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)
Inoperable ESF Components

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 6	2 1	8 5	8 5	0 0 7	0 0	0 7	2 2	8 5	N/A	0 5 0 0 0
									N/A	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)			
N		20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)
POWER LEVEL (10)		20.405(a)(1)(i)	50.36(c)(1)	50.73(a)(2)(v)	73.71(c)
0 9 8		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
R A Fenech, 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	
X	B Q	H S	G 0 8 0	Y							
X	B P	V	A 2 0 0	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)

At 1718 on June 21, 1985, with the Plant at 98% power, a condition contrary to Technical Specifications occurred in that a Safety Injection Tank (SIT) and a High Pressure Safety Injection (HPSI) automatic valve were concurrently inoperable. Technical Specifications will allow only one of these conditions at any one time.

The SIT was inoperable due to an expected low level condition that occurred during a boron concentration adjustment. The boron adjustment was necessitated by an increase in SIT level suspected to be caused by inleakage through a Primary Coolant System check valve.

The HPSI valve was inoperable due to a failed control switch. The failure created a condition such that a Safety Injection Signal would open the valve as required, but the valve would have immediately closed after the actuation signal cleared. A similar failure of this type of switch was noted to have previously occurred on February 11, 1985. Both malfunctions have been attributed to a lack of lubrication in the switch. A preventive maintenance activity will be provided for this type of switch. Similar switches will be inspected.

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

At 1355, on June 21, 1985 with the Plant at 98% power, a high level alarm was received for Safety Injection Tank [BP;TK] T-82D. Since this condition indicated a potential dilution of the boron in T-82D, a sample was obtained from the tank and analyzed for boron concentration. At 1514, the T-82D boron concentration was determined to be 1732 parts per million (ppm). Both the high level condition and the resultant boron concentration were within Technical Specification requirements. However, plant procedures institute an administrative limit requiring the Safety Injection Tank (SIT) boron concentration to be above 1750 ppm. Therefore, Operations personnel initiated action to adjust the T-82D boron concentration.

The boron concentration is adjusted by initially draining the SIT to a low level condition and subsequently refilling the tank from the Safety Injection and Refueling Water Tank [BP;TK] T-58. The Safety Injection and Refueling Water (SIRW) tank contains a much greater boron concentration than a SIT. As a result, the drain and fill evolution will result in an increase in the SIT boron concentration.

As a result of the initial draining of T-82D, at 1636, a Limiting Condition of Operation resulted from a low level in this SIT. Technical Specification 3.3.1(b) requires a minimum level of 186 inches for an operable SIT. As indicated by a low level alarm, this condition was not met. Technical Specification 3.3.2(a) allows a SIT to be inoperable for a period of no more than one hour. An inoperable SIT is considered a necessary and acceptable occurrence for limited time periods during this evolution.

To fill a Safety Injection Tank during power operation, operating procedures provide a specific valve alignment and prescribe the use of a HPSI pump [BQ,P] to supply SIRW tank water to the SIT. The valve alignment to fill T-82D utilizes the redundant HPSI system and requires valve MO-3062 [BQ,V] to be partially open. MO-3062 is a normally closed HPSI valve required to automatically open during a Safety Injection actuation. During normal operation, the valve isolates one primary coolant system injection path from one of the redundant HPSI systems.

At 1718, during the valve alignment to fill T-82D, the MO-3062 control switch [BQ,HS] failed in that the switch maintained a closing signal. In this condition, a Safety Injection actuation would have opened MO-3062 normally, but the valve would have immediately closed after the actuation signal cleared. Technical Specification 3.3.2 does not allow an inoperable SIT concurrent with an inoperable emergency core cooling system valve required to function during accident conditions. Technical Specification 3.2.3 provides that when a Limiting Condition for Operation or associated action statement cannot be met because of circumstances in excess of those addressed in the specifications, action shall be initiated within one hour to place the unit in hot standby.

At 1733, SIT T-82D was refilled and declared operable, thereby entering a condition allowed by Technical Specifications and eliminating the need to place the unit in hot standby. Repairs were initiated for the MO-3062 control switch under a 24 hour Limiting Condition for Operation. At 0900, on June 22, 1985, repairs were completed on the control switch and MO-3062 was declared operable.

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

A similar failure was noted to have occurred for HPSI valve MO-3010 on February 11, 1985. In this earlier failure, a surveillance test noted that valve MO-3010 would start to open following a Safety Injection Actuation and then reshut. The hand switch was replaced and satisfactory operation was achieved. This failure was thought to have been caused by a loss of elasticity in an internal spring. Investigation of the MO-3062 failure and the MO-3010 failure indicates that a lack of lubricant in the switch operator may have caused both failures.

In response to a vendor recommendation, a periodic preventive maintenance activity will be provided to lubricate this type of switch. In addition, similar switches which have been in service for more than five years will be inspected to determine the need for repairs or replacement. The switch is a General Electric, CR-2940, "Positive Off" control switch.

Investigation of the initial high level condition of the SIT was performed. Although the path of leakage into the SIT cannot be specifically identified, the dilution of the boron in the tank would indicate inleakage from a lower concentration area such as the Primary Coolant System. Leakage through the check valves in the Safety Injection System from the Primary Coolant System has occurred during prior operation. Repairs were performed to this type of valve during the prior refueling outage to eliminate this type of problem. Additional repairs are being considered for these check valves.

This event involved two components associated with a single Safety Injection flow path. Three redundant flow paths are available for safety injection. Since the condition was corrected in a short time period and involved a single injection flow path, the additional risk attributed to this occurrence was minimal.

Similar Licensee Event Reports involving Safety Injection Tank inleakage were reported in LERs. 83-1, 83-3, 83-11, 83-12, 83-16 thru 83-19, 83-21 thru 83-31, 83-33 thru 83-35, 83-38, 83-40, 83-41, 83-43, 83-44, 83-45, 83-47, 83-48, 83-50, 83-51, 83-52, 83-53, 83-55, 83-58. Also, numerous LERs were submitted in 1982 for this type of problem.

Consumers Power Company

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July 22, 1985

US Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

DOCKET 50-255 - LICENSE DPR-20 - PALISADES PLANT -
LICENSEE EVENT REPORT 85-007- INOPERABLE ESF COMPONENTS

Licensee Event Report (LER) 85-007 Inoperable ESF Components) is attached.
This event is reportable to the NRC per 10 CFR 50.73 (a)(2)(i).

James L Kuemin
Staff Licensing Engineer

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

Attachment

OC0785-0247-NL04

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