

NRC DISTRIBUTION FOR PART 50 DOCKET MATERIAL
(TEMPORARY FORM)

CONTROL NO: 1098

FILE: _____

FROM: Northern States Pwr Co Minneapolis, Mn L O Mayer			DATE OF DOC 2-2-76	DATE REC'D 2-5-76	LTR XX	TWX	RPT	OTHER
TO: Mr Stello			ORIG one signed	CC	OTHER	SENT NRC PDR		XX
						SENT LOCAL PDR		XX
CLASS	UNCLASS XXXXX	PROP INFO	INPUT	NO CYS REC'D 1		DOCKET NO: 50-263		

DESCRIPTION:
Ltr furnishing summary status of fuel report.....

PLANT NAME: Monticello

ENCLOSURES:

[Handwritten notes and stamps]

SAFETY	FOR ACTION/INFORMATION	ENVIRO	2-5-76	ehf
ASSIGNED AD _____	ASSIGNED BRANCH CHIEF _____			
BRANCH CHIEF <u>Ziemann (5)</u>	PROJECT MANAGER _____			
PROJECT MANAGER <u>Buckley</u>	LIC ASST. _____ W/ ACRS			
LIC. ASST. <u>Diggs</u> W/16 CYS ACRS				

INTERNAL DISTRIBUTION

- | | | | |
|---------------------------|-----------------------|---------------------------|--|
| <u>REG FILES</u> | <u>SYSTEMS SAFETY</u> | <u>PLANT SYSTEMS</u> | <u>SITE SAFETY & ENVIRO ANALYSIS</u> |
| NRC PDR | HEINEMAN | TEDESCO | DENTON MULLER |
| OELD | SCHROEDER | BENAROYA | |
| GOSSICK/STAFF | | LAINAS | <u>ENVIRO TECH.</u> |
| I&E (2) | <u>ENGINEERING</u> | IPPOLITO | ERNST |
| MIPC | MACCARY | | BALLARD |
| | KNIGHT | <u>OPERATING REACTORS</u> | SPANGLER |
| <u>PROJECT MANAGEMENT</u> | SIHWEIL | STELLO | |
| BOYD | PAWLICKI | | <u>SITE TECH.</u> |
| P. COLLINS | | <u>OPERATING TECH.</u> | GAMMILL |
| HOUSTON | <u>REACTOR SAFETY</u> | EISENHUT | STEPP |
| PETERSON | ROSS | SHAO | HULMAN |
| MELTZ | NOVAK | BAER | |
| HELTEMES | ROSETOCZY | SCHWENCER | <u>MISCELLANEOUS</u> |
| | CHECK | GRIMES | |

EXTERNAL DISTRIBUTION

- | | | |
|----------------------------------|-----------------------------|---------------------|
| LOCAL PDR <u>Minneapolis, Mn</u> | NATIONAL LAB _____ W/ CYS | BROOKHAVEN NAT. LAB |
| TIC | REGION V-I&E-(WALNUT CREEK) | ULRIKSON (ORNL) |
| NSIC | LA PDR | |
| ASLB | CONSULTANTS | |

[Handwritten signature]

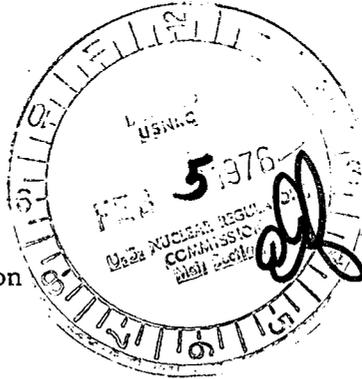
REGISTRATION COPY
NSP

NORTHERN STATES POWER COMPANY

MINNEAPOLIS, MINNESOTA 55401

February 2, 1976

Mr. Victor Stello, Director
Division of Operating Reactors
U.S. Nuclear Regulatory Commission
Washington, DC 20555



Dear Mr. Stello:

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

Summary Status of Fuel Report

This report is submitted in compliance with Technical Specification 6.7.C.6, "Summary Status of Fuel Report", which is required following each refueling. The Monticello generator was taken off line and the reactor made subcritical on September 11, 1975. During the outage the remaining 268 initial core 7x7 fuel assemblies were replaced with Reload 4 8x8 fuel assemblies. Cycle 5 commenced as the reactor was again made critical on November 16 and the generator put on line on November 19, 1975.

The performance of fuel is monitored by the offgas level during plant operation and by fuel sipping during a refueling outage. Previous reports referenced stack offgas levels. Since the offgas recombiner and storage system were placed in service about one year ago, the stack emissions are so low they are no longer a good indicator of fuel performance. The offgas activity level at the air ejector, upstream of the augmented offgas treatment system, is now used. A summary of fuel performance through Cycle 3 is documented in the April 29, 1975 "Summary Status of Fuel Report". As reported, a thorough sipping program at the end of Cycle 3 revealed cladding perforations in a number of initial core fuel assemblies. The offgas level was found substantially reduced during the initial power ascension in Cycle 4. As the cycle proceeded the offgas rate gradually increased as the high exposure initial core fuel developed additional cladding perforations. Power was restricted during a significant portion of the cycle by offgas limitations; power was gradually reduced to 57% of rated at the end of Cycle 4.

During the recent refueling outage the remaining 268 initial core 7x7 fuel assemblies were discharged to the spent fuel pool. Subsequent sipping in the fuel pool identified 77 leakers. The fuel assemblies remaining in the reactor from Cycle 4 consisted of 20 7x7 assemblies of an improved design and 196 8x8 assemblies. All of the improved 7x7 fuel and a 25% sample of the 8x8 fuel was sipped with no leakers identified. To date 237 of the initial core fuel assemblies have been classified as leakers. The number of fuel assemblies classified as leakers in each of Cycles 1 through 4 are 25, 86, 49 and 77. (The

Cycle 2 number is an update to that reported in our "Cycle 3 Startup Report and Summary Status of Fuel Report," reflecting additional sipping done after the report was prepared.) No replacement fuel has shown signs of cladding perforations.

The average exposure of the 77 Cycle 4 leakers was 14,686 MWD/STU. Based on limited visual inspection and previous experience at Monticello and other reactors, the predominant failure mechanism was concluded to be pellet-clad interaction. In the first two months of Cycle 5 there has been no offgas increase trend as observed in previous cycles. It is anticipated that the excellent performance of reload fuel will continue in the future and that power reductions due to fuel failures will not be necessary in the future. The exposure summary of the Cycle 4 discharge and the reload fuel as of the beginning of Cycle 5, is as follows:

<u>Fuel Type</u>	<u>Enrichment</u>	<u>Number of Assemblies</u>	<u>Exposure (MWD/STU)</u>		
			<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
Initial Core (7x7)	2.25 w/o	268	9,139	15,310	18,358
Reload 1 (Improved 7 x 7)	2.30 w/o	20	11,693	11,775	11,879
Reload 2 (8x8)	2.62 w/o	116	4,686	6,656	8,149
Reload 3 (8x8)	2.50 w/o	80	1,560	3,258	4,168
Reload 4 (8x8)	2.19 w/o	268	0	0	0

Yours very truly,



L. O. Mayer, PE
Manager, Nuclear Support Services

LOM/MHV/deb

cc: J. G. Keppler
G. Charnoff
MPCA
Attn: J. W. Ferman