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)
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TITLE (4)
CHARGING PUMP BREAKER FAILURES

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)
1 2	0 4	8 4	8 4	—	0 2 7	— 0 0	0 2	2 5	8 5	N/A	0 5 0 0 0
										N/A	0 5 0 0 0

OPERATING MODE (9)	N	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)			
POWER LEVEL (10)	0 9 7	20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)
		20.405(a)(1)(i)	50.36(c)(1)	X 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
David W. Rogers, Technical Engineer, Palisades	AREA CODE 6 1 6 7 6 4 - 8 9 1 3

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	
E	C B	B K R	I 0 0 5	Y							
E	C B	B K R	I 0 0 5	Y							

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 November 22, 1984 and on December 4, 1984, with the Plant at power operation, operations personnel discovered that a charging pump could not be started from the control room or with the local start button. Since a second charging pump was inoperable for unrelated repairs, a limiting condition as prescribed by Technical Specifications was entered.

Subsequent maintenance identified that a closing coil had failed in the charging pump breaker. Evaluation of the failure determined that an inadequate preventive maintenance program was prescribed for the breakers.

The charging pump breakers were repaired within Technical Specification time limits. The breakers will be included in preventive maintenance programs. Other similar breakers will be evaluated to determine the need to be included in the preventive maintenance programs.

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

On November 22, 1984, at 0630, with the Plant at 48% power, operations personnel discovered that charging pump P-55B (CB,P) could not be started from either the control room or with the local start button. Since charging pump P-55C (CB,P) was inoperable for unrelated repairs, a limiting condition of operation, as prescribed by Technical Specifications, was entered. At 1542, on November 22, 1984, charging pump P-55B was returned to service. Technical Specification limits were not exceeded. Charging Pump P-55A remained in service.

On December 4, 1984, at 1429, with the Plant at 97% power, operations personnel discovered that charging pump P-55C could not be started from either the control room or with the local start button. Since charging pump P-55B was inoperable for unrelated repairs, a limiting condition of operation was entered, as in the previous occurrence. At 2334 on December 4, 1984, charging pump P-55C was returned to service. As before, Technical Specification limits were not exceeded. Charging Pump P-55A remained in service.

Although neither of these events were individually reportable, subsequent evaluation completed on January 24, 1985 indicates that a common cause existed for both pump failures. In each case, a closing coil (CL) in the charging pump breaker failed and prevented closure.

Inadequate preventive maintenance for these breakers was determined to have caused the coil problems.

The Palisades Chemical and Volume Control System (CB) is provided with three charging pumps. Under normal conditions, the pumps return coolant to the Primary Coolant System (AB) at a rate equal to purification letdown flow and primary coolant controlled bleed-off flow. Upon receipt of a safety injection signal, the pumps are started and supply concentrated boric acid to the Primary Coolant System. Technical Specification 3.2 requires two operable charging pumps during critical operation, but allows one of the two pumps to be inoperable for 24 hours.

The charging pump breakers (ITE Circuit Breaker Company, Model K255, 480VAC 225 amp) utilize a coil that, when energized, will release a latching mechanism within the breaker and allow closure. Failure of the coil can prevent remote closure, but does not inhibit manual operation with the local closing lever or remote opening capabilities.

Investigation of the coil failures determined that a preventive maintenance program had not been implemented for these breakers. Misadjustment or inadequate lubrication can inhibit closing operation, requiring the coils to be energized for excessive periods which lead to coil failures. In addition, the breaker vendor has indicated that generic failures of these coils have not occurred.

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

Corrective action was initiated in both failures to replace the closing coil, and was completed in sufficient time to avoid exceeding the Technical Specification time limits. Further action will be taken to include these breakers in the preventive maintenance prescribed by Maintenance Procedure MSE-E-10, "480 Volt Breaker Inspection and Repair." An evaluation of other 480 volt load centers will also be performed to determine if other breakers will require implementation of a similar preventive maintenance program.

In both events, corrective action was completed in sufficient time to comply with Technical Specification limits, and the ability to manually start the charging pumps remained available. Since the failure was readily detected, and corrective actions implemented, the additional risk attributable to these events was minimal.

Consumers Power Company

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February 25, 1985

US Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

DOCKET 50-255 - LICENSE DPR-20 - PALISADES PLANT -
LICENSEE EVENT REPORT 84-027 - CHARGING PUMP BREAKER FAILURES

Licensee Event Report (LER 84-027) (Charging Pump Breaker Failures) is attached. This event is reportable to the NRC per 10CFR50.73(a)(2)(v) and (a)(2)(vii).

Ralph R Frisch (Signed)

Ralph R Frisch
Senior Licensing Analyst

CC Administrator, Region III, USNRC
NRC Resident Inspector - Palisades Plant

Attachment

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PAL-LER-84-027A