AEC DISTRIBUTION FOR PART 50 DOCKET MATERIAL
(TEMPORARY FORM)

CONTROL NO: 7092

FROM:	DATE OF DOC:	DATE REC'D	LTR	MEMO	RPT	OTHER
Northern States Power Co. Minneapolis, Minn. 55401 L.O. Mayer	12-22-72	12-29-72	X			

TO:	ORIG	CC	OTHER	FILE
Mr. A. Giambusso	1 signed	39		SENT AEC PDR ✓ SENT LOCAL PDR ✓

CLASS:	INPUT	NO CYS REC'D	DOCKET NO:
(U) PROP INFO		40	50-263

DESCRIPTION: Ltr rpt of torus to drywell vacuum breaker problems at Monticello Plant...

*PLEASE CIRCULATE-INSUFFICIENT CYS FOR FULL DISTIRUBITION

ENCLOSURES:

ACKNOWLEDGED
DO NOT REMOVE.

PLANT NAMES: Monticello Plant

FOR ACTION/INFORMATION DL 12-29-72

BUTLER(L) W/ Copies	SCHWENCER(L) W/ Copies	SCHEMEL(L) W/ Copies	KNIGHTON(E) W/ Copies
CLARK(L) W/ Copies	STOLZ(L) W/ Copies	✓ZIEMANN(L) W/6 Copies	YOUNGBLOOD(E) W/ Copies
GOLLER(L) W/ Copies	VASSALLO(L) W/ Copies	CHITWOOD(FM) W/ Copies	REGAN(E) W/ Copies
KNIEL(L) W/ Copies	H. DENTON W/ Copies	DICKER(E) W/ Copies	W/ Copies

INTERNAL DISTRIBUTION

✓REG FILE	TECH REVIEW	VOLLMER	HARLESS	WADE E
✓AEC PDR	✓HENDRIE	DENTON		SHAFER F & M
✓OGC, ROOM P-506A	✓SCHROEDER	GRIMES	F & M	BROWN E
✓MUNTZING/STAFF	✓MACCARY	GAMMILL	SMILEY	G. WILLIAMS E
✓CASE	LANGE(2)	KASTNER	NUSSBAUMER	E. GOULBOURNE L
✓GIAMBUSSO	PAWLICKI	BALLARD		A/T IND
✓BOYD-L(BWR)	SHAO	SPANGLER	LIC ASST.	BRAITMAN
DEYOUNG-L(PWR)	✓KNUTH		SERVICE L	SALTZMAN
✓SKOVHOLT-L	STELLO	ENVIRO	MASON L	
P. COLLINS	MOORE	MULLER	WILSON L	PLANS
	HOUSTON	DICKER	MAIGRET L	MCDONALD
REG OPR	✓TEDESCO	KNIGHTON	SMITH L	DUBE
✓FILE & REGION (2)	LONG	YOUNGBLOOD	GEARIN L	
✓MORRIS	LAINAS	PROJ LEADER	DIGGS L	INFO
✓STELLE	BENAROYA		TEETS L	C. MILES
		REGAN	LEE L	

EXTERNAL DISTRIBUTION

✓1-LOCAL PDR Minneapolis, Minn.
✓1-DTIE(ABERNATHY)
✓1-NSIC(BUCHANAN)
1-ASLB-YORE/SAYRE
WOODWARD/H. ST.
✓16-CYS ACRS ~~XXXXXXX~~ SENT TO LIC. ASST. R. DIGGS ON 12-29-72

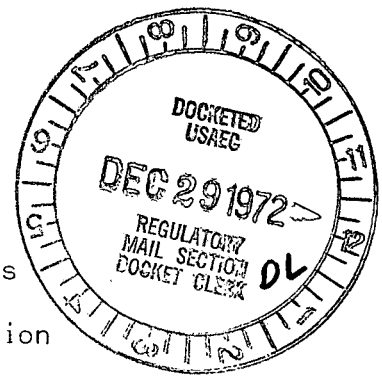
(1)(5)(9)-NATIONAL LAB'S
1-R. CARROLL-OC, GT-B227
1-R. CATLIN, E-256-GT
1-CONSULANT'S
NEWMARK/BLUME/AGABIAN

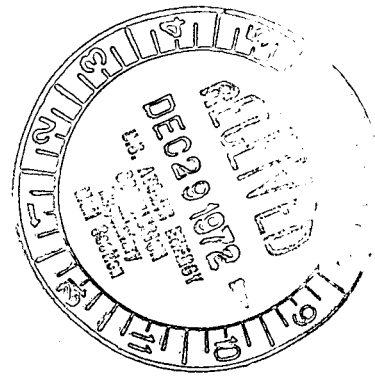
1-PDR-SAN/LA/NY
1-GERALD LELLOUCHE
BROOKHAVEN NAT. LAB
1-AGMED(WALTER KOESTER, Rm C-427, GT)
1-RD...MULLER...F-309GT

NSP

Regulatory File Cy

NORTHERN STATES POWER COMPANY
Minneapolis, Minnesota 55401





December 22, 1972

Mr. A. Giambusso
Deputy Director for Reactor Projects
Directorate of Licensing
United States Atomic Energy Commission
Washington, D. C. 20545

Dear Mr. Giambusso:

MONTICELLO NUCLEAR GENERATING PLANT
Docket No. 50-263 License No. DPR-22

Reporting of Torus-to-Drywell Vacuum Breaker Problems

A condition occurred at the Monticello Nuclear Generating Plant recently which we are reporting to your office in accordance with provisions of Section 6.6.B.3 of Appendix A, Technical Specifications, of the Provisional Operating License DPR-22. Region III of the Directorate of Regulatory Operations has been notified of this occurrence.

Due to recent torus-to-drywell vacuum breaker problems experienced at other operating nuclear plants, it was decided to inspect the Monticello torus-to-drywell vacuum breakers for proper operation. This inspection was performed during a scheduled maintenance shutdown on December 15, 1972. One of the ten vacuum breakers was found to be approximately 1 1/4 inches open; however, the position indicating lights indicated that this valve was closed. During the inspection, an exercise test was performed and four of the vacuum breakers failed to close fully. In addition, two of the test operators failed to operate properly.

Manual exercising of the valves, indicated that excessive friction was being experienced between the shaft and shaft packing. The valves are constructed with a close tolerance teflon bushing on each end of the shaft with several rings of teflon packing outboard of the bushing. All of the teflon packing was removed and penetrating oil was applied. With the packing removed, all the vacuum breakers were leak tested by establishing a .5 psi differential pressure between the drywell and torus and surveying for leaks with a sonic probe. No significant shaft leakage could be detected. Some minor seat leakage was detected and as a result, the valve seating surfaces were cleaned and the metal areas were dressed up with emery cloth.

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Disassembly of the two air operators indicated that they required cleaning and replacement of the actuator piston sealing rings. Following these repairs, the operators functioned properly.

The torus-to-drywell vacuum breaker position is detected by limit switches, that are actuated by small arms attached to the valve shaft. The valve must travel a considerable distance before sufficient shaft rotation has occurred to actuate the limit switches. A detailed design review of these valves will be performed. It is anticipated that this review will result in a modification to the position detection system so that accurate position indication will be available.

Prior to re-inerting the primary containment on December 20, 1972, each of the ten torus-to-drywell vacuum breakers was manually lifted 1/2 inch off its seat and released. All valves closed fully from this 1/2 inch open position. Valve exercising with the air operators also resulted in free operation in both directions.

Following these tests, all torus-to-drywell vacuum breakers were verified shut by visual inspection. Immediately after this inspection, a differential pressure was established between the drywell and torus and the differential pressure decay was measured. The differential pressure decay rate was found to be less than that for a leakage path equivalent to a one inch orifice. Since the present limit switch arrangement cannot detect a small opening of the valves, weekly differential pressure decay rate tests will be performed and the results compared with equivalent decay rates for a one inch orifice.

Valve operability will be tested monthly by remote cycling with the air operators and will be followed closely by a leak rate measurement to verify all valves are fully closed.

An Abnormal Occurrence Report will be available at the site for the Regulatory Operations inspector.

Yours very truly,

L. O. Mayer

L O Mayer, PE
Director of Nuclear Support Services

LOM/kik