

CATEGORY 1

REGULATOR INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 9707220413 DOC. DATE: 97/07/14 NOTARIZED: NO DOCKET.# ..
 FACIL: 50-250 Turkey Point Plant, Unit 3, Florida Power and Light Co 05000250
 AUTH. NAME AUTHOR AFFILIATION
 MOWREY, C.L. Florida Power & Light Co.
 HOVEY, R.J. Florida Power & Light Co.
 RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 97-005-00: on 970618, RCP oil collection sys was found outside design basis. Caused because design did not consider component parts to be potential leakage sources. Entire RCP oil collection sys was reviewed. W/970714 ltr.

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JUL 14 1997

L-97-0169

10 CFR 50.73

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

Re: Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
Reportable Event: 97-005
Date of Event: June 18, 1997
Reactor Coolant Pump Oil Collection System Outside 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,

MIL

R. J. Hovey
Vice President
Turkey Point Plant

CLM

Attachment

cc: Regional Administrator, USNRC Region II
Senior Resident Inspector, USNRC, Turkey Point Plant

9707220413 970714
PDR ADDCK 05000250
S PDR

210052



LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) <div style="text-align: center;">TURKEY POINT UNIT 3</div>	DOCKET NUMBER (2) <div style="text-align: center;">05000250</div>	PAGE (3) <div style="text-align: center;">1 OF 4</div>
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TITLE (4) **REACTOR COOLANT PUMP OIL COLLECTION SYSTEM OUTSIDE DESIGN BASIS**

EVENT DATE (5)			LER NUMBER(6)			RPT DATE (7)			OTHER FACILITIES INV. (8)	
MON	DAY	YR	YR	SEQ #	R#	MON	DAY	YR	FACILITY NAMES	DOCKET # (S)
6	18	97	97	05	00	7	14	97	TURKEY POINT UNIT 4	05000251

OPERATING MODE (9)	1/1	10 CFR 50.73(a)(2)(ii)
POWER LEVEL (10)	100/100	

LICENSEE CONTACT FOR THIS LER (12)	
C.L. MOWREY, COMPLIANCE SPECIALIST	Telephone Number
	(305) 246-6204

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)									
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	NPRDS?	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	NPRDS?
									N

SUPPLEMENTAL REPORT EXPECTED (14) NO <input checked="" type="checkbox"/> YES <input type="checkbox"/>	EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
(if yes, complete EXPECTED SUBMISSION DATE)				

ABSTRACT (16)

During planning for a modification, Florida Power & Light Company determined that the design of the Reactor Coolant Pump (RCP) Oil Collection System does not capture leakage from all potential leakage sites. Specifically, the level switches, their associated piping flanges, the level sightglasses, and the lube oil cooler piping drain are not protected from being potential leakage sites, and are not provided with leakage collection. This condition places both Turkey Point units outside the design basis as stated in the Updated Final Safety Analysis Report.

The original RCP Oil Collection System design did not consider these component parts to be potential leakage sources. The NRC's Safety Evaluation Report approving Turkey Point's Oil Collection System was received several months prior to the time that 10CFR50 Appendix R was issued. It appears that when Appendix R was issued, the design was not reconciled with respect to the exact wording of section III.O.

The Oil Collection System will be modified to collect potential leakage from these points. In the interim, the Oil Collection System is considered operable.

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I. DESCRIPTION OF THE EVENT

On June 18, 1997, Florida Power & Light Company's (FPL) Turkey Point Units 3 and 4 were at 100 percent power. During the planning for a modification, FPL determined that the Reactor Coolant Pump (RCP) [AB:p]. Oil Collection System was not designed to capture leakage from all potential leakage sites. Because Unit 3 and Unit 4 have similar RCP motors [AB:mtr] and Oil Collection Systems, the design deficiencies are applicable to both units.

The existing RCP Oil Collection System design consists of oil spray enclosures (shields) and drip pans on each RCP motor. A gravity drain piping system is provided to transport any accumulated oil from these devices to a closed vented oil collection tank. The tank is located outside the secondary shield wall, away from any sources of heat greater than the oil's flashpoint.

10CFR50 Appendix R section III.O requires, in part, that, "Such collection systems shall be capable of collecting lube oil from all potential pressurized and unpressurized leakage sites in the reactor coolant pump lube oil systems.... Leakage points to be protected shall include lift pump and piping, overflow lines, lube oil cooler, oil fill and drain lines and plugs, flanged connections on oil lines, and lube oil reservoirs where such features exist on the reactor coolant pumps." Turkey Point's interpretation of these requirements is that all possible leakage points shall be collected (if they are considered potential leakage points), or protected (from being potential leakage points). Therefore to satisfy 10CFR50 Appendix R section III.O, Turkey Point's Oil Collection System must collect potential leakage from all potential leakage sites, and protect other sites from being potential leakage sites.

Appendix 9.6A of Turkey Point's Updated Final Safety Analysis Report (UFSAR) describes the plant's fire protection program. Section 2.5 of that appendix is a lineup of 10CFR50 Appendix R requirements and Turkey Point's method of conformance or alternative. For 10CFR50 Appendix R, section III.O, the UFSAR states, in part, "The system collects potential leakage from the oil lift pump and piping, lube oil cooler, flanged connections on oil lines, and lube oil reservoirs." Other possible sites are protected as follows, "The upper bearing assembly overflow/vent path is protected because oil would first leak through a shaft seal located below the overflow/vent connection. This oil would then be collected in the lower bearing oil reservoir collection assembly.. The fill lines are protected by being above normal operating levels and by being sealed with screw caps. The drain lines are protected by having valves and by being plugged with threaded caps to ensure leak-tight integrity."

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UFSAR Appendix 9.6A, section 3.10.3, further describes the Oil Collection System, "Oil collection assemblies are provided for the oil lift pump system, lower bearing oil reservoir and the bearing oil cooler. The bearing oil cooler collection assembly collects oil from the bearing oil cooler upper pipe flange, lower pipe flange, upper end flange and lower end flange."

The UFSAR describes neither collection nor protection for the upper and lower level switch assemblies and associated piping flanges, the level sightglasses, and the lube oil cooler piping drain. FPL therefore determined that the design of the RCP Oil Collection System was deficient in that not all potential oil leakage sources have provisions for collection.

II. CAUSE OF THE EVENT

The original RCP Oil Collection System design did not consider these component parts to be potential leakage sources because they were essentially unpressurized and considered unlikely to develop a significant rate or volume of leakage. The reservoirs operate at atmospheric pressure or at a slightly positive pressure. Therefore, design features were not provided to collect oil from these locations. The NRC's Safety Evaluation Report approving Turkey Point's Oil Collection System was received several months prior to the time that 10CFR50 Appendix R was issued. It appears that when Appendix R was issued, the design was not reconciled with respect to the exact wording of section III.O.

III. ANALYSIS OF THE EVENT

The uncollected potential leakage sites were assessed in order to characterize any postulated leakage and the resultant fire potential. Any postulated leakage would be from a low or zero pressure source. Therefore, postulated oil leakage would not be sprayed (atomized), but would result in only minor drips of uncollected oil. The fire potential of such leakage is minimal; if a drip were to come in contact with a hot surface (temperature over the oil ignition temperature) it would not accumulate; the drop would burn but not support further combustion. If it comes in contact with a cool surface it could locally accumulate, but would eventually migrate to the floor. Oil accumulating on the floor would flow to floor drains based on floor slope. Lubricating oil on the floor or in the sump is not subject to ignition because the floor is a vast heat sink which will maintain the oil at a low temperature and prevent it from reaching its ignition point. Therefore, the potential for a fire resulting from minor oil leakage from these locations is not considered credible.

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Since no significant leakage has been experienced from the uncollected potential leakage sites, and since these sites are not expected to suffer any significant leakage, the condition reported herein did not compromise the health or safety of plant personnel or the general public.

IV. CORRECTIVE ACTIONS

1. The entire RCP Oil Collection System was reviewed to ensure that all potential leakage sites were identified.
2. A modification will be implemented on the Unit 4 RCP Oil Collection System to ensure that any future oil leakage from the uncollected potential leakage sites would be captured by the system. FPL intends to complete this modification during the Cycle 17 refueling outage, scheduled to start in early September. Should design, procurement, or construction difficulties arise which prevent completion, the modification will be completed no later than the Cycle 18 refueling outage, presently scheduled for the spring of 1999.
3. Similar modifications will be implemented on the Unit 3 RCP Oil Collection System. These modifications are presently scheduled to be completed during the Cycle 17 refueling outage (fall 1998).

V. ADDITIONAL INFORMATION

Similar events: Licensee Event Report 250/89-016 also reported a condition of the RCP Oil Collection System outside the design basis. The size of the collection tank was determined to be less than that required by an approved exemption to 10CFR50 Appendix R, section III.O, as a result of replacement of the 3A RCP motor with a motor having a larger oil capacity. The corrective actions for this event could not have been reasonably expected to result in discovery of the condition reported herein.

EIIS Codes are shown in the format [EIIS SYSTEM: IEEE component function identifier, second component identifier (if appropriate)].

