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ACCESSION NBR:8912180011 DOC.DATE: 89/12/11 NOTARIZED: NO DOCKET #
FACIL:50-250 Turkey Point Plant, Unit 3, Florida Power and Light C 05000250
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RECIP.NAME RECIPIENT AFFILIATION

SUBJECT: LER 89-016-00:on 891110,potential for overflowing RCP motor lube oil collection tank resulting in unit being outside DB.
W/8 ltr.

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TITLE: 50.73/50.9 Licensee Event Report (LER), Incident Rpt, etc.

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P.O. Box 14000, Juno Beach, FL 33408-0420

DEC 11 1989

L-89-447
10 CFR 50.73

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

Gentlemen:

Re: Turkey Point Unit 3
Docket No. 50-250
Reportable Event: 89-16
Date of Event: November 10, 1989
Potential for Overflowing the Reactor Coolant Pump Motor Lube Oil Collection Tank Resulting in the Unit Being Outside of its Design Basis

The attached Licensee Event Report is being submitted pursuant to the requirements of 10 CFR 50.73 to provide notification of the subject event.

Very truly yours,

K. N. Harris
Vice President
Turkey Point Plant Nuclear

KNH/BF/rat

cc: Stewart D. Ebneter, Regional Administrator, Region II, USNRC
Senior Resident Inspector, USNRC, Turkey Point Plant

IE22
1/1

NRC Form 366
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO 3150-0104
EXPIRES: 8/31/88

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
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TITLE (4): Potential For Overflowing The Reactor Coolant Pump Motor Lube Oil Collection Tank Resulting In The Unit Being Outside Of Its 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)
1 1	1 0	8 9	8 9	0 1 6	0 0	1 2	1 1	8 9		0 5 0 0 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)	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
David R. Powell, Regulation and Compliance Supervisor	AREA CODE 3 0 5 — 2 4 6 - 6 5 5 9

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

SUPPLEMENTAL REPORT EXPECTED (14)

[ ] YES (If yes, complete EXPECTED SUBMISSION DATE) [X] NO

EXPECTED SUBMISSION DATE (15): MONTH | DAY | YEAR

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

On November 10, 1989 at approximately 1410, with Unit 3 at approximately 100 percent power (Mode 1), FPL determined that a condition existed that resulted in the plant being outside of its design basis. A catastrophic failure of the 3A Reactor Coolant Pump (RCP) Motor lube oil system would result in the RCP Lube Oil Collection Tank overflowing. This condition does not conform to an exemption from the requirements of 10 CFR 50 Appendix R (III)(O) granted by the NRC. This exemption was granted on the basis that the oil collection tank could hold the contents of one RCP motor, with additional margin to contain the normal leakage from the other two pumps. The root cause of this event was inadequate design and material control programs prior to when this pump was installed in 1982. Additional capacity will be provided for the Unit 3 oil collection tank prior to the end of the dual unit Emergency Power Enhancement Outage. Additional review of the as delivered design of the 3A RCP Motor will be performed and corrective actions taken as required. The current procurement and design control programs are sufficient to preclude recurrence of this event.

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

DESCRIPTION OF EVENT

On November 10, 1989, at approximately 1410, with Unit 3 at approximately 100 percent power (Mode 1), FPL determined that a condition existed that resulted in the plant being outside of its design basis. The plant did not meet the conditions of an exemption from the requirements of 10 CFR 50 Appendix R (III)(O) granted by the NRC. This exemption was granted by the NRC in a letter dated March 27, 1984, titled "Exemption Requests for Turkey Point Plant Unit Nos. 3 and 4 - 10 CFR 50, Appendix R, Fire Protection Program for Nuclear Power Facilities Operating Prior to January 1, 1979." Specifically, in the worst case scenario the catastrophic failure of the 3A Reactor Coolant (RCP - EIIS:AB) Motor lube oil system will result in the Unit 3 RCP Oil Collection Tank overflowing. This condition does not conform to the approved exemption.

Title 10 CFR 50 Appendix R (III)(O) requires that the RCP Oil Collection System drain to a tank that is capable of containing the entire lube oil system inventory. In the safety evaluation granting Turkey Point an exemption from this requirement the NRC states "The oil collection tank is provided with sufficient capacity to hold the total lube oil inventory of one reactor coolant pump with margin and is designed so that any overflow will be drained to a safe area. We agree with the licensee that this combination of features is acceptable." During an FPL review of its fire protection program to insure compliance with NRC requirements and commitments, the 3A RCP Motor was identified as having a larger lube oil inventory (275 gallons) than the lube oil inventory of the RCP Motors (200 gallons each) used as the basis for the RCP Oil Collection Tank exemption. Assuming that the 3A motor's lube oil system fails at the end of an eighteen month cycle and that the B and C motors each leak 10 gallons of oil per year, 30 gallons total (design basis leak rate), into the Lube Oil Collection Tank the Lube Oil Collection Tank could receive 305 gallons of oil as a result of a failure of 3A RCP Lube Oil system. Conservatively estimating the RCP Oil Collection Tank's capacity to be 251 gallons, in the worst case scenario, the failure of the 3A RCP Motor's lube oil system would result in 54 gallons of oil overflowing from the tank. During a review for reportability of inconsistencies identified in the fire protection program by the Regulation and Compliance group, on November 10, 1989 it was determined that the plant was outside of its design basis due to the RCP Oil Collection Tank being unable to meet the conditions of the NRC's exemption.

This condition was reported to the NRC as required by 10 CFR 50.72(b)(1)(ii)(b) at approximately 1423 EST on November 10, 1989.

CAUSE OF EVENT

A detailed investigation determined that the root cause of this event was inadequate design and material control prior to when the motor was installed in 1982.

ANALYSIS OF EVENT

If the oil reservoirs in the 3A RCP Motor catastrophically failed, in the worst case scenario, the contents would be transferred to the oil collection tank, overflowing the tank through the installed vent connection. The oil which overflowed would be transferred by this vent to the containment floor (EIIS:NH) at the 14 foot elevation. The floor at the 14 foot elevation is sloped and would drain the spill into a covered trench which would in turn drain the oil into the containment sump (EIIS:WK). The total potential overflow to the sump as a result of the failure of the 3A RCP Motor lube oil system at the end of an eighteen month cycle could be a maximum of approximately 54 gallons. This number assumes that the oil collection tank already contains the maximum expected oil leakage due to normal operation (30 gallons) from the 3B and 3C RCP Motors.

A plant walkdown, performed prior to the granting of the exemption request by the NRC, determined that the oil collection tank is located away from high temperature piping and is situated as far as practical from safe shutdown equipment and cables. Also, piping in the area with a service temperature of greater than 150 degrees is insulated. The containment operating temperature is normally below 125 degrees and the normal operating temperature of the oil is 200 degrees, which is well below the oil's flash point.

In the NRC Safety Evaluation Report which granted FPL the exemption from the requirement to have an oil collection system which is capable of containing the entire inventory of the RCP motors, the NRC evaluated the possibility of the collection tank overflowing. The NRC evaluation considered the failure of more than one RCP Motor lube system resulting in an overflow of the oil collection tank onto the lower containment floor. Because any overflow would be drained to a safe area, the NRC determined the potential overflow condition to be acceptable.

CORRECTIVE ACTIONS

Corrective actions for the RCP Oil Collection Tank overflow concern include:

1) Procedure 0-OSP-200.2, "Plant Startup Surveillances," has been revised to require the performance of procedure 0-SME-061.1, "Reactor Coolant Pump Oil Collection System," prior to the unit changing from Mode 5 to Mode 4. Also, procedure 0-SME-061.1 has been revised to require that procedure 0-PME-061.1, "Reactor Coolant Pump Oil Collection System," be used to drain any oil found in the collection tank.

2) A Request for Engineering Assistance (REA) has been written requesting that additional RCP lube oil collection capacity be provided. This additional capacity will be provided prior to the end of the scheduled dual unit Emergency Power Enhancement outage. The Emergency Power Enhancement outage is currently scheduled by the Intergrated Schedule to end in June 1991.

3) Additional review of the as delivered design of the 3A RCP Motor will be performed to identify any other differences between it and the original RCP Motors. Any differences identified will be evaluated and any corrective actions needed will be taken.

The following programs are in place to prevent recurrence of this event:

1) Improved material control practices (Performance Enhancement Project, project 9 task 24) are in place to prevent the purchase, receipt, and acceptance of items which do not conform to design requirements. Quality Instructions have been developed and included into plant procedures to provide the bases for the FPL material control program, e.g., QI 4-PTN-1, "Procurement Document Control," and QI 7-PTN-2, "Receipt Inspection." An example of the improved material control practices in place are the current receipt inspection requirements. At the time that this item was received receipt inspections were required to verify only that the item had no physical damage and that any required FPL inspection points had been witnessed. Additional requirements are contained in the current receipt inspection. Among these are the requirements to verify that all quality related documentation required by the purchase order is received and that the material received corresponds to the documentation.

2) Engineering procedures for design output documents currently require consideration of Fire Protection and Design Integration issues. In 1987, a specific Fire Protection Checklist was added to the Quality Instruction covering the development of PC/Ms. One of the items specifically addressed by this checklist is the RCP Oil Collection system.

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

ADDITIONAL INFORMATION

LER 250 89-09 describes a previous 10 CFR 50 Appendix R concern.