AEC DISTRIBUTION FOR PART 50 DOCKET MATERIAL
(TEMPORARY FORM)

CONTROL NO: 5191

FILE: 050

FROM:	DATE OF DOC	DATE REC'D	LTR	MEMO	RPT	OTHER
Wisconsin Public Service Corp Green Bay, WI E. W. James	6-6-74	6-10-74	X			

TO:	ORIG	CC	OTHER	SENT AEC PDR XXX SENT LOCAL PDR XXX
J. F. O'Leary	1 signed			

CLASS	UNCLASS	PROP INFO	INPUT	NO CYS REC'D	DOCKET NO:
	XXX			1	50-305

DESCRIPTION:

Ltr furn info re abnormal occurrence #50-305/74-3 of 3-13-74 (preliminary rpt submitted 3-21-74) re loss of inverter BRB-110, power sources to individual rod position indicatorss

ENCLOSURES:

DO NOT REMOVE

ACKNOWLEDGED

PLANT NAME: KEWAUNEE

FOR ACTION/INFORMATION 6-11-74 GMC

BUTLER(L) W/ Copies	SCHWENCER(L) W/ Copies	ZIEMANN(L) W/ Copies	REGAN(E) W/ Copies
CLARK(L) W/ Copies	STOLZ(L) W/ Copies	DICKER(E) W/ Copies	W/ Copies
PARR(L) W/ Copies	VASSALLO(L) W/ Copies	KNIGHTON(E) W/ Copies	W/ Copies
✓KNIEL(L) W/ 7 Copies	PURPLE (L) W/ Copies	YOUNGBLOOD(E) W/ Copies	W/ Copies

INTERNAL DISTRIBUTION

✓REG FILE	TECH REVIEW	DENTON		A/T IND
✓AEC PDR	✓HENDRIE	GRIMES	LIC ASST	BRAITMAN
✓OGC, ROOM P-506A	SCHROEDER	GAMMILL	DIGGS (L)	SALTZMAN
✓MUNTZING/STAFF	✓MACCARY	KASTNER	GEARIN (L)	B. HURT
✓CASE	✓KNIGHT	BALLARD	GOULBOURNE (L)	
GIAMBUSSO	✓PAWLICKI	SPANGLER	LEE (L)	PLANS
BOYD	✓SHAO		MAIGRET (L)	MCDONALD
✓MOORE (L)(BWR)	✓STELLO	ENVIRO	REED (E)	DUBE w/Input
DEYOUNG(L)(PWR)	✓HOUSTON	MULLER	✓SERVICE (L)	
SKOVHOLT (L)	✓NOVAK	DICKER	SHEPPARD (L)	INFO
GOLLER(L)	✓ROSS	KNIGHTON	SLATER (E)	C. MILES
P. COLLINS	✓IPPOLITO	YOUNGBLOOD	SMITH (L)	✓KLECKER
DENISE	✓TEDESCO	REGAN	TEETS (L)	✓EISENHUT
REG OPR	✓LONG	PROJECT LDR	WADE (E)	
✓FILE & REGION(3)	✓LAINAS		WILLIAMS (E)	✓AOR FILE
✓MORRIS	✓BENAROYA	HARLESS	WILSON (L)	D. THOMPSON (2)
✓STEELE	✓VOLLMER			

EXTERNAL DISTRIBUTION

✓1 - LOCAL PDR KEWAUNEE, WI	(1)(2)(10)-NATIONAL LAB'S	1-PDR-SAN/LA/NY
✓1 - TIC (ABERNATHY)	1-ASLBP(E/W Bldg,Rm 529)	1-GERALD LELLOUCHE
✓1 - NSIC(BUCHANAN)	1-W. PENNINGTON, Rm E-201 GT	BROOKHAVEN NAT. LAB
1 - ASLB	1-CONSULTANT'S	1-AGMED(Ruth Gussman)
✓1 - F. R. DAVIS (AEROJET NUCLEAR)	NEWMARK/BLUME/AGBABIAN	RM-B-127, GT.
✓16 - CYS ACRS ~~HOLDING~~	1-GERALD ULRIKSON...ORNL	1-RD..MULLER..F-309 GT
Sent to Lic aSst Service 6-11-74	1-B & M SWINEBROAD, Rm E-201 GT	

WISCONSIN PUBLIC SERVICE CORPORATION

P.O. Box 1200, Green Bay, Wisconsin 54305

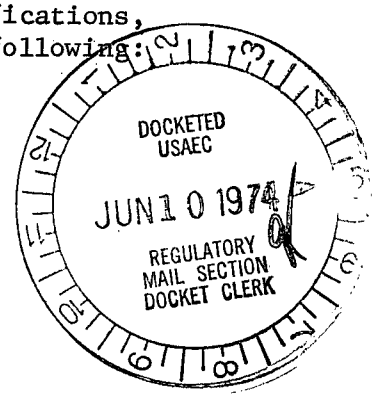
June 6, 1974

Mr. J. F. O'Leary, Director
Directorate of Licensing
Office of Regulation
U. S. Atomic Energy Commission
Washington, D. C. 20545

Dear Mr. O'Leary:

Subject: Docket 50-305
Operating License DPR-43
Abnormal Occurrence Report

In accordance with the requirements of Technical Specifications, Paragraph 6.6.2.a and Regulatory Guide 1.16, we submit the following:



Report Number: 50-305/74-3

Report Date: March 21, 1974 (Preliminary)
June 6, 1974 (Final Report)

Occurrence Date: March 13, 1974

Facility: Kewaunee Nuclear Power Plant
Kewaunee, Wisconsin

Identification of Occurrence: Loss of inverter BRB-110, power source to individual rod position indicators.

Condition Prior to Occurrence: Reactor critical, normal operating temperature - 547°F, normal operating pressure - 2200 psig, Rod Group D at 200 steps. Conducting reactor startup and shutdown for training.

Description of Occurrence: The condition of the reactor was as noted above, training of operators was in progress when a loss of voltage alarm was received on the individual rod position indication cabinets. All individual rod position indicator indications dropped to 25 steps. Operators checked the power level and verified that

REGULATORY DOCKET FILE COPY

the rods did not move and rod control was maintained. Upon investigation, it was found that inverter BRB-110 had no output. BRB-118, which receives power from BRB-110, was shifted to another source, power was restored to the individual rod position indicators and plant operation was back to normal within 11 minutes.

Designation of Apparent Cause of Occurrence: Component Failure

Analysis of Occurrence: Inverter BRB-110 is normally supplied from MCC1-62C, which in turn feeds circuit breaker BRB-118, providing power to the rod position indication racks. BRB-118 is alternately supplied power from cabinet BRB-105 which can be supplied from either MCC1-62C or MCC1-62E. Upon loss of inverter BRB-110, although all individual rod position indication is lost momentarily, the digital rod step counters remain operable and power can be restored to BRB-118 through the alternate source. The operator has immediate indication, as he did in this case, when power is lost to the individual rod position indicators, by the annunciation of the loss of voltage alarm.

There is no public safety hazard associated with this occurrence since the loss of power to the indicators is momentary and does not affect the actual position of the rods themselves.

Corrective Action: As reported in the preliminary report, the loss of the inverter was suspected to be excessive heat. Corrective action was taken to reduce the ambient temperature. It was further stated that the vendor would be contacted and have him evaluate the problem and recommend a course of action. The vendor was on site and it was determined that the two inverters that experienced failure of the transformer were both out of adjustment with respect to frequency. The instruction book states that the inverters should be set at 60 Hertz, but it does not caution the user that the setting is critical and important for proper operation. Since readjustment of the inverters, we have not experienced any further problems. We have further implemented our maintenance procedure to check the inverters periodically to determine whether any drift in frequency setting has occurred.

Failure Data: The failed transformer was of the following type:

Sola Constant Voltage Transformer
Harmonic Neutralized Type CVS
Cat. No. 23.25.250-9C
Input Voltage: 95-130 x 175-235 x 190-260
Output Voltage: 118-236
Frequency: 60 Hz - VA 5000

On a previous occasion prior to the issuance of our license a 5 KVA and a 3 KVA transformer failed, which we now believe was due to the inverters not being properly adjusted.

Very truly yours,

Carlton Grimes
for

E. W. James
Senior Vice President
Power Generation & Engineering

EWJ:sna

cc - Mr. James G. Keppler