NRC Form 366
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES 8/31/85

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Washington Nuclear Plant - Unit 2	0 5 0 0 0 3 9 7	1 OF 0 3

TITLE (4)
Standby Diesel Generator Failure

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAMES	DOCKET NUMBER(S)
0 7	0 9	8 4	8 4	— 0 7 5	— 0 1	1 1	2 1	8 4		0 5 0 0 0
										0 5 0 0 0

OPERATING MODE (9)	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)			
1	20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)
POWER LEVEL (10) 0 4 2	20.405(a)(1)(i)	50.36(c)(1)	50.73(a)(2)(v)	73.71(c)
	20.405(a)(1)(ii)	50.36(c)(2)	X 50.73(a)(2)(vii)	X OTHER (Specify in Abstract below and in Text, NRC Form 366A)
	20.405(a)(1)(iii)	50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	50.72(b)(2)(i)
	20.405(a)(1)(iv)	50.73(a)(2)(ii)	50.73(a)(2)(viii)(B)	Tech Spec 4.8.1.13
	20.405(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(x)	Part 21

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
R. L. Koenigs, Compliance Engineer	AREA CODE 5 0 9 — 3 7 7 - 1 2 5 0 Ext. 2279

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS
B	E B	D G	P 0 7 6	N					

SUPPLEMENTAL REPORT EXPECTED (14)

	EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE)	X NO			

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

On 7/9/84, during monthly surveillance testing, Standby Diesel Generator 1B (DG1B) incurred a high vibration alarm. Followup investigation revealed that the slip ring end bearing had turned on the shaft insulation, thus destroying the insulation and allowing the shaft to drop slightly and rub on the bearing housing.

The Plant was shut down, placed in Mode IV, and an inspection of Standby Diesel Generator 1A (DG1A) commenced concurrent with repairs to DG1B.

On 7/13/84 DG1A was declared inoperable after preliminary checks revealed it may have suffered a similar failure. The 500 KV:25 KV electrical system was then setup to provide backfeed capability, thus assuring availability of three independent offsite power sources. Verbal notification, via ENS, was provided at 1741 hours on 7/13/84.

Corrective action included modification of the bearing insulation.

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TEXT (If more space is required, use additional NRC Form 366A's) (17)

Plant Conditions

a) Power Level - 42% (0%)*
b) Operational Mode - 1 (4)*

* Values in ( ) indicate Plant condition at time DG1A declared inoperable.

Event

During Plant operations, DG1B was undergoing monthly surveillance testing per Plant Technical Specifications. 3 1/2 hours into a 4 hour run, a high vibration alarm was recorded. The alarm was reset and the run completed without further incident. Followup investigation revealed that the slip ring and bearing had turned on the shaft insulation and destroyed the insulation. This allowed the rotor to drop approximately 0.022" and rub on the bearing housing cover.

Corrective Action

The Plant was placed in cold shutdown, Mode IV, and steps taken to remove DG1B from service. Following Plant shutdown, DG1A inspection revealed that it may also have a similar problem and DG1A was declared inoperable and removal initiated. The vendor's technical representative, a generator manufacturer's representative arrived on site prior to DG1B disassembly.

Following disassembly, it was decided that a minor modification would greatly increase the generator reliability. Root cause of the failure was determined to be a basic design weakness in the application of fiberglass insulation between the generator rotor and inner race of the line bearing. The modification entailed mounting the bearing directly to the shaft and insulating the bearing housing in a more conventional manner.

The modification was made on DG1B and then DG1A was disassembled. Investigation of DG1A disclosed no failure; however, the modification was still made to DG1A. Both sets were reinstalled and retested per NRC Regulatory Guide 1.9. DG1B was declared operable on 7/28/84 and DG1A declared operable on 7/29/84.

Safety Significance

In as much as the Plant was shutdown well before the LCO statement required, there was no hazard to the safety of the Plant or that of the public. The HPCS Diesel Generator, one Standby Diesel Generator and two offsite power sources were available while the Reactor was in modes I, II & III and the HPCS Diesel Generator and three separate offsite power sources were available while the Reactor was in Mode IV.

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TEXT (If more space is required, use additional NRC Form 366A's) (17)

Special Data as Required by Regulatory Guide 1.108 Regulatory Position C.3.b

1) Failed Unit: DB1B
2) 1st failure in last 100 starts
3) Cause: Bearing insulation failure
4) Modification of insulation application
5) Unit was inoperable for 19 days
6) Current test interval is once per 31 days
7) This test interval is in compliance with Regulatory Guide 1.108 Regulatory Position C.2.d

10CFR21 Reportability

The diesel generator vendor (Stewart & Stevenson Services, Inc.) performed a 10CFR21 analysis and concluded this failure was not reportable under Part 21 guidelines based on the following:

1) The generators involved were the only units of their kind.

2) The failures had been analyzed and the redesign and repair completed.

The Supply System disagrees with this conclusion and believes the failure to be reportable per 10CFR21 requirements for the following reasons:

1) We have reason to believe that the Supply System Nuclear Plant - Unit 2, Watts Bar Nuclear Plant Units 1 and 2 and the Zimmer Nuclear Plant all purchased generators that were manufactured by Parsons Peebles-Electric Products, Inc. using the same bearing insulation design.

2) Watts Bar previously reported this failure mode under 10CFR50.55(e) and 10CFR21 provisions.

3) It should be noted that the Supply System was not previously notified of the Watts Bar occurrence and the possibility exists that vendors other than Stewart & Stevenson Services, Inc., utilized the Parson-Peebles generators.

Washington Public Power Supply System
P.O. Box 968 3000 George Washington Way Richland, Washington 99352 (509) 372-5000

Docket No. 50-397
November 21, 1984

Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Subject: NUCLEAR PLANT NO. 2
LICENSEE EVENT REPORT NO. 84-075-01

Dear Sir:

Transmitted herewith is Licensee Event Report No. 84-075-01 for WNP-2 Plant. This report provides supplemental information to LER 84-075 Rev. 0, and discusses subsequent evaluations of the failure mode associated with the event.

This is a follow-up report to the verbal notification that was made on November 21, 1984 for a Part 21 defect.

Very truly yours,

C.M. Powers for
J. D. Martin (M/D 927M)
WNP-2 Plant Manager

JDM:mm

Enclosure:
Licensee Event Report No. 84-075-01

cc: Mr. John B. Martin, NRC - Region V
Mr. A. D. Toth, NRC - Site (901A)
Ms. Dottie Sherman, ANI
INPO Records Center - Atlanta, GA

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