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January 24, 1973

Chairman, Atomic Safety and
Licensing Board Panel
U. S. Atomic Energy Commission
Washington, D. C. 20545

In the Matter of Niagara Mohawk Power Corporation
(Nine Mile Point, Unit No. 1)
Docket No. 50-220

Dear Sir:

Enclosed is a copy of the AEC regulatory staff's letter to the applicant dated January 12, 1973, which requests certain actions to be taken regarding the drywell vacuum breakers at the Nine Mile Point, Unit No. 1 facility.

Sincerely,

Bernard M. Bordenick
Counsel for AEC Regulatory Staff

Enclosure:
As stated

cc w/enclosure
Mr. J. Bruce MacDonald
Arvin E. Upton, Esq.
Secretary of the Commission
Chairman, Atomic Safety and
Licensing Appeal Board
Mr. Frank W. Karas

OFFICE ▷	OGC					Harding
SURNAME ▷	Bordenick:am					
DATE ▷	1/24/73					

Form AEC-318 (Rev. 9-53) AECM 0240 ☆ U. S. GOVERNMENT PRINTING OFFICE: 1972—466-983

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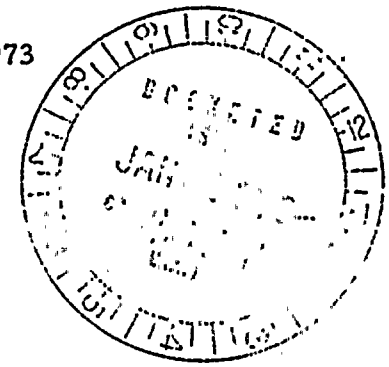
UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

50-220

January 24, 1973



Chairman, Atomic Safety and
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Washington, D. C. 20545

In the Matter of Niagara Mohawk Power Corporation
(Nine Mile Point, Unit No. 1)
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Mr. Frank W. Karas

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

January 12, 1973

Gentlemen:

Tests of drywell vacuum breakers in some BWR plants have demonstrated that these devices failed to perform properly and did not have accurate valve position indication in the control room. In addition, technical specifications for operability checks and leakage surveillance have been inadequate to assure that the vacuum breakers will not compromise the function of the suppression pool and will fulfill their function as an engineered safety system.

As a result of this experience, it is requested that the following actions regarding the drywell vacuum breakers be taken for your nuclear power station:

Immediate Action:

1. Check the position of each vacuum breaker by direct visual inspection, if possible, or by position indicators.

2. Close those vacuum breakers that are open. If the position cannot be ascertained to be closed, take immediate remedial action to assure closure.

Within 60 days provide the Commission with a report that includes:

1. Information regarding the plant vacuum breakers, including:

   a. Number installed.

   b. Location of the installed vacuum breakers.

   c. Size of each.

d. Design differential pressure to open, the test methods used to verify opening of the vacuum breakers and the test results.

e. Manufacturer, model number, ratings, and modifications, if any, of the vacuum breakers and position switches.

f. Installed assembly drawing, including testing equipment and position switches.

g. Materials used in the vacuum breaker and position switch, including seals, seats, bearings, lubricant, body and operating parts.

h. Position indicators and alarm locations, design criteria, surveillance requirements, and redundancy of position switches, circuits, indicators and alarms.

i. Capability of parts and their design life in the most severe suppression chamber operational transient and accident environments. Discuss possible deleterious effects of chemicals present during the surface preparation and application of the suppression chamber coating and of nitrogen on vacuum breaker system materials. Advise what tests have been performed on the vacuum breakers and their position indication system in a simulated accident environment.

2. For the tests performed on each vacuum breaker system, provide a brief description of acceptance criteria and test results, including:

   a. Preoperation and periodic surveillance tests.

   b. Other tests and reasons for the tests.

3. A description of corrective action taken to remedy any failure of the vacuum breakers or their position indication system, including a discussion of the cause of the failure.

4. A description of the station procedures or checks used to assure that the vacuum breakers:

   a. Function properly prior to startup.

   b. Are closed after completion of pre-startup functional checks.

   c. Are maintained properly.

5. A curve showing total allowable drywell to torus bypass area, in terms of equivalent orifice area, as a function of various primary system break areas for containment design and test pressures and indicate the fraction of this total bypass area that is allowable for the vacuum breakers. Show the limiting condition of operation for vacuum breaker bypass area on this graph.

6. A discussion, based on the information provided in item 5, of the allowable distance in inches the vacuum breaker can be off its seat and the degrees away from the closed position with the pivot point as the apex.

7. The flow vs area characteristics of the vacuum breaker and a curve showing vacuum breaker bypass area vs degrees the vacuum breaker is open from closed to full open.

8. An analysis of the capability of the drywell sprays and the suppression chamber sprays to accommodate primary system break areas, including a curve of break areas vs total bypass area within sprays' capability. Include a discussion of the availability of sprays, considering interlocks, during a LOCA.

9. Additional equipment and systems and/or modifications to existing equipment and systems proposed to assure that malfunction of vacuum breakers can be detected reliably and appropriate action can be taken.

10. Proposed technical specifications for limiting condition of operation and surveillance requirements with bases regarding the drywell vacuum breakers.

<u>During the next refueling outage:</u>

1. Perform the following tests and submit the results to the Commission in the subsequent semiannual report:

   a. Pressurize the drywell to an appropriate pressure above the suppression chamber pressure and determine the leakage rate to the suppression chamber over a sufficient period of time to assure reliability of leakage data, compensating for temperature difference. If the leakage rate exceeds the allowable, as determined in item 5 of the 60-day report, take the appropriate corrective measures and retest until the total leakage rate is acceptable.

b. Test each vacuum breaker to assure that it will open with a specified suppression chamber pressure above drywell pressure to prevent drywell failure due to external pressure.

c. Check and adjust each vacuum breaker position switch to assure that an alarm in the control room will be actuated at the time or before the vacuum breaker is opened to the amount specified as a limiting condition of operation.

d. Determine that both the opened and closed positions, within allowable limits, of each vacuum breaker are properly indicated in the control room.

Three signed originals and thirty-seven copies of your submittals are required.

Sincerely,

Donald J. Skovholt
Assistant Director for
Operating Reactors
Directorate of Licensing

cc:

Docket Nos. 50-237 and
50-249

Commonwealth Edison Company
ATTN: Mr. Byron Lee, Jr.
Assistant to the President
Post Office Box 767
Chicago, Illinois 60690

cc: John W. Rowe, Esquire
Isham, Lincoln & Beale
Counselors at Law
One First National Plaza
Chicago, Illinois 60670

Morris Public Library
604 Liberty Street
Morris, Illinois 60451
(For Docket Nos. 50-237 & 50-249)

Docket No. 50-133

Pacific Gas and Electric Company
ATTN: Mr. Frederick T. Searls
Vice President and General
Counsel
77 Beale Street
San Francisco, California 94106

cc: Philip A. Crane, Jr.
Pacific Gas and Electric Company
77 Beale Street
San Francisco, California 94106

Docket No: 50-220

Niagara Mohawk Power Corporation
ATTN: Mr. Thomas J. Brosnan
Vice President and
Chief Engineer
300 Erie Boulevard West
Syracuse, New York 13202

cc: Arvin E. Upton, Esquire
LeBoeuf, Lamb, Leiby & MacRae
1821 Jefferson Place, N. W.
Washington, D. C. 20036

Oswego City Library
120 East Second Street
Oswego, New York 13126

Docket No. 50-245

The Millstone Point Company
ATTN: Mr. D. C. Switzer
President
P. O. Box 270
Hartford, Connecticut 06101

cc: Mr. Anthony E. Wallace, Pres.
The Connecticut Light & Power Co.

Mr. J. R. McCormick, Pres.
The Hartford Elec. Light Co.

Mr. Robert E. Barrett, Jr., Pres.
Western Massachusetts Elec. Co.

Mr. William H. Cuddy
Day, Berry & Howard

Waterford Public Library
Rope Ferry Road, Route 156
Waterford, Connecticut 06385

Docket No. 50-263

Northern States Power Company
ATTN: Mr. Arthur V. Dienhart
Vice President of Engineering
414 Nicollet Mall
Minneapolis, Minnesota 55401

cc: Gerald Charnoff
Shaw, Pittman, Potts, Trowbridge & Madden

Environmental Library of Minnesota
1222 S. E. 4th Street
Minneapolis, Minnesota 55414

UNITED STATES OF AMERICA
ATOMIC ENERGY COMMISSION

1-23-73

In the Matter of	)	
	)	
NIAGARA MOHAWK POWER CORPORATION	)	Docket No. 50-220
	)	
(Nine Mile Point, Unit No. 1)	)	

CERTIFICATE OF SERVICE

I hereby certify that copies of the annexed letter dated January 23, 1973, in the captioned matter, have been served on the following by deposit in the United States mail, first class, or air mail, this 23rd day of January, 1973:

Arvin E. Upton, Esq.
LeBoeuf, Lamb, Leiby & MacRae
1821 Jefferson Place, N.W.
Washington, D.C. 20036

Secretary of the Commission
U.S. Atomic Energy Commission
Washington, D.C. 20545

Chairman, Atomic Safety and
Licensing Appeal Board
U.S. Atomic Energy Commission
Washington, D.C. 20545

Chairman, Atomic Safety and
Licensing Board Panel
U.S. Atomic Energy Commission
Washington, D.C. 20545

Mr. Frank W. Karas
Chief, Public Proceedings Staff
Office of the Secretary of the
Commission
U.S. Atomic Energy Commission
Washington, D.C. 20545

J. Bruce MacDonald

J. Bruce MacDonald

STATE OF NEW YORK
DEPARTMENT OF COMMERCE
112 STATE STREET
ALBANY

J. BRUCE MacDONALD
COUNSEL

January 23, 1973

Bernard M. Bordenick, Esq.
Counsel for AEC Regulatory Staff
U.S. Atomic Energy Commission
Washington, D.C. 20545

Dear Mr. Bordenick:

Re: Niagara Mohawk Corporation
(Nine Mile Point, Unit No. 1)
Docket No. 50-220

This is to confirm the understanding of the regulatory staff that the State of New York Atomic Energy Council did not intend to request a hearing by the filing of its petition in the above matter.

Sincerely,

J. Bruce MacDonald

J. Bruce MacDonald
Deputy Commissioner
and Counsel
NYS Department of Commerce
and Counsel to the
Atomic Energy Council