK POWER CORPORATION/300 ERIE BOULEVARD WEST, SYRACUSE, N.Y. 13202/TELEPHONE (315) 474-1511

December 1, 1978

Mr. Eldon J. Brunner, Chief
Reactor Operations and Nuclear Support Branch
United States Nuclear Regulatory Commission
Region I
631 Park Avenue
King of Prussia, PA. 19406

RE: Docket No. 50-220
Inspection Report 78-16

Dear Mr. Brunner:

This refers to the inspection conducted by Mr. R. Architzel of your office on September 26-29, 1978, at the Nine Mile Point Nuclear Station Unit #1. The following responses are submitted to the alleged violations detailed in Appendix A of your letter dated November 14, 1978:

A. Regulatory Guide 1.39, which is referenced in the "Orange Book" states in part: "The requirements and guidelines for the control of work activities, conditions and environments at water cooled nuclear power plant sites which are included in ANSI Standard N45.2.3 - 1973, 'Housekeeping During the Construction Phase of Nuclear Power Plants', are generally acceptable and provide an adequate basis for complying with the pertinent quality assurance requirements of Appendix B to 10 CFR 50, subject to the following: ... (2) Although subdivision 1.1 of ANSI N45.2.3 - 1973 states that the requirements promulgated apply during the construction phase of a nuclear power plant, these requirements should also be considered applicable for housekeeeing during the operations phase ... " ANSI N45.2.3 - 1973, subsection 2.1 requires the establishment of cleanliness requirements for housekeeping activities on a graded zone basis, including restrictions for each zone type.

Contrary to the above, the quality assurance program was not fully implemented as of September 29, 1978, in that the referenced cleanliness requirements for housekeeping were not established.

RESPONSE

In accordance with requirements, appropriate procedures shall be written and the housekeeping program will be initiated by the end-of 1979.

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B. Technical Specification 6.11 states in part: "Procedures for personnel radiation protection shall be ... adhered to ..." Nine Mile Point Nuclear Station Radiation Protection Procedures, states in part II, Contamination Control: "III.A.5 Roping and Tagging. A yellow and magenta rope is used to delineate contaminated areas in the station. The rope is placed to form a barricade around the entire contaminated area.

The standard radiation contamination tag ... is placed on the rope so that personnel can readily determine the conditions inside the roped-off area."

Contrary to the above, on September 29, 1978, the Reactor Building 340 foot level (Refueling Floor) and the Foundation Room outside of the north door of the cable spreading room were contaminated to levels of 5000 and 1000 dpm per 100 centimeters square, respectively, and a contamination tag was not placed on the entrance to these areas as required.

RESPONSE

*In addition to the procedure section referenced, the Radiation Protection Procedures provide for use of a Step Off Pad as "the main deterrent to spread of contamination". The existing procedure section titled, "Area Contamination Protection" describes the use of the SOP, but does not include a description of the information contained on the SOP, and its interpretation. It is intended that areas of moderate contamination (shoe covers adequate for entry) may be designated by SOP and an appropriate barricade (rope or existing physical barriers). This usage of the SOP has been included in Radiation Protection training, and is well understood by station personnel.*

*For increased clarity, the appropriate procedure sections will be revised to reflect more completely the intended practice. The standard radiation-contamination tag will continue to be used when it is necessary to convey information in addition to the requirement of wearing shoe covers for entry (e.g. when contamination levels are such that some additional precautions are desirable).*

*The procedure revisions will be completed by December 31, 1978, at which time we will be in full compliance.*

*Very truly yours,*

R.R. Schneider
Vice President -
Electric Production

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

Region I

Report No. 78-16

Docket No. 50-220

License No. DPR-63 Priority -- Category C

Licensee: Niagara Mohawk Power Corporation
300 Erie Boulevard West
Syracuse, New York

Facility Name: Nine Mile Point Station; Unit 1

Inspection at: Syracuse and Scriba, New York

Inspection conducted: September 26-29, 1978

Inspectors: R. Architzel, Reactor Inspector — 11/8/78 date signed

_____ date signed

_____ date signed

Approved by: E. C. McCabe, Jr., Chief, Reactor Projects Section No. 2, RO&NS Branch — 11/13/78 date signed

Inspection Summary:

Inspection on September 26-29, 1978 (Report No. 50-220/78-16)
Areas Inspected: Routine, unannounced inspection of housekeeping and cleanliness; and, IE Bulletin and Circular response. A plant tour was conducted. The inspection involved 6 inspector-hours at the corporate offices and 21 inspector-hours onsite by one NRC regional based inspector.
Results: Of the two areas inspected, no items of noncompliance were identified in one area; two items of noncompliance were identified in the other (Infraction - failure to implement ANSI N45.2.3 housekeeping requirements (paragraph 3.a); and, Deficiency - failure to implement procedure for posting of contaminated area (paragraph 3.c)).

## DETAILS

1. Persons Contacted

V. Au Clair, Station Shift Supervisor
K. Dalbert, Electrical Maintenance Engineer
W. DiAngelo, Engineering Department, Syracuse
*J. Duell, Assistant Radiation Protection Supervisor
*D. McVitty, Technical Assistant to Plant Superintendent
*T. Perkins, Station Superintendent
N. Rademacher, Engineering Department, Syracuse
R. Raymond, Fire Protection Coordinator
R. Thaber, NMP Engineer, Stone and Webster Corporation

* denotes those present at the exit interview

Other licensee employees were also contacted.

2. Licensee Action on Previous Inspection Findings

Inspection Report No. 220/76-10, Paragraph 6.a, Review of Off Gas System Preoperational Test (POT). The inspector reviewed the completed POT, dated June 15, 1976, for the new Off Gas System, Steam Supply, Ventilation and Associated Piping. This review was conducted in conjunction with a review of the licensee's response to IEB 78-03, paragraph 6.g. No unacceptable conditions were identified.

3. Cleanliness and Housekeeping

a. Procedures

An inspection was conducted to determine that the licensee had developed and implemented appropriate controls and procedures in the areas of cleanliness and housekeeping.

The inspector reviewed the following procedures and controls:

-- APN 11, Housekeeping and Cleanliness Control, dated July 25, 1977

-- N1-FHP-2, Reactor Building Clean Room Access Control, dated March 8, 1977

-- N1-FHP-2A, Reactor Building Clean Room Work and Tool Control, dated March 8, 1977

-- N1-FHP-3, Reactor Building Clean Room Clothing Requirements, dated January 25, 1977

-- Quality Control - Operations Surveillance Report 78-20, Housekeeping and Cleanliness Control, dated April 25, 1978

-- Quality Control - Operations Surveillance Report 78-21, Compliance with Regulatory Guide 1.39 and ANSI N45.2.3, dated May 12, 1978

-- N1-FHP-1, Supervisors Weekly Plant Tour, selected completed tour checksheets

During this review, the inspector noted that no specific requirements had been established relating to material accountability in critical clean areas such as openings in the Engineered Safeguards Systems and Primary (Recirculation, Cleanup, Isolation Condenser Piping) system with the exception of the reactor vessel, nor were controls established for the cleanup of components which have been repaired or replaced in these systems.

During a review of the requirements in this area, the inspector noted that the licensee's Quality Assurance Program had not been fully implemented. The requirements of ANSI N45.2.3 - 1973, "Housekeeping During the Construction Phase of Nuclear Power Plant," relating to the establishment of housekeeping zones and appropriate controls (Section 2.1) were not established in the licensee's procedures. This is an item of noncompliance (220/78-16-01).

b. Facility Tour

A facility tour was conducted in the company of a licensee representative. Areas inspected included the Control Room, Turbine Building, Cable Spreading Room, Administration Building and accessible areas in the Reactor Building. The following were among the items observed:

-- Implementation of the housekeeping and cleanliness control referenced in paragraph (a) above;

-- Radiation controls properly established;

-- No fluid leaks of significance;

-- Pipe vibration, including the condition of hangers and seismic restraints;

-- Control Room manning in accordance with Technical Specification requirements; and,

-- Reasons for lighted annunciators in the Control Room.

An item of noncompliance and an unresolved item were identified as described in paragraphs (c) and (d) below.

c. During entry into two areas of the facility, the inspector noted that levels of contamination were not posted as required. The areas were the Reactor Building (340' level) Refueling Floor and the Foundation Room outside the north door of the Cable Spreading Room. The licensee stated that the primary protection for the spread of contamination was the use of step-off pads. These were in place. Surveys showed contamination levels in these areas to be 5000 (Refuel Floor) and 1000 (Foundation Room) dpm per 100 $cm^2$, however, the required tags were not placed at the entrances. This is an item of noncompliance (220/78-16-02).

d. During the conduct of the tour, the inspector noted that several devices had apparently not been properly reassembled following maintenance. Specifically:

-- The bottom hold down screws were not installed on four Yarway Reactor Water Level Instruments (RE 05A, 02A, 02B and 05B). These devices are used for reactor scram and emergency core cooling system initiation

-- Spray covers were not bolted down on three transmitters (ID 13A Reactor Water Level, Feedwater Control System; ID 46A Reactor Water Level Wide Range Indication; and, IG-06B, 318' elevation, function not determined by the inspector). The licensee stated that these items would be corrected immediately and that technicians concerned would be counseled concerning the quality of their work. This item is unresolved pending completion of the licensee's actions (220/78-16-03).

4. IE Circular 78-08, "Environmental Qualification of Safety-Related Electrical Equipment"

a. Purpose of Inspection

The purpose of this inspection was to verify that the licensee was familiar with the concerns identified in IE Circular 78-08, and that appropriate action was being taken by the licensee to review

the status of environmental qualification of safety-related electrical equipment/instrumentation at his facilities.

b. Assignment of Responsibility

The licensee had performed an initial evaluation of Nine Mile Unit 1 plant circumstances, as they related to the Bulletins referenced in IE Circular 78-08. A detailed comparison of plant circumstances, as they relate to the referenced Bulletins and the other 14 references in Circular 78-08, will be performed. The licensee stated that this review would be completed prior to restart following the February, 1979, refueling outage.

The inspector identified and discussed the following areas of special concern, as related to safety-related equipment, under postulated accident conditions with the licensee.

(1) Connectors: environmental qualification data

(2) Penetrations: environmental qualification of the penetration assembly

(3) Terminal Blocks: environmental qualification of terminal blocks located within terminal block enclosures and unprotected terminal block enclosures

(4) Limit Switches: environmental qualification of valve travel limit switches and stem mounted valve position limit switches on containment system isolation valves that provide valve position indication to the control room operator

(5) Cable Splices: environmental qualification of electrical cable splices inside containment. Splices associated with electrical penetrations and splices in safety-related cables

(6) Environmental Qualification: temperature, pressure, humidity, chemicals, radiation values, duration of testing and other appropriate parameters used in the qualification program

(7) Electrical Transmitters: electrical transmitters located within containment such as those used for pressure, flow, level, and temperature that are required to be operable during and after the postulated accident

(8) Motors used on pumps, fans, valve operators and other components located within containment and required to be operable during and after the postulated accident

(9) Process Control: the methods and techniques used in preparing hardware such as potting material used in qualifying cable connectors should be considered a part of the qualification of the item if it is critical to passing the environmental qualification test

(10) Certified test data correlated to DBA environment

(11) Manufacturer's Specification, Purchase Specifications, Manufacturer's Certification of Conformance

(12) Correlation of installation to qualified installations, including comparison of enclosure and component sizes, materials, field work, and orientation (horizontal, vertical)

(13) Representative inspection of "As Is" installation, documenting the quality of terminations/splices and the integrity of enclosures (ex: checks made for open boxes, missing bolts, multiple and crimped terminations on terminal blocks, inadequate conductor bend radii, conductor jacket/splice/terminal log integrity, etc.)

The licensee acknowledged the inspector's comments. IE Circular 78-08 will remain open pending completion of the licensee's actions in this area and inspection by the NRC.

5. Drywell Temperatures

Recent NRC inspections at Region I, Boiling Water Reactors has revealed that during normal operation, temperatures in the upper regions of the Drywell, exceed the design. Review of the Auxiliary Control Room (RTD)(Resistance Temperature Devices) revealed the following temperatures (°F) during this inspection: (RTD Number in parenthesis)

| | | | | |
|---|---|---|---|---|
| Drywell Bottom | 108° (53) | 112° (54) | 102° (55) | BAD (56) |
| Drywell Lower Middle | 119° (49) | 116° (51) | | |

| | | | |
|---|---|---|---|
| Drywell Upper Middle | 136° (46) | 143° (47) | 131° (48) |
| Drywell, Bottom of Neck | 132° (45) | | |
| Drywell, Middle of Neck | 161° (44) | | |
| Drywell, Top | 368° | | |

The licensee stated that the Drywell (top) RTD was apparently not reading properly. Design Drywell temperature is 150°F. The inspector stated that this item will remain open pending repair of the bad RTDs and evaluation of the indicated temperatures (220/78-SB-07).

6. NRC Bulletins

The inspector reviewed the action taken on the following NRC Bulletins. In each case, the inspector found that a member of the plant staff had been assigned responsibility for the specified reviews and analysis. Plant administrative controls were used to track the engineering review and implementation of any required actions.

a. Bulletins 77-05, 5A Electrical Connector Assemblies

The licensee initially reported to these Bulletins in a letter, dated November 28, 1977. Connectors of the pin and socket type are used at Nine Mile Point, Unit 1. These connectors were made by D. G. O'Brien Company. These connectors were unqualified and the licensee commenced a qualification testing program, which was completed satisfactorily by the Franklin Institute. The inspector reviewed the licensee's correspondence to the NRC and the Franklin Institute Test Reports. These Bulletins remain open pending further review of the qualification testing and the licensee's actions on IE Circular 78-08.

b. Bulletin 78-04, Environmental Qualification of Certain Stem Mounted Limit Switches in Reactor Containment

The licensee has determined that NAMCO type D2400X or EA-170-302 Snap Lock Switches are not utilized in safety-related applications inside primary containment. The inspector reviewed a letter,

dated July 29, 1975 from the licensee to the NRC describing the environmental qualification testing performed for the Main Steam Line Isolation Valve position switches. The qualification testing will be examined in more detail during a subsequent inspection.

c. Bulletin 77-06, Potential Problems with Containment Electrical Penetration Assemblies

The licensee responded to this Bulletin in a letter, dated November 30, 1977. Containment electrical penetration assemblies of the type described in this bulletin are not used at Nine Mile Point, Unit 1. The inspector reviewed the FSAR description of the penetration and examined the exterior of several penetrations, and had no further questions in this area.

d. Bulletin 78-06, Defective Cutler-Hammer Type M Relays with DC Coils

As reported by the licensee, Cutler-Hammer Type M, DC relays, catalog number D23 MRD are not used at Nine Mile Point, Unit 1 in safety-related systems. The inspector had no additional questions at this time.

e. Bulletin 78-10, Bergen-Paterson Hydraulic Shock Suppressors

As reported by the licensee, the suppressors at Nine Mile Point, are outside of the referenced range of serial numbers. Ready spares were also examined. The inspector had no additional questions in this area.

f. Bulletin 78-05, Malfunctioning of Circuit Breaker Auxiliary Contact Mechanism - General Electric Model CR105X

The licensee responded to this Bulletin in a letter, dated May 9, 1978. A plant review had been conducted and 7 devices were identified as using the auxiliary interlocks. The devices were replaced during an unscheduled outage in July, 1978. The inspector also discussed a recent failure of NEMA Size 2 contactors caused by loose plunger screws. The licensee acknowledged the inspector's comments.

g. Bulletin 78-03, Potential Explosive Gas Mixture Accumulations Associated with BWR Off Gas System Operations (Unit 1)

The licensee responded to this Bulletin in a letter, dated March 13, 1978. The Nine Mile Point system operates in a vacuum, therefore, if a leak develops in the system, there will be no potential for buildup of gases outside the system. The inspector reviewed procedure NI-OP-2S, Condenser Air Removal and Off Gas System, dated May 26, 1978. This procedure includes off normal condition required actions. The inspector also reviewed the "as built" drawing for the Main Condenser Air Removal System (C-18010-C). The inspector had no further questions in this area.

h. Bulletin 78-02, Terminal Block Qualification

The licensee responded to this bulletin in a letter, dated February 6, 1978. The response stated that terminal blocks which must function in a post accident environment are enclosed in NEMA Class 12 enclosures. During this inspection, the inspector requested to see the qualification data for these terminal strips. (EB 5, General Electric Catalog No. P-5423482 G 12 Terminal Strips are enclosed in NEMA Class 12 (Drip proof) Enclosures). These strips are utilized in the circuitry for the Electromatic Relief valves. The licensee stated that qualification information would be supplied for these strips and noted that the Bulletin had referenced EB 5 strips in NEMA 12 enclosures as passing environmental qualification testing. This Bulletin remains open pending NRC review of qualification of the EB 5 terminal strips.

i. Bulletin 78-01, Flammable Contact - Arm Retainers in GE CR120A Relays

The licensee developed and implemented a program replacing all Celcon contact arm retainers with Valox parts. The replacement was accomplished during the period May - June, 1977.

7. Unresolved Items

An item about which more information is required to determine acceptability is considered unresolved. Paragraph 3.d contains an unresolved item.

8. Exit Interview

At the conclusion of the inspection, the inspector held a meeting (see paragraph 1 for attendees) to discuss the inspection scope and findings. The items of noncompliance and unresolved items were identified.