REPORT OF ABNORMAL OCCURRENCE AND/OR INCIDENT

NRC DISTRIBUTION FOR PART 50 DOCKET MATERIAL
(TEMPORARY FORM)

CONTROL NO: 13150

FILE: INCIDENT REPORT FILE

FROM:	DATE OF DOC	DATE REC'D	LTR	TWX	RPT	OTHER
Wisconsin Public Svc. Corp Green Bay, Wisconsin E.W. James	11-14-75	11-18-75	XXX			

TO:	ORIG	CC	OTHER	SENT AEC PDR	SENT LOCAL PDR
Mr. Bernard Rusche	1 Signed	0		XXX	XXX

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

DESCRIPTION:

Letter trans the following.....

ENCLOSURES:

Abnormal Occurrence # 75-20, on 11-5-75, Concerning clogged auxiliary feedwater pumps.....

(1 Copy Received)

PLANT NAME: Kewaunee

FOR ACTION/INFORMATION SAB 11-20-75

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	LEAR (L) W/ Copies
PARR (L) W/ Copies	VASSALLO (L) W/ Copies	KNIGHTON (E) W/ Copies	SPELS W/ Copies
KNIEL (L) W/ Copies	PURPLE (L) W/3 Copies	YOUNGBLOOD (E) W/ Copies	REID W/ Copies

DO NOT REMOVE
ACKNOWLEDGED

INTERNAL DISTRIBUTION

REG FILE	TECH REVIEW	DENTON	LIC ASST	A/T IND
NRC PDR	SCHROEDER	**GRIMES	R. DIGGS (L)	BRAITMAN
OGC, ROOM P-506A	MACCARY	GAMMILL	H. GEARIN (L)	SALTZMAN
GOSSICK/STAFF	KNIGHT	KASTNER	E. GOULBOURNE (L)	MELTZ
CASE	PAWLICKI	BALLARD	P. KREUTZER (E)	
	SHAO	SPANGLER	J. LEE (L)	PLANS
BOYD	** STELLO		M. RUSHBROOK (L)	MCDONALD
MOORE (L)	** HOUSTON	ENVIRO	S. REED (E)	CHAPMAN
DEYOUNG (L)	** NOVAK	MULLER	M. SERVICE (L)	DUBE (Ltr)
SKOVHOLT (L)	ROSS	DICKER	S. SHEPPARD (L)	E. COUPE
GOLLER (L) (Ltr)	IPPOLITO	KNIGHTON	M. SLATER (E)	PETERSON
P. COLLINS	TEDESCO	YOUNGBLOOD	H. SMITH (L)	HARTFIELD (2)
DENISE	J. COLLINS	REGAN	S. TEETS (L)	KLECKER
REG OPR	LAINAS	PROJECT LDR	G. WILLIAMS (E)	EISENHUT
FILE & REGION (2)	BENAROYA		V. WILSON (L)	WIGGINTON
MIPC/PE (3)	VOLLMER	HARLESS	R. INGRAM (L)	F. WILLIAMS
STEELE			M. DUNCAN (E)	HANAUER

EXTERNAL DISTRIBUTION

- 1 – LOCAL PDR Kewaunee, Wisconsin
- 1 – TIC (ABERNATHY) (1)(2)(10) – NATIONAL LABS
- 1 – NSIC (BUCHANAN) 1 – W. PENNINGTON, Rm E-201 GT
- 1 – ASLB 1 – CONSULTANTS NEWMARK/BLUME/AGBABIAN
- 1 – Newton Anderson
- 5 – ACRS SENT TO LIC ASST S. Sheppard
- ** SEND ONLY TEN DAY REPORTS

- 1 – PDR-SAN/LA/NY
- 1 – BROOKHAVEN NAT LAB
- 1 – G. ULRIKSON, ORNL
- 1 – AGMED (RUTH GUSSMAN) Rm B-127 GT
- 1 – J. D. RUNKLES, Rm E-201 GT

Regulatory File Cy

WISCONSIN PUBLIC SERVICE CORPORATION

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

November 14, 1975

Mr. Benard Rusche, Director
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Mr. Rusche:

Subject: Docket 50-305
Operating License DPR-43
Abnormal Occurrence Report AO 75-20

In accordance with the requirements of the Technical Specifications, paragraph 6.6.2, we submit the attached Licensee Event Report form for the Abnormal Occurrence AO 75-20. The following information is also provided.

As described on the attachment, the auxiliary feedwater pumps were disabled by clogged strainers located in the suction of each pump. The strainers were clogged with resin beads which have been determined to have originated from the makeup system mixed bed demineralizer. (See figure 9.2-5 of the FSAR.)

The investigation to determine the source of the resin beads determined that, during normal operation of the makeup demineralizer system a small leakage of resin from the mixed bed units was occurring. An inspection of the mixed bed demineralizer was performed by removal of the resin followed by a visual inspection of the lateral screens. Defects which could have caused significant leakage were not noted.

The normal flow path for make-up water is to the condensate storage tanks. These storage tanks then supply condensate make-up water to the condenser to compensate for the steam generator blowdown flow. The condensate storage tanks also serve as the normal operating source for the auxiliary feedwater pumps.

The immediate problem of clogged suction strainers for the auxiliary feedwater pumps was corrected by cleaning the strainers. The steam generators were supplied by a main feedwater pump during the period of strainer cleaning. Following plant startup, the 1A auxiliary feedwater pump was operated continuously for in excess of 12 hours supplying the steam generators with water to compensate for normal steam generator blowdown. The supplying of secondary plant make-up water by auxiliary feedwater pump, provided a means to check the quantity of resins in the normal auxiliary feedwater pump supply. Following this extended run of the 1A auxiliary feedwater pump, its suction strainer was removed for inspection. Less than 5 cc of resin was found in the strainer, indicating that additional clogging due to the resins was not imminent. The 1B condensate tank

which is the normally aligned condensate tank for condensate makeup and auxiliary feedwater supply was then drained. The inspection of the 1B condensate tank revealed approximately .5 cu ft of resin on the bottom of the tank. The tank was cleaned and returned to service. The long term solution to the resin leakage problem will be the installation of a filter assembly on the makeup demineralizer system outlet header. A design change has been initiated and the filters will be installed promptly.

The review of this occurrence prompted additional investigation into the design of the auxiliary feedwater system water supply. The safeguard water supply to the auxiliary feedwater pumps is the service water system. The service water system design includes automatic strainers which employ a cone assembly with 1/8" perforations as the straining media. The strainers installed in the suction of each auxiliary feedwater pump were constructed of a backing material with 1/8" perforations and a #40 mesh screen liner. These suction strainers would then remove additional particulate from the service water supply to the auxiliary feedwater pumps whenever the service water supply was used. The installation of the #40 mesh screen strainers in the auxiliary feedwater pump suction presents the possibility of common mode failure.

The particulate concentration in the service water system is mainly dependent upon the intensity of recent lake wave action. This particulate concentration and size distribution will determine if the auxiliary feedwater system as designed would be capable of performing in accordance with the performance assumptions presented in the safety analysis.

The conclusions of the reviews performed by our staff and supplemented by assistance from our Architect-Engineer are as follows:

1. The potential for common mode failure existed due to the installation of #40 mesh screens on a service water supply which is strained to only exclude all particles greater than 1/8" in diameter.
2. The auxiliary feedwater pumps are protected in accordance with pump vender specification by the service water strainers (1/8" perforated strainers).
3. The #40 mesh screen liners in the auxiliary feedwater pump suction strainers should be removed and the 1/8" perforated backing retained for pump protection.

The #40 mesh screens will be removed on November 17, 1975.

Very truly yours,

E. W. James, Senior Vice President
Power Supply & Engineering

EWJ:sna
Attach.
cc - Mr. James G. Keppler, US NRC
Mr. Dwane Boyd, US NRC

LICENSEE EVENT REPORT

CONTROL BLOCK: [ ] (1–6)

(PLEASE PRINT ALL REQUIRED INFORMATION)

LICENSEE NAME	LICENSE NUMBER	LICENSE TYPE	EVENT TYPE
01 WIKNP1 (7–8, 9–14)	00–00000–00 (15–25)	4111 1 (28–30)	01 (31–32)

CON'T	CATEGORY	REPORT TYPE	REPORT SOURCE	DOCKET NUMBER	EVENT DATE	REPORT DATE
01 CON'T (7–8)	DI (57–58)	T (59)	L (60)	050–0305 (81–68)	110575 (69–74)	111575 (75–80)

EVENT DESCRIPTION

02 During unit startup operations reduced aux. feedwater flow was noted with pumps 1A
03 and 1B in operation. Pump 1C was started. Flow from pump 1C was also reduced. The
04 main feedwater pumps were available and were employed to provide feedwater to the
05 steam generators. This was the first event of this type. This event is AO 75-20.
06 The fine mesh strainers will be removed from the aux. feed pumps.

SYSTEM CODE	CAUSE CODE	COMPONENT CODE	PRIME COMPONENT SUPPLIER	COMPONENT MANUFACTURER	VIOLATION
07 CH (9–10)	B (11)	PIPEXX (12–17)	A (43)	P240 (44–47)	Y (48)

CAUSE DESCRIPTION

08 Suction strainers were installed in the suction of the pumps per the reviewed design
09 of the auxiliary feedwater system. The demineralizer mix bed units lost approximately
10 1 ft^3 of resin to the condensate storage tanks which is the normal supply of aux.

FACILITY STATUS	% POWER	OTHER STATUS	METHOD OF DISCOVERY	DISCOVERY DESCRIPTION
11 C (9)	000 (10–12)	NA (13–44)	a (45)	Operator observation (46–80)

FORM OF ACTIVITY RELEASED	CONTENT OF RELEASE	AMOUNT OF ACTIVITY	LOCATION OF RELEASE
12 Z (9)	Z (10)	NA (11–44)	NA (45–60)

PERSONNEL EXPOSURES

NUMBER	TYPE	DESCRIPTION
13 000 (9–11)	Z (12)	NA (13–80)

PERSONNEL INJURIES

NUMBER	DESCRIPTION
14 000 (9–11)	NA (12–80)

OFFSITE CONSEQUENCES

15 NA

LOSS OR DAMAGE TO FACILITY

TYPE	DESCRIPTION
16 Z (9)	NA (10–80)

PUBLICITY

17 NA

ADDITIONAL FACTORS (Cause Description - con't)

18 feedwater. The resin beads plugged the strainer to all the aux. feed pumps.

19

NAME: M. E. Stern PHONE: 414/432-3311

GPO 881-667