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 Project - Unit 2	0 5 0 0 0 3 9 7	OF 0 2

TITLE (4)

Failure of Hydrogen Recombiners

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 2	1 3	8 4	8 4	- 0 1 3	- 0 0	0 3	1 2	8 4		0 5 0 0 0
										0 5 0 0 0

OPERATING MODE (9)	4	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)			
POWER LEVEL (10)	0 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)	X 50.73(a)(2)(vii)	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)	
		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
L. D. Kassakatis, Plant Compliance Engineer	AREA CODE 5 0 9 3 7 7 - 2 5 0 1 Ext. 4727

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	B B	R C B									

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)

During normal shutdown conditions prior to initial power operations, both Post LOCA Hydrogen Recombiner (CAC-HR-1A and CAC-HR-1B) motors tripped on electrical overload within a few minutes of having been placed in operation during the PCILRT at 18 psig to verify flow for the Preoperational Test. This was the first time the recombiners had been operated at elevated pressure. The overloads and fuses had been sized for 12 HP, the nameplate data of the motors, and this was proven to be adequate during initial testing at atmospheric conditions. Later testing at elevated pressure (18 psig) produced actual data that one motor was putting out approximately 19 HP. The higher than expected horsepower was consistent with the Factory Acceptance Test results and the fuses and overloads should have been sized for design conditions.

Technical Specification 3.6.6.1 requires two independent hydrogen recombiner systems to be operable only in modes 1 and 2. Testing, prior to power operation but after initial criticality, revealed a potential design deficiency that could have resulted in intermittent hydrogen recombiner operation in the event of a LOCA. This LER provides written follow-up pursuant to 10 CFR 50.73(a)(2)(vii).

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

Plant Operating Conditions - Prior to and During the Event:

a) Power Level - Zero
b) Mode 4, Shutdown
c) Prior to Initial Power Operation

Both Containment Atmosphere Control Hydrogen Recombiners, a one of a kind design by Air Products, were being operated with the containment pressurized to 18 psig. The motor, driving a positive displacement rotary lobe blower, tripped on overload in eight minutes for CAC-HR-1A and two minutes for CAC-HR-1B. The overloads (G30T43) and fuses (20 amps) for the motor were sized based on the motor nameplate data (Westinghouse 12 HP, Model TBFC, Frame 248TS, 14.7 FLA and 1.0 SF).

During the vendor's Factory Acceptance Test to simulate a LOCA (design inlet pressure with steam and hydrogen present), the motors put out up to 25 HP (30 amps, 455V, 3 Phase, 0.925 pf, 0.85 eff) for four hours without degradation. Air Products has confirmed that this testing clearly demonstrated that the hydrogen recombiner design with the incoming air directed on the motor for cooling prior to being drawn into the blower suction, permitted operating the motor at greater than nameplate horsepower and was suitable for prolonged (one year or more continuous duty) operation under these conditions. During initial design review and testing the difference between nameplate data and design requirements was overlooked.

Corrective Action:

1) The overloads and fuses are being resized for operating conditions at hydrogen recombiner design conditions (LOCA).

2) Retesting by running of the recombiners at design pressure with the new overload and fuses will be performed.

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

Docket No. 50-397
March 12, 1984

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

Subject: **NUCLEAR PROJECT NO. 2**
LICENSEE EVENT REPORT NO. 84-013

Dear Sir:

Transmitted herewith is Licensee Event Report No. 84-013 for WNP-2 Plant. This report is submitted in response to the report requirements of Technical Specification Section 6.9.1.7 and discusses the item of noncompliance, corrective action taken, and action taken to preclude recurrence.

Very truly yours,

J. D. Martin (927M)
WNP-2 Plant Manager

JDM:de

Enclosure:
Licensee Event Report No. 84-013

cc: Mr. John B. Martin, Administrator
Region V, Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
1450 Maria Lane
Walnut Creek, California 94596
Mr. A. D. Toth, NRC Resident Inspector (901A)

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