Florida
Power
CORPORATION
Crystal River Unit 3
Docket No. 50-302

June 16, 1995
3F0695-09

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

Subject: Licensee Event Report (LER) 95-008-00

Dear Sir:

Please find the enclosed Licensee Event Report (LER) 95-008-00. This report is submitted in accordance with 10 CFR 50.73. This LER will be supplemented to provide cause and corrective action as soon as this information is determined. FPC will have this information within 30 days of an outage of sufficient duration or following Refuel 10 (April 1996), whichever occurs first.

Sincerely,

BJ Hickle for

G. L. Boldt
Vice President
Nuclear Production

GLB/JAF:ff

Attachment

xc: Regional Administrator, Region II
Project Manager, NRR
Senior Resident Inspector

IE22

NRC FORM 366 (5-92) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104

EXPIRES 5/31/95

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HOURS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (MNBB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, 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)
CRYSTAL RIVER UNIT 3 (CR-3)	0 5 0 0 0 3 0 2	1 OF 0 5

TITLE (4)

Oil Leakage from Reactor Coolant Pump Motors Not Collected by Lube Oil Collection System Leads to Operation Outside Design Basis

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)
									N/A	0 5 0 0 0
0 5	1 9	9 5	9 5	0 0 8	0 0	0 6	1 6	9 5	N/A	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)	50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	
		20.405(a)(1)(iv)	X 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
J. A. Frijouf, Nuclear Regulatory Specialist	9 0 4 5 6 3 - 4 7 5 4

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	

SUPPLEMENTAL REPORT EXPECTED (14)		EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
X YES (If yes, complete EXPECTED SUBMISSION DATE)	NO		0 4	3 0	9 6

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

On May 19, 1995, Florida Power Corporation's (FPC) Crystal River Unit 3 (CR-3) was in MODE ONE (POWER OPERATION), operating at 100% reactor power and generating 867 megawatts. At that time, FPC personnel concluded that not all of the oil leakage from the reactor coolant pump motors was being collected by the lube oil collection system. The event was reported to the Nuclear Regulatory Commission at 1430 on May 19, 1995, via 10 CFR 50.72(b)(1)(ii)(B) and was assigned the event number 28835. Evaluations determined that no operability or safety concerns were present. Since access to the area around the lube oil collection system is prohibited when the reactor is critical, determination of the cause of the leakage must be accomplished during an outage of sufficient duration. Following the determination of the cause, a corrective action plan will be developed. A supplement will be provided within 30 days of the corrective action plan development (no later than 4/30/96).

EVENT DESCRIPTION:

On May 19, 1995, Florida Power Corporation's (FPC) Crystal River Unit 3 (CR-3) was in MODE ONE (POWER OPERATION), operating at 100% reactor power and generating 867 megawatts. At that time, FPC personnel concluded that not all of the oil leakage from the reactor coolant pump [AB,P](RCP) motors [AB,P,MO] was being collected by the lube oil collection [LM](LOC) system. Immediately following the discovery of this event, FPC issued a Problem Report.

The event was conservatively determined to be a potential design basis issue, and was reported to the Nuclear Regulatory Commission at 1430 on May 19, 1995, via the Emergency Notification System per the requirements of 10 CFR 50.72(b)(1)(ii)(B) and was assigned the event number 28835. An operability evaluation was conducted which concluded that the LOC system was degraded but operable based upon the most probable leakage pathway.

The LOC system was designed and installed in response to 10 CFR 50 Appendix R requirements for fire protection. This system collects and retains RCP motor lubricating oil in two four hundred gallon tanks [LM,TK](LOT-4A & LOT-4B). As a result of trending results for oil additions to RCPs and collections from LOT-4A & LOT-4B, FPC personnel concluded that almost all of the approximately 115 gallons added since June, 1994, had not been recovered by the LOC system. Oil not recovered by the LOC system eventually migrates into the reactor building [NH](RB) sump. A small amount of this oil is entrained in the sump water which is pumped to the Miscellaneous Waste Storage Tank [WD,TK](MWST). The rest remains floating on the surface of the water in the sump.

A design basis review of this event was conducted on June 5, 1995. FPC engineering personnel determined that this event constituted a potential design basis issue.

An RB entry was made on June 8, 1995. One of the purposes for this entry was to verify, insofar as possible, the conclusions that had been reached relative to the LOC system leakage. Since CR-3 was operating at power, an inspection of the LOC system (inside the secondary shield wall) was precluded. However, access to the RB sump was possible. When subsequent confirmation of the RB sump contents was accomplished, FPC personnel verified that the majority of the uncontained RCP motor lube oil had migrated to the RB sump, as expected. The RB sump contained an estimated 45 to 95 gallons of oil, based on a measurement of the oil layer thickness. Additionally, 10 gallons of oil were pumped from LOT-4A & LOT-4B, indicating that the LOC system remains intact. This report is submitted in accordance with 10 CFR 50.73(a)(2)(ii)(B).

EVENT EVALUATION

Uncontained oil in the RB sump presents two issues that potentially affect the safe operation of CR-3. The first issue involves a Large Break Loss of Coolant Accident (LBLOCA) with RCP motor lube oil in the sump and the second issue is the potential fire hazard associated with uncontained RCP motor lube oil.

The LBLOCA issue is addressed in Babcock & Wilcox (B&W) document 77-1172291-00, "Evaluation of RCP Lube Oil in RB Sump". This report concludes that the impact of spilling the entire RCP lube oil inventory would be insignificant. The amount of oil (760 gallons) would amount to less than 0.2% of the total liquid inventory on the RB floor following a LBLOCA. The oil would probably remain on the surface as a thin film and never reach the suction of the decay heat or RB spray pumps used to mitigate the event, and would therefore have only an insignificant effect on the postulated event.

The fire hazard issue has been considered in a recent FPC study conducted as part of an unrelated issue. The study concluded any RCP motor lube oil leakage will be contained within the secondary shield wall, or will migrate to the RB sump. These areas are both in compliance with Appendix R requirements for protection and separation of redundant safe shutdown circuits inside containment. Therefore, although unlikely, should a fire occur, the safe shutdown capability of the plant would not be compromised.

Since no substantive operability or safety issues relative to operation under the current conditions remain unanswered, continued operation of the plant does not present any threat to or compromise of the health and safety of the general public.

CAUSE

The root cause of this event has not been positively determined since access to the LOC system with the reactor critical is prohibited. The source of leakage is suspected to be from thermocouples in the RCP motors. A careful review revealed that several of these thermocouples could have been replaced with models not designed for oil submergence. This suspected leakage path would then allow oil to run down the inside of their associated conduits and out through an auxiliary connection box. Since the conduit runs extend outside the bounds of the LOC system, this appears to be a possible scenario. FPC will conduct an inspection and verify the root cause of this condition at the earliest outage of sufficient duration, or during Refuel Outage 10, during April 1996, whichever occurs earlier. The root cause will be reported in a supplement to this LER.

IMMEDIATE CORRECTIVE ACTION

Since access to the LOC system is prohibited during power operation, no immediate corrective actions were possible.

ADDITIONAL CORRECTIVE ACTION

1. An RB entry will be made to conduct an investigation of the LOC system during the first outage of sufficient duration or during Refuel 10 (April 1996), whichever occurs first.

2. A root cause analysis of the LOC system leak and development of a corrective action plan will be performed within one month following the RB investigation.

3. Additional corrective actions may be established by the corrective action plan and will be reported in a supplement to this LER.

ACTION TO PREVENT RECURRENCE

1. Actions to prevent recurrence will be established by the corrective action plan and will be reported in a supplement to this LER.

2. In anticipation of the expected root cause for the LOC system leakage being verified (thermocouple leakage), FPC ordered replacement thermocouples to be stocked in FPC stores for immediate availability.

PREVIOUS SIMILAR EVENTS

There have been two previous reportable events involving the RCP motor LOC system. LER 88-009-00 and LER 92-022-00 both address the issue of insufficient reserve volume in the RCP motor LOC system tanks.

ATTACHMENT

Attachment 1 - Abbreviations and Acronyms

ATTACHMENT 1

Abbreviations and Acronyms

APPENDIX R	Appendix R to 10 CFR part 50. Fire Protection Program for Nuclear Power Facilities Operating Prior to January 1, 1979
B&W77-1172291-00	Evaluation of RCP Lube Oil in RB Sump Report
CR-3	Crystal River Unit 3
FPC	Florida Power Corporation
LBLOCA	Large Break Loss of Coolant Accident
LOC	Lube Oil Collection
LOT-4A & LOT-4B	Lube Oil Tanks 4-A and 4-B
MODE ONE	Power Operation
MWST	Miscellaneous Waste Storage Tank
RB	Reactor Building
RCP	Reactor Coolant Pump
REFUEL 10	Refueling outage with expected ending date of April 30, 1996