ACCELERATED DISTRIBUTION DEMONSTRATION SYSTEM

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR:9002130069 DOC.DATE: 90/02/01 NOTARIZED: NO DOCKET #
FACIL:50-397 WPPSS Nuclear Project, Unit 2, Washington Public Powe 05000397
AUTH.NAME AUTHOR AFFILIATION
WASHINGTON,S.L. Washington Public Power Supply System
POWERS,C.M. Washington Public Power Supply System
RECIP.NAME RECIPIENT AFFILIATION

SUBJECT: LER 90-001-00:on 900103,entry into Tech Spec 3.0.3 action due to failed diesel fuel Tech Spec surveillance.
W/8 ltr.

DISTRIBUTION CODE: IE22T COPIES RECEIVED:LTR 1 ENCL 1 SIZE: 7
TITLE: 50.73/50.9 Licensee Event Report (LER), Incident Rpt, etc.

NOTES:

	RECIPIENT ID CODE/NAME	COPIES LTTR	COPIES ENCL	RECIPIENT ID CODE/NAME	COPIES LTTR	COPIES ENCL
	PD5 LA	1	1	PD5 PD	1	1
	SAMWORTH,R	1	1			
INTERNAL:	ACRS MICHELSON	1	1	ACRS MOELLER	2	2
	ACRS WYLIE	1	1	AEOD/DOA	1	1
	AEOD/DSP/TPAB	1	1	AEOD/ROAB/DSP	2	2
	DEDRO	1	1	NRR/DET/ECMB 9H	1	1
	NRR/DET/EMEB9H3	1	1	NRR/DET/ESGB 8D	1	1
	NRR/DLPQ/LHFB11	1	1	NRR/DLPQ/LPEB10	1	1
	NRR/DOEA/OEAB11	1	1	NRR/DREP/PRPB11	2	2
	NRR/DST/SELB 8D	1	1	NRR/DST/SICB 7E	1	1
	NRR/DST/SPLB8D1	1	1	NRR/DST/SRXB 8E	1	1
	REG FILE 02	1	1	RES/DSIR/EIB	1	1
	RGN5 FILE 01	1	1			
EXTERNAL:	EG&G WILLIAMS,S	4	4	L ST LOBBY WARD	1	1
	LPDR	1	1	NRC PDR	1	1
	NSIC MAYS,G	1	1	NSIC MURPHY,G.A	1	1
	NUDOCS FULL TXT	1	1			

NOTE TO ALL "RIDS" RECIPIENTS:

PLEASE HELP US TO REDUCE WASTE! CONTACT THE DOCUMENT CONTROL DESK, ROOM P1-37 (EXT. 20079) TO ELIMINATE YOUR NAME FROM DISTRIBUTION LISTS FOR DOCUMENTS YOU DON'T NEED!

FULL TEXT CONVERSION REQUIRED
TOTAL NUMBER OF COPIES REQUIRED: LTTR 37 ENCL 37

AD-4 WB

WASHINGTON PUBLIC POWER SUPPLY SYSTEM

P.O. Box 968 • 3000 George Washington Way • Richland, Washington 99352

February 1, 1990

Docket No. 50-397

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

Subject: NUCLEAR PLANT NO. 2
LICENSEE EVENT REPORT NO. 90-001

Dear Sir:

Transmitted herewith is Licensee Event Report No. 90-001 for the WNP-2 Plant. This report is submitted in response to the report requirements of 10CFR50.73 and discusses the items of reportability, corrective action taken, and action taken to preclude recurrence.

Very truly yours,

C M Powers

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

SLW:lr

Enclosure:
Licensee Event Report No. 90-001

cc: Mr. John B. Martin, NRC - Region V
Mr. C. J. Bosted, NRC Site (M/D 901A)
INPO Records Center - Atlanta, GA
Ms. Dottie Sherman, ANI
Mr. D. L. Williams, BPA (M/D 399)

Cert No P 132528131

IE22
1/1

NRC FORM 366 (6-89)

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104
EXPIRES: 4/30/92

ESTIMATED BURDEN PER RESPONSE TO COMPLY WTH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

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 6

TITLE (4) ENTRY INTO TECHNICAL SPECIFICATION 3.0.3 ACTION STATEMENT DUE TO FAILED DIESEL FUEL TECHNICAL SPECIFICATION SURVEILLANCE

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 5 0 0 0
0 1	0 3	9 0	9 0	— 0 0 1	— 0 0	0 2	0 1	9 0		0 5 0 0 0

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

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
	AREA CODE
S. L. Washington, Compliance Supervisor	5 0 9 3 7 7 - 2 0 8 0

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

CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO NPRDS	

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)

At 1545 hours on January 3, 1990 all three Diesel/Generator (DG) Systems were declared inoperable due to failed diesel fuel Technical Specification Surveillances and Technical Specification 3.0.3 was entered. On January 2, 1990 a review of the diesel fuel test results by Plant personnel determined that fuel in all (three) DG storage tanks did not meet the oxygen accelerated stability test requirements of Technical Specification Surveillance 4.8.1.1.2.d.2. Past surveillance results were reviewed and the results were typically half the surveillance allowable value and there were no discernible trends. Two diesel fuel experts were consulted. Both experts stated that without a trend there was no plausible reason to expect a step jump in the test results. Both recommended that new samples be taken and the tests repeated. A Plant Operations Committee (POC) Immediate Disposition was approved on the basis that the test results were questionable because no verification of the original test had been performed, there was no previous adverse trend, and in the opinion of the experts a step jump without a previous trend was unusual. The POC Immediate Disposition also stated that future operability assessments of the Diesel/Generator Systems would be based on a verification test of the original samples and the test results of a new set of fuel samples obtained on January 2, 1990. On January 3, 1990, the first test results were verified and Plant Management reevaluated the situation and determined that the Plant was not in compliance with

the Plant Technical Specifications. The NRC was formally contacted to request temporary relief from Technical Specification Surveillance Requirement 4.8.1.1.2.d.2, and at 1834 hours the NRC granted discretionary enforcement. At 1840 hours the Plant exited Technical Specification 3.0.3. The Supply System submitted an Emergency Amendment to the Technical Specifications for Surveillance 4.8.1.1.2.d.2 to substitute a filter cleanliness test for the oxygen accelerated stability test. On January 5, 1990 at 1402 hours the NRC issued a temporary waiver of compliance from Technical Specification 4.8.1.1.2.d.2. The root cause of this event is believed to be the fuel oil sampling method. As a further corrective action the Supply System hired an independent consultant to assess the diesel fuel program at WNP-2. There is no safety significance associated with this event since the diesel fuel was found to be acceptable by followup testing.

Plant Conditions

a) Plant Mode - 1 (Power Operation)
b) Power Level - 100%

Event Description

At 1545 hours on January 3, 1990 all three Diesel/Generator(DG) Systems were declared inoperable due to failed diesel fuel Technical Specification Surveillances and Technical Specification 3.0.3 was entered.

On January 2, 1990 the Supply System received from the diesel fuel testing vendor the results of tests performed on diesel fuel samples (one sample from each of three tanks) taken on December 27, 1989. A review of the test results by Plant Technical Engineers determined that each diesel fuel sample did not meet the acceptance requirements of Technical Specification Surveillance 4.8.1.1.2.d.2. Surveillance 4.8.1.1.2.d.2 requires an impurity level of less than 2 milligrams(mg) of insolubles per 100 milliliters(ml) of fuel when tested in accordance with ASTM D2274-70. The test results reported by the vendor were:

2.0mg/100ml - DG-Tank(TK)- 1A
5.6mg/100ml - DG-TK-1B
2.6mg/100ml - DG-TK-2

The ASTM D2274-70 test, an oxygen accelerated stability test, is an accelerated aging test to demonstrate the propensity of the fuel to form gums, varnishes, and tars during long term storage. The formation of these products could result in the clogging of fuel filters and injectors. The test requires 24 hours to perform. The test is not an indicator that an unacceptable amount of these products currently exists in the fuel. The fuel samples are obtained from the bottom of the tanks as specified in the WNP-2 FSAR.

At WNP-2 there are three Diesel/Generator Systems designated Divisions 1,2, and 3. DG Divisions 1 and 2 are redundant 4400kW systems, and Division 3 is a 2600kW system dedicated to the High Pressure Core Spray System (HPCS). Each of the three DG Divisions has its own separate 7 day storage tank. DG-TK-1A and DG-TK-1B, Divisions 1 and 2, each has a 63,500 gallon capacity and DG-TK-2, Division 3, has a 50,000 gallon capacity. Fuel from each DG storage tank is pumped to a smaller "day" tank, which supplies fuel to its associated DG.

Immediately upon determining that the surveillance requirements were not met, the fuel testing vendor was requested to retest, per ASTM D2274-70, each of the December 27, 1989 samples to verify the test results. Also, on January 2, 1990 the previous two years of ASTM D2274-70 test results were reviewed and all previous test results were between 0.6 and 1.0 mg/100ml and there were no discernible trends. Two independent diesel fuel experts were consulted. Both experts said that without an adverse trend there was no plausible reason to expect a step jump of the magnitude found in the December 27, 1989 sample test results. Both experts also recommended that new samples be taken and that the tests be repeated. New fuel samples were obtained from each tank and sent to the fuel testing vendor. Following discussions with the consultants, a Plant Operations Committee (POC) Immediate Disposition was prepared and approved to allow continued operation. The Disposition stated that the test results were questionable because the results were based on a single test of each sample, there was a lack of a trend from previous surveillance test results, and the opinion of both experts was that, in the absence of an adverse trend, the step jump in the test results was unusual. The POC Immediate Disposition also stated that future operability assessments would be based on verification of the original test results and the test results of the second set of fuel samples. Also, there was still time to complete the additional tests within the 92 day surveillance window. This Disposition was approved by the Plant Technical Manager and Plant Quality Assurance Manager as per the Plant Problem Procedure. The POC Immediate Disposition was reviewed by the Plant Management on the morning of January 3, 1990.

Later on January 3, 1990, the diesel fuel testing vendor called with the results of the verification tests of the December 27, 1989 samples. Two of the three DG Storage Tank samples again exceeded the Technical Specification Surveillance Limit. See Table 1 for these results.

With verification of the first test results, Plant Management reevaluated the situation and determined that the Plant was not in literal compliance with the Plant Technical Specifications. At 1545 hours all Diesel/Generator Systems were declared inoperable, and since the requirements of Technical Specification 3.8.1.1 for at least two of three Diesel/Generator Systems to be operable could not be met, the Plant entered into Technical Specification 3.0.3. Technical Specification 3.0.3 requires resolution of the problem in one hour or be in Plant Mode 2 (Startup) within the next six hours.

The NRC was formally contacted to request temporary relief from Technical Specification Surveillance Requirement 4.8.1.1.2.d.2. The basis for the request was that the oxygen accelerated stability test results were not an indication of the current condition of the fuel. Filter cleanliness test results, an NRC approved alternative test to the oxygen accelerated stability test, of the December 27, 1989 fuel samples showed the fuel to be acceptable (See Table 1). The filter cleanliness test (ASTM D2276-78 Method A) had previously been approved by the NRC for Limerick-1/2, Wolf Creek, and McGuire-1/2 Plants; and where the filter cleanliness test is utilized, no requirement to meet oxygen accelerated stability test is imposed.

At 1834 hours, NRC Region V called and stated that discretionary enforcement was being granted until 1200 hours on January 4, 1990. At 1840 hours, the Plant exited Technical Specification 3.0.3.

On January 4, 1990 this discretionary enforcement was extended to 1800 hours on January 5, 1990, and the Supply System was requested to submit an Emergency Amendment to Technical Specification Surveillance 4.8.1.1.2.d.2 to delete the ASTM D2274-70 test and substitute the ASTM D2276-78 test. The amendment request was submitted on January 4, 1990.

On January 5, 1990 at 1402 hours the NRC issued a temporary waiver of compliance from Technical Specification Surveillance 4.8.1.1.2.d.2. The waiver is to remain in effect until the NRC has completed its review of the January 4, 1990 amendment request.

Immediate Corrective Actions

All immediate corrective actions are described in the event description above.

Further Analysis and Corrective Action

Further Analysis

This event is reportable because Section 3.0.3 of the Plant Technical Specifications was entered. NUREG 1022, Supplement 1 (Question 2.4), says Plant events which require entry into Technical Specification Section 3.0.3 are to be reported (by LER) because the Plant is operating with a condition prohibited by the Plant's Technical Specifications.

There were no structures, systems, or components inoperable prior to this event which affected this event.

The root cause of this event is believed to be a sampling problem. The root cause investigation is continuing and if any significant difference is identified a revised LER will be submitted.

In discussions with NRR a question arose as to where the diesel fuel samples should be taken, i.e., at the bottom of the tank as stated in the FSAR or from the Storage Transfer Pump discharge (to Day Tank). A set of samples (from each storage tank transfer pump discharge) was taken and tested in accordance with both ASTM test methods by the diesel fuel testing vendor. The test results showed that both the ASTM D2274-70 and ASTM D2276-78 Method A surveillance requirements were passed. See Table 1 for the results. In addition, the Supply System performed an ASTM D2276-78 Method A test on these "pumped" samples. These results were also within the acceptance limits. See Table 1 for the results.

Further Corrective Action

The Supply System has hired an independent consultant, Southwest Research Institute, to assess the diesel fuel program at WNP-2. Included in this assessment will be assistance in determining the root cause of this event.

Safety Significance

There is no safety significance associated with this event. As stated above the oxygen accelerated stability test required by the technical specifications is used to predict the future condition of the fuel and is not an indication of the current condition of the fuel. The filter cleanliness test is a better indicator of the current condition of the fuel and all three storage tanks passed this test. Therefore, the fuel in all three tanks was acceptable throughout the event period.

Similar Events

None

EIIS Information

Text Reference	EIIS Reference	
	System	Component
Diesel/Generator Systems (DGs)	EB	DG
Diesel Storage Tank (DG-TK-1A, DG-TK-1B, & DG-TK-2)	DC	TK
High Pressure Core Spray System (HPCS)	BG	---
Storage Transfer Pumps	DC	P

Diesel Fuel Test Results for sample dates Dec 27, 1989 - Jan 3, 1990

Sample Date and Sample Location	ASTM D2274-70 Oxygen Accelerated Stability Total Insolubles mg/100ml	ASTM D2276-78 Method A Filter Cleanliness Total Insolubles mg/l
Dec 27, 1989 (bottom sample)		
DG-TK-1A	2.0	4.3
DG-TK-1B	5.6	9.8
DG-TK-2	2.6	7.9
Dec 27, 1989 (retest)		
DG-TK-1A	1.7	
DG-TK-1B	4.7	
DG-TK-2	2.4	
Jan 2, 1990 (bottom sample)		
DG-TK-1A	0.9	1.6
DG-TK-1B	0.9*	3.1*
DG-TK-2	1.1	0.8
Jan 3, 1990 (xfer pump discharge sample)		
DG-TK-1A	1.4	1.2
DG-TK-1B	1.8	4.3
DG--TK-2	1.5	5.0
Supply System test results from Jan 3, 1990 xfer pump sample		
DG-TK-1A		<2.3
DG-TK-1B		1.8
DG-TK-2		0.3

* DG-TK-1B Jan 2, 1990 sample broken in transient. Results reported are for a Jan 3, 1990 replacement sample.

M D2274-70 Technical Specification Acceptance Criteria <2.0mg/100ml

ASTM D2276-78 Method A Acceptance Criteria <10mg/l

Table 1