

RECEIVED

1971 JUN 10 PM 2 13



Consumers Power Company

General Offices: 212 West Michigan Avenue, Jackson, Michigan 49201 • Area Code 517 788-0550
MAIL & TELEVISION SECTION

June 7, 1971

Dr. Peter A. Morris, Director
Division of Reactor Licensing
United States Atomic Energy Commission
Washington, DC 20545

Re: Docket #50-55
DPR-6 (ZEK)

Dear Dr. Morris:

Att: Mr. D. J. Skovholt

On May 26, 1971, during routine exercising of the Big Rock Point control rod drives, it was noted the drive C-3 would not withdraw after being inserted one notch from its normally fully withdrawn position. Prescribed plant procedures for malfunctioning control rod drive were followed. It became evident that the drive would freely insert but could not be withdrawn, apparently due to a foreign object lodged in the control rod drive housing extension or possibly control rod drive hydraulic system problems. Experimentation with the drive was stopped with the drive at notch 15, and the drive insert and withdrawal hydraulic water was valved and tagged out of service.

Physics calculations were made concerning peak heat fluxes and rod worths for both the current power level, 163 MW_t, and 244 MW_t with rod C-3 at notch 15. The results were as follows:

	<u>163 MW_t</u>	
Peak Heat Flux		277,100 Btu/Ft ²
Rod Worth (C-3)		.1376%
Maximum Rod Worth (E-2)		.57%
MCHFR		3.2601
	<u>244 MW_t</u>	
Peak Heat Flux		409,100 Btu/Ft ²
MCHFR		2.1362



244 MW_t represents the 122% overpower condition. At the beginning of this cycle (March 1971), the picoammeters were set at 100% reactor power corresponding to 200 MW_t in order to limit heat flux and fuel cladding temperatures because of the Cu-Fe cruding.

DV 2

8101260022

The peak heat flux at 163 MW_t with C-3 at notch 15 case is only a slight increase over the peak heat flux for this core with a normal rod pattern. The reactor shutdown margin was verified at the start of this cycle with two rods fully withdrawn and an adjacent rod at notch 6. Thus, for any shutdown, the shutdown margin requirements are easily met with C-3 fully withdrawn.

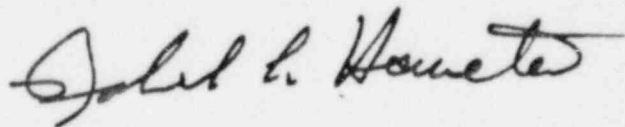
Based on the above data, it was decided to continue operations at 163 MW_t with C-3 in an abnormal position until the currently scheduled March 1972 refueling outage. Subsequent work with the drive has resulted in the drive being withdrawn to notch 17. Based on this work, it appears the problem is not hydraulic in nature but symptomatic of problems with very small foreign objects in drives.

If a scram occurs, C-3 will be scrambled as the scram water is not isolated. If this occurs and the control rod cannot be withdrawn, it is planned to continue plant operation at 163 MW_t with C-3 fully inserted.

In this condition, the peak heat flux would be 292,200 Btu/ft², the maximum rod worth for C-3 is 1.3375%, and the MCHFR is 3.0907. These values are still well within plant license requirements.

As was stated above, Big Rock Point has been operated at 163 MW_t since refueling in March 1971. It was previously planned to continue operation at this power level during the remainder of this run. Since the out-of-position rod has not significantly increased peak heat fluxes, it is concluded that this incident will not hinder plant operation. The AEC Compliance Officer in Chicago was notified on May 26, 1971, and this letter confirms the information given to him over the telephone. A complete evaluation of the cause of the drive malfunction will be made during the refueling shutdown. We will keep Compliance informed of our findings.

Yours very truly,



Robert L. Haueter
Electric Production
Superintendent - Nuclear

RBS/map

CC: BHGreer
Div of Comp
USAEC

FROM:
 Consumers Power Company
 Jackson, Michigan 49201
 Robert L. Hauster

DATE OF DOCUMENT: June 7, 1971
 DATE RECEIVED: June 10, 1971
 NO.:
 LTR. MEMO: SRT: OTHER:

TO:
 Dr. Peter A. Morris

ORIG.: CC: OTHER:
 1 signed & 4 addl cys rec'd

CLASSIF: U POST OFFICE REG. NO.

ACTION NECESSARY CONCURRENCE DATE ANSWERED:
 NO ACTION NECESSARY COMMENT BY:
 FILE CODE: 50-155

DESCRIPTION (Must Be Unclassified):
 Ltr reporting a problem on 5-26-71 when
 the drive C-3 would not withdraw after
 being inserted one notch from its normally
 fully withdrawn position....

REFERRED TO	DATE	RECEIVED BY	DATE
Ziemann	6-10-71		
w/9 cys for ACTION			

ENCLOSURES:

DISTRIBUTION:
 Reg File Cy
 AEC PDR
 OGC-Em-F-506-A
 Compliance (2)
 H. Price & Staff
 B. Thompson
 Morris/Schroeder
 Skovholt
 Boyd
 E.G. Case
 BTIE (Laughlin)
 BSIC (Buchanan)

DO NOT REMOVE
 ACKNOWLEDGED

REMARKS:

U.S. ATOMIC ENERGY COMMISSION

MAIL CONTROL FORM FORM AEC-3265 (8-60)

U.S. GOVERNMENT PRINTING OFFICE: 1970-406-979