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MANGAN,C.V. Niagara Mohawk Power Corp.
RECIP.NAME RECIPIENT AFFILIATION
SCHWENCER,A. Licensing Branch 2

SUBJECT: Forwards info re leakage rate specs to be used for 10CFR50 App J MSIV leak testing & acceptability of ball valves, in response to NRC concerns, MSIV cutaway diagram encl.

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NIAGARA MOHAWK

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

November 30, 1984
(NMP2L 0261)

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

Recently, the NRC has identified a concern regarding Nine Mile Point Unit 2 main steam valve leakage. The attached report addresses the concern identified by Mr. Reed of the Commission's staff.

Very truly yours,

C. V. Mangan
Vice President
Nuclear Engineering & Licensing

NLR:ja
Attachment
xc: R. A. Gramm, NRC Resident Inspector
Project File (2)

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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

C. V. Mangan, 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.

cvmangan

Subscribed and sworn to before me, a Notary Public in and for the State of New York and County of Onondaga, this 30 day of November, 1984.

Janis M. Macro
Notary Public in and for
Onondaga County, New York

My Commission expires:

JANIS M. MACRO
Notary Public in the State of New York
Qualified in Onondaga County No. 4784525
My Commission Expires March 30, 1985

Issue

The NRC indicated that the Nine Mile Point Unit 2 main steam isolation valve leakage was a potential concern. The NRC indicated that information should be provided to the staff regarding the leakage rate specifications to be used for 10CFR50 Appendix J leak testing and information regarding the acceptability of the ball valves.

Response

The Nine Mile Point Unit 2 ball valves were specifically selected because of their low leakage rate criteria. The attached figure is a breakdown diagram of the ball valves showing one of the two sealing surfaces which provide superior leakage control. Recently, Nine Mile Point Unit 2 has provided a 10CFR50.55(e) report which indicated that based on experience at the Liebstadt plant, a potential problem developed which could increase the leakage of the ball valve. To resolve this issue, Liebstadt did a spool bore modification to restore the superior leakage capability of the valves. Subsequently, Liebstadt has gone into commercial operation. Based upon a telephone conversation with members of the technical staff at the Liebstadt plant, we have determined that the ball valves have successfully passed leakage tests and showed an average leakage of less than 1.25 scfh per hour with an applied pressure of 15 psig across each seat. This demonstrates the superior design of the valve.

At the present time, a spool bore modification is in progress for the Nine Mile Point Unit 2 project. This consists of boring out the existing spool bore and cladding the area with Inconel to provide a corrosion resistant surface. This modification is expected to provide superior long term leak tight integrity.

The proposed leakage rate specification (in the Technical Specification) for the main steam line isolation valves has been determined to be 5.5 scfh (at standard conditions of 14.7 psia and 68°F) per valve at test conditions of 40 psig and 80°F. This leakage rate, based upon our calculations, ensures that offsite dose releases and control habitability criteria of 10CFR100 and General Design Criterion 19 of 10CFR50 are met, respectively. This leakage specification is based on leakage through both the upstream and downstream seats. These valves, however, are leak tested by pressurizing between the

seats. When testing the valves this way, measured leakage rate of 15.6 scfh corresponds to a leakage rate of 5.5 scfh across both sets of seats. Additionally, the leakage acceptance criteria for a single mainsteam isolation valve can be increased provided that the total leakage for all lines remains below the allowable leakage rate. For example, the offsite releases and control room dose are still within the acceptable values if the measured leakage rate for a MSIV was 17 scfh (when pressurizing between the seats), when the remaining seven valves meet a measured leakage rate of less than 14 scfh.

As a result of the meeting on November 14, 1984 between the NRC and Niagara Mohawk, the NRC has identified the potential for other bypass leakage sources that should be considered in the analysis. We are currently reviewing this information to determine any potential effects on the main steam valve allowable leakage criteria.

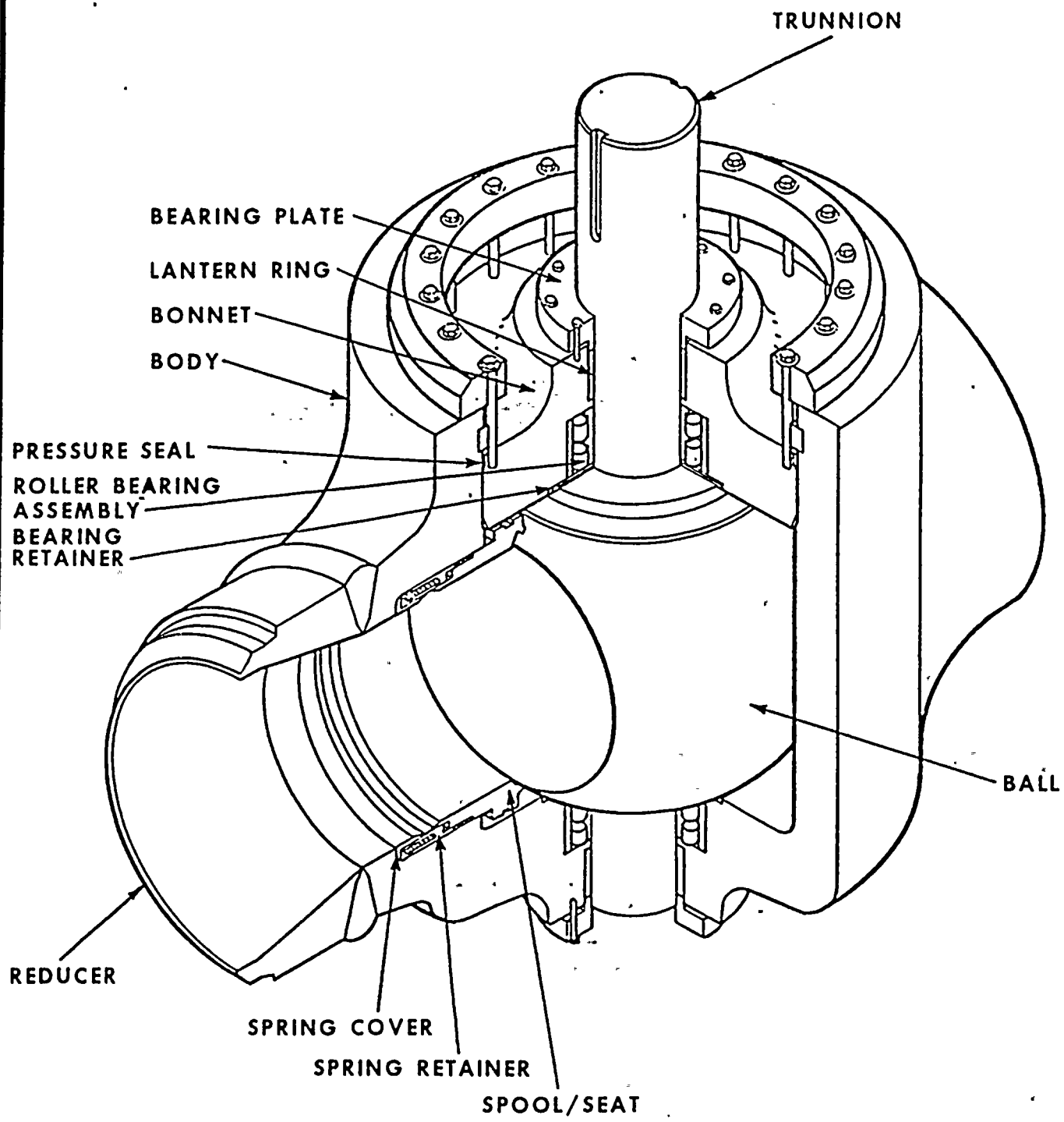

FIGURE 5.4-7

MAIN STEAM ISOLATION VALVE
CUTAWAY VIEW

NIAGARA MOHAWK POWER CORPORATION
NINE MILE POINT-UNIT 2
FINAL SAFETY ANALYSIS REPORT