NIAGARA MOHAWK POWER CORPORATION

NIAGARA MOHAWK

300 ERIE BOULEVARD, WEST
SYRACUSE, N. Y. 13202

November 30, 1977

Mr. Boyce H. Grier, Director
United States Nuclear Regulatory Commission
Region 1
631 Park Avenue
King of Prussia, Pennsylvania 19406

Re: Docket No. 50-220
I.E. Bulletin No. 77-06

Dear Mr. Grier:

In response to I.E. Bulletin No. 77-06 dated November 22, 1977 for Nine Mile Point Nuclear Station Unit 1, the following information is provided.

Question 1.0: Do you have containment electrical penetrations that are of the GE Series 100, or otherwise similar in that they depend upon an epoxy sealant and a dry nitrogen pressure environment to ensure that the electrical and pressure characteristics are maintained so as to insure the functional capability as required by the Plant Safety Analysis Report; namely; (1) to insure adequate functioning of electrical safety related equipment, and (2) to insure continual tightness?

Response 1.0: General Electric Series 100 electrical penetration or other epoxy type sealant penetrations are not installed at Nine Mile Point Unit 1.

Question 1.1: Have you experienced any electrical failures with this type of penetration?

Response 1.1: This question is not applicable to Nine Mile Point Unit 1. Additionally, we have not experienced electrical penetration failures.

Question 2.0: For those penetrations referenced in item 1 above, have you maintained the manufacturers prescribed pressure at all times?

Response 2.0: This question is not applicable to Nine Mile Point Unit 1.

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Question 2.1: If you have operated the penetrations without maintaining a nitrogen pressure, was any degradation of insulation resistance or anomalous component operation detected.

Response 2.1: This question is not applicable to Nine Mile Point Unit 1. Penetrations at Unit 1 do not require maintaining a nitrogen pressure to prevent insulation degradation of anomalous component operation.

Question 2.2: If no measurements were taken during periods when nitrogen pressure was not maintained, how will you assure that the insulation resistance was not degrading or degraded.

Response 2.2: This question is not applicable to Nine Mile Point Unit 1.

Question 2.3: How do you determine the circuit insulation resistance values are satisfactorily maintained?

Response 2.3: A preventative maintenance program is used to determine insulation resistance values on all safety related power and control circuits. Checks are conducted once each operating cycle. No degradation in resistance has been detected.

Question 3.0: Is there a need as determined by either the vendor or yourself to maintain penetrations pressurized during a loss of coolant accident?

Response 3.0: The Nine Mile Point Unit 1 electrical penetrations do not require that a pressure be maintained on the penetration.

Question 3.1: What measures have you taken to insure that penetrations of this type will perform their design function under loss of coolant conditions?

Response 3.1: Series 100 General Electric electrical penetrations are not installed. The penetrations are designed to function after a postulated loss of coolant accident. The penetrations have been tested to the design basis loss of coolant accident pressure. The penetration nozzles are carbon steel, welded to the containment liner. A viton "O" ring is used to seal each penetration flange to the nozzle. The flange is secured with bolts to the nozzle. The penetration viton "O" rings will accept the post-loss of coolant accident environment. Viton "O" rings seals were qualified in a simulated loss of coolant accident test performed for the Maine Yankee Plant. This information was provided in our response to I.E. Bulletin 77-05 and 77-05A.

Question 3.2: Are the measures that provide this assurance adequate to satisfy the Commission's regulations?

Response 3.2: As discussed on page III-2 of the "Technical Supplement to Petition for Conversion from Provisional Operating License to Full Term Operating License July 1972", the primary containment meets General Design

Response 3.2: (Continued)

Criteria 4 of 10CFR50. The Quality Assurance Program for safety related equipment including electrical penetrations discussed in the Twelfth Supplement to the Final Safety Analysis Report meets the requirements of 10CFR50 Appendix B. This includes modifications, testing and surveillance of the electrical penetrations. The requirements of 10CFR50 Appendix B were not in effect during the construction and design of Unit 1. However, a Quality Assurance Program was used to construct the plant.

Very truly yours,

R. R. Schneider
Vice President - Electric Production

NLR:pv

CENTRAL FILES

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
631 PARK AVENUE
KING OF PRUSSIA, PENNSYLVANIA 19406

November 30, 1977

Docket No. 50-220

Niagara Mohawk Power Corporation
ATTN: Mr. R. R. Schneider
Vice President
Electric Operations
300 Erie Boulevard West
Syracuse, New York 13202

Gentlemen:

The enclosed IE Circular 77-15 is forwarded to you for information. No written response is required. Should you have any questions related to your understanding of this matter, please contact this office.

Sincerely,

Robert V. Carlson
for Boyce H. Grier
Director

Enclosures:
1. IE Circular 77-15
2. List of IE Circulars Issued in 1977

cc w/encls:
T. E. Lempges, General Superintendent, Nuclear Generation
T. J. Perkins, Station Superintendent
C. L. Stuart, Operations Supervisor
E. B. Thomas, Jr., Esquire
A. Z. Roisman, Counsel for Citizens Committee for Protection of the Environment

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UNITED STATES NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT
WASHINGTON, D. C. 20555

IE Circular No. 77-15
Date: November 30, 1977

DEGRADATION OF FUEL OIL FLOW TO THE EMERGENCY DIESEL GENERATOR

During surveillance testing on July 14, 1977, personnel at the Cooper Nuclear Station noted a degradation of fuel oil flow to the day tank for the emergency diesel generator. Although the fuel oil transfer pump capacity is 13.8 gpm for each of the two redundant pumps, flow to the day tank for number one diesel generator was only 3 gpm. At full load, engine consumption is 4.5 gpm.

Investigation of this occurrence revealed a clogged strainer in a float operated shutoff valve on the day tank inlet. This valve operates as a backup to level switches which start and stop the fuel oil transfer pumps to maintain normal day tank level. The strainer is an integral part of the float valve assembly and is not shown on the as-built system drawings. This valve was manufactured by McDonnell-Millen Company. Station personnel were thus unaware of the presence of this strainer and did not schedule it for routine strainer cleaning under the preventive maintenance program. Normal testing of the system under the Technical Specification surveillance requirements does not verify system flow rates.

This occurrence represents an example where the as-built system configuration was not accurately indicated on the system drawings, and that adequate system description was apparently not available to Station personnel.

All holders of construction permits or operating licenses should be aware of the potential for variance between as-built configurations and system drawings. This is especially true for support systems to the engineered safeguards features where all required system conditions such as pressure and flows may not receive routine testing under the surveillance testing program. It is recommended that the following be considered in your review of this matter:

1. A field verification of the drawing against the as-built system configuration should be made for the entire diesel generator fuel oil delivery system from the storage tanks to the engines. Appropriate changes should be made to the drawings and preventive maintenance program to account for any components or configurations not previously covered.

2. Consideration should be given to revising surveillance test procedures to include a flow test on the fuel oil system to ensure the system continues to meet design specifications.

In addition, the following information relating to the maintenance of fuel oil cleanliness should be considered in your review:

1. During long-time storage, degradation of fuel oil is a common occurrence. The rate of degradation is not easily predicted since it is a function of the source of the crude oil, the process utilized in making the fuel (e.g., straight distillation or the method of catalytic cracking), and the conditions under which the fuel oil is stored.

2. It is known that certain detrimental processes are accelerated in fuel oils when they are in contact with certain metals. The presence of zinc, such as from galvanizing, has a tendency to form soluble soaps in the fuel oil which are deposited on the diesel engine's injection nozzles. A buildup of this deposit will eventually degrade the engine's performance. The presence of copper promotes the formation of gums which degrade the stored fuel oil and tends to clog filters.

3. The presence of water in the fuel oil promotes the growth of fungi or slime that also degrades the fuel and has the potential for clogging filters.

No written response to this Circular is required. If you require additional information regarding this matter, contact the Director of the appropriate NRC Regional Office.

IE Circular No. 77-15 November 30, 1977

LISTING OF IE CIRCULARS ISSUED IN 1977

CIRCULAR NO.	SUBJECT	DATE OF ISSUE	ISSUED TO
77-01	Malfunctions of Limitorque Valve Operators	1-6-77	All holders of Operating License (OL) or Construction Permit(CP)
77-02	Potential Heavy Spring Flooding	2-18-77	All affected holders of OLs
77-02A	Potential Heavy Spring Flooding	2-18-77	All affected holders of CPs
77-03	Fire Inside a Motor Control Center	3-4-77	All holders of OLs and CPs
77-04	Inadequate Lock Assemblies	3-18-77	Safeguard Group I, II, IV, V, Licensees
77-05	Liquid Entrapment in Valve Bonnets	3-29-77	All holders of OLs and CPs
77-06	Effects of Hydraulic Fluid on Electrical Cable	4-5-77	All holders of OLs and CPs
77-07	Short Period During Reactor Startup	4-14-77	Holders of BWR OLs
77-08	Failure of Feedwater Sample Probe	4-18-77	All holders of OLs
77-09	Improper Fuse Coordination In BWR Standby Liquid Control System Control Circuits	5-27-77	All holders of BWR OLs or CPs
77-10	Vacuum Conditions Resulting in Damage to Liquid Process Tanks	7-15-77	All holders of OLs

LISTING OF IE CIRCULARS ISSUED IN 1977 (Continued)

CIRCULAR NO.	SUBJECT	FIRST DATE OF ISSUE	ISSUED TO
77-11	Leakage of Containment Isolation Valves with Resilient Seats	9-6-77	All holders of OLs and CPs
77-12	Dropped Fuel Assemblies at BWR Facilities	9-20-77	All holders of BWR OLs or CPs
77-13	Reactor Safety Signals Negated During Testing	9-23-77	All holders of OLs and CPs
77-14	Separation of Contaminated Water Systems From Noncontaminated Plant Systems	11-28-77	All Power and Test Reactor, Fuel Cycle, and major By-product material processor facilities with OLs or CPs

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R. R. Schneider
Vice President - Electric Production

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