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SCHWENCER,A. Licensing Branch 2

SUBJECT: Forwards revised response to FSAR Question 210.62 re leak testing of pressure isolation valves,as requested by O Rothberg.Info requested as result of telcon between util & O Rothberg.

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NIAGARA MOHAWK

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

October 5, 1984
(NMP2L 0186)

Mr. A. Schwencer, Chief
Licensing Branch No. 2
Division of Licensing
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Dear Mr. Schwencer:

Re: Nine Mile Point Unit 2
Docket No. 50-410

Enclosed is a revised response requested by Mr. O. Rothberg on the leak testing of pressure isolation valves. This subject is addressed in Final Safety Analysis Report question 210.62.

This information was requested as a result of conference calls between Niagara Mohawk and Mr. O. Rothberg, of the Nuclear Regulatory Commission.

The enclosed information will be included in the next Final Safety Analysis Report Amendment.

Very truly yours,

T. E. Lempges
Vice President
Nuclear Generation

TEL/DS:ja
Enclosure
xc: Project File (2)

R. Gramm, NRC Resident Inspector

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of	)	
	)	
Niagara Mohawk Power Corporation	)	Docket No. 50-410
	)	
(Nine Mile Point Unit 2)	)	

AFFIDAVIT

T. E. Lempges, being duly sworn, states that he is Vice President of Niagara Mohawk Power Corporation; that he is authorized on the part of said Corporation to sign and file with the Nuclear Regulatory Commission the documents attached hereto; and that all such documents are true and correct to the best of his knowledge, information and belief.

T E Lempges

Subscribed and sworn to before me, a Notary Public in and for the State of New York and County of Onondaga, this 5th day of October, 1984.

Christine Austin
Notary Public in and for
Onondaga County, New York

My Commission expires:

CHRISTINE AUSTIN
Notary Public in the State of New York
Qualified in Onondaga Co. No. 4787687
My Commission Expires March 30, 1985

CHRISTINE AUSTIN
Notary Public in the State of New York
Qualified in Onondaga Co. No. 4707627
My Commission Expires March 30, 19__

QUESTION F210.62 (3.9.6)

There are several safety systems connected to the reactor coolant pressure boundary that have design pressure below the rated reactor coolant system (RCS) pressure. There are also some systems which are rated at full reactor pressure on the discharge side of pumps but have pump suction below RCS pressure. In order to protect these systems from RCS pressure, two or more isolation valves are placed in series to form the interface between the high pressure RCS and the low pressure systems. The leak tight integrity of these valves must be ensured by periodic leak testing to prevent exceeding the design pressure of the low pressure systems.

Pressure isolation valves are required to be category A or AC per IWV-2000 and to meet the appropriate requirements of IWV-3420 of Section XI of the ASME Code except as discussed below.

Limiting Conditions for Operation (LCO) are required to be added to the technical specifications which will require corrective action; i.e., shutdown or system isolation when the final approved leakage limits are not met. Also, surveillance requirements which will state the acceptable leak rate testing frequency shall be provided in the technical specifications.

Periodic leak testing of each pressure isolation valve is required to be performed at least once per each refueling outage, after valve maintenance prior to return to service, and for systems rated at less than 50% of RCS design pressure each time the valve has moved from its fully closed position unless justification is given. The testing interval should average to be approximately one year. Leak testing should also be performed after all disturbances to the valves are complete, prior to reaching power operation following a refueling outage, maintenance, etc.

The staff's present position on leak rate limiting conditions for operation must be equal to or less than 1 gallon per minute (GPM) for each valve to ensure the integrity of the valve, demonstrate the adequacy of the redundant pressure isolation function and give an indication of valve degradation over a finite period of time. Significant increases over this limiting value would be an indication of valve degradation from one test to another.

The Class 1 to Class 2 boundary will be considered the isolation point which must be protected by redundant isolation valves. In cases where pressure isolation is

provided by two valves, both will be independently leak tested. When three or more valves provide isolation, only two of the valves need to be leak tested.

Provide a list of all pressure isolation valves included in your testing program along with four sets of Piping and Instrument Diagrams which describe your reactor coolant system pressure isolation valves. Also discuss in detail how your leak testing program will conform to the above staff position.

RESPONSE

The valves which separate the reactor coolant pressure boundary (RCPB) from interfacing low-pressure systems are listed in Table 210.62-1.

These valves are included in the Unit 2 Pump and Valve Inservice Testing Program which was developed in accordance with the ASME Boiler and Pressure Vessel Code, Section XI, Subsection IWV. The Unit 2 position is that ASME III requirements provide adequate assurance of valve integrity, specifically:

1. The leak rate test for the NMP2 valves listed in Table 210.62-1 will be performed, as a minimum, at least every 2 years (IWV-3422). This position is justified by the following:

    a. All the listed valves have direct monitoring position indication to verify valve position in the control room.

    b. The low-pressure portions of these interfacing systems are protected from an intersystem overpressurization by the following:

        1) The normal functional differential pressure forces the check valves on their seats. The air operator for these testable check valves cannot open the valves at normal differential pressure (2CSH*AOV101, 2CSL*AOV101, 2RHS*AOV 16A,B,C, 2RHS*AOV39A,B, and 2ICS*AOV156,157).

        2) Electrical interlocks prevent the motor-operated valves from opening when the differential pressure across the valve exceeds specified limits (2CSL*MOV104,

2RHS*MOV24A,B,C) or when the RCS pressure exceeds specific values (2RHS*MOV40A,B; 2RHS*MOV112; 2RHS*MOV113; 2RHS*MOV104; and 2RHS*MOV67A,B).

3) Whenever excessive leakage is present at a pressure boundary isolation valve, pressure in the low-pressure portions of these systems will increase; and, this will annunciate a high-pressure alarm.

4) Excessive leakage will be relieved via relief valves into the suppression pool, where an increase in suppression pool level will be indicated.

5) The high-pressure core spray, low-pressure core spray, and residual heat removal pumps suction piping is protected by an additional check valve on each pump discharge. Pump suctions for these systems and RCIC are protected by relief valves on the pump suction piping.

2. NMPC will specify the leak test medium and test acceptance criteria permitted by the ASME Code (IWV-3425 and -3426).

3. The periodic leak test will be done during refueling outages.

4. After maintenance which is deemed by the Owner to affect leak tightness of the valve, leak testing will be performed prior to returning the valve to service and in accordance with ASME XI.

5. A periodic leak test will be performed whenever the plant has been in cold shutdown of 72 hours or more if leakage testing has not been performed in the previous 9 months.

P&IDs have been supplied with the FSAR and Preservice and Inservice Inspection Plan which describe the reactor coolant system pressure isolation valves. Procedures for the leak rate testing program are under development and will be submitted in the Preservice and Inservice Inspection Plan by December 31, 1984.