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FACIL:50-250 Turkey Point Plant, Unit 3, Florida Power and Light C 05000250
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RECIP.NAME RECIPIENT AFFILIATION

SUBJECT: LER 88-011-01:on 880529,mispositioned diesel oil transfer valve due to personnel error.

W/8 ltr.

DISTRIBUTION CODE: IE22D COPIES RECEIVED:LTR 1 ENCL 1 SIZE: 6
TITLE: 50.73 Licensee Event Report (LER), Incident Rpt, etc.

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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)
Turkey Point Unit 3	0 5 0 0 0 2 5 0	1 OF 0 5

TITLE (4) Mispositioned Diesel Oil Transfer Valve Due to Personnel Error Results in Potential Loss of Long Term Fuel Supply to Emergency Diesel Generators

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 5	2 9	8 8	8 8	0 1 1	0 1	0 9	2 1	8 8	Turkey Point Unit 4	0 5 0 0 0 2 5 1
										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)	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)	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
	AREA CODE
Edward Lyons, Compliance Engineer	3 0 5 2 4 6 - 6 7 3 1

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)		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 May 31, 1988, while performing a test of the Emergency Diesel Generator (EDG) fuel oil transfer pumps, operations personnel discovered that valve 70-003, diesel oil storage tank isolation valve, was locked closed instead of locked open as required. With valve 70-003 closed, the fuel oil supply to each EDG was limited to the amount of fuel oil contained in each respective EDG day tank and skid tank. This amount is sufficient for approximately 16 hours of continuous operation of each EDG. Subsequent investigation determined that the valve had been closed by a chemistry technician on May 29, 1988, while obtaining a sample from the diesel fuel oil storage tank. By manipulating valve 70-003, the technician performed an operation not required by the sampling procedure. The cause of the event was primarily personnel error and poor work controls for sampling. After discovery of the mispositioned valve, the valve was returned to the open position, verified open, and the fuel oil system satisfactorily tested. Further corrective actions include training for nuclear chemistry personnel, establishing a "spare copy" file for chemistry sampling procedures and changing of valve locks for valves critical to process flow paths.

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

EVENT

On May 31, 1988, at 1445, with both units at 100% power, operations personnel attempted to perform procedure OP 4304.4, "Diesel Oil Transfer System Periodic Test of Pumps." Proper flow through the "A" Emergency Diesel Generator fuel oil transfer pump could not be developed. An investigation determined that valve 70-003, diesel oil storage tank isolation valve, was locked closed. This valve is normally required to be locked open. At 1452 valve 70-003 was repositioned to locked open and verified to be locked open.

The fuel oil transfer system at Turkey Point consists of a single fuel oil storage tank which normally contains a minimum of 40,000 gallons of diesel fuel oil. One EDG day tank is provided for each of two EDG's. Separate fuel oil transfer pumps are provided to transfer fuel oil from the EDG storage tank to the EDG day tanks. However, both fuel oil transfer pumps take suction from a common line containing valve 70-003. Each EDG day tank gravity feeds to an EDG skid mounted tank. At the time of the event, the skid tank for the "A" EDG contained 210 gallons of fuel oil and the day tank contained 3300 gallons of fuel oil. The skid tank for the "B" EDG contained 205 gallons of fuel oil and the day tank contained 3400 gallons of fuel oil.

An investigation conducted subsequent to the event determined that valve 70-003 had been isolated on May 29, 1988, at approximately 1700, by a chemistry technician while obtaining a sample from the EDG fuel oil storage tank. The technician erroneously believed that the valve was locked closed, and therefore, opened the valve in order to allow a second technician to obtain a sample from the downstream sample valve (70-004). After the sample was obtained, the first technician closed and locked valve 70-003, believing that this was the original position. The technician did not note the number of turns required to open valve 70-003, but later stated that it was probably about 3-5 turns. Valve 70-003 requires approximately 14 full turns in order to go from fully closed to fully open. When the valve is in the open position, it is normally closed about 1/2 to 1 1/2 turns from full open.

CAUSE OF EVENT

The cause of the event was primarily personnel error in that the technician performed a valve manipulation not required by procedure. In addition, it was considered accepted practice by chemistry department supervision to allow the technicians to review the sampling procedure in the lab and then go to the field to obtain the sample without the procedure in hand. The following factors contributed to this event.

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

1) The procedure was not taken into the field to complete the task due to the fact that the procedure was simple, required no signoffs for the task being performed and there was no procedure "spare copy" file available to the technicians.

2) The technician did not understand the importance of administrative controls for locking valves in position. Valve 70-003 was tagged "locked open", however the technician did not read the tag.

3) The lock on the sample valve (70-004) was the same as the lock on valve 70-003. This allowed the technician to operate a critical valve even though the procedure did not require it.

ANALYSIS

The isolation of valve 70-003 resulted in the EDG fuel oil storage tank being inoperable for approximately 46 hours. Under this condition, the EDG day tanks would still be able to supply enough fuel oil to the EDG's to operate for approximately 16 hours. If operation of either EDG were required, the EDG would have started as required. When the level of the fuel oil in the day tank reached 7 feet, 9 inches, the associated transfer pump would have automatically started. When the level of the day tank reached 7 feet, 7 inches, a hi\low level alarm would have been received in the control room. Due to the difference between the pump start setpoint and the alarm setpoint, the transfer pump could have started and run for approximately 45 minutes before the alarm was received. Following the event, a test was conducted to determine if isolation of valve 70-003 would have caused failure of the transfer pump prior to receipt of the low level alarm and subsequent operator actions. A pump identical to the transfer pump was operated under conditions simulating the as found field conditions. Test results indicate that the existing diesel oil transfer pumps would not have been significantly degraded when operated with the suction valve isolated for a time period less than 2 hours. The test results further demonstrate that the pump could have remained functional for longer periods than the two hours as tested.

The probability of not restoring AC power within 16 hours is very low, as demonstrated by a previous EDG load evaluation. This probability is substantially decreased by the presence of the five black start diesels located at the Turkey Point site. If required, the black start diesels can be used to provide AC power to Turkey Point Unit 3 and 4 vital busses.

CORRECTIVE ACTIONS

1) Valve 70-003 was opened, locked and verified to be locked open.

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

2) Operability of the diesel oil transfer system was verified by testing.

3) The technician involved was disciplined.

4) The responsibility for ensuring that chemistry technicians are qualified for the tasks they perform has been re-emphasized to the chemistry supervisors. A matrix of technician qualifications versus tasks has been developed in order to aid the supervisor in ensuring that technicians are qualified to perform the tasks they are assigned.

5) The Chemistry Supervisor conducted a training session with chemistry personnel to discuss worker responsibilities. The session emphasized procedural compliance, slowing down of work pace and teamwork. The Chemistry Supervisor also issued a letter to chemistry personnel requiring that each task may only be performed by personnel who have successfully performed the same task in the past, or otherwise under direct supervision.

6) Procedure 0-ADM-650 "Chemistry Department Policy Procedure" was issued. This procedure details requirements for chemistry department procedural compliance.

7) The training department has revised chemistry training to include additional instruction on procedure usage, and will revise chemistry training further to include instruction on valve types, valve position determination and valve identification. This action will be complete by December 31, 1988.

8) The training department issued Information Bulletin 88-02 to plant personnel. This bulletin details administrative requirements for work controls and procedural compliance. Tests were given to selected individuals to determine the effectiveness of the training bulletin. The results from this testing were evaluated, and indicate that further training on work controls is required for first line supervisors. This training will be conducted by September 30, 1988.

9) Chemistry procedures that require valve manipulations will be revised to require signoff or, where necessary, signoff and independent verification of valve position. This action will be complete by December 31, 1988. As an interim action, a spare copy file has been established and the chemistry technicians are being required to take specific sampling procedures to the field and signoff in the margin of the procedure for completion of each step performed.

10) Valves which are essential to process flow paths and are administratively required to be locked in position will have their locks changed so that only operations personnel will be able to manipulate the valves. This action will be complete by December 31, 1988.

11) A test was conducted to determine how long the fuel oil transfer pumps would have remained operational if the pumps were operating and valve 70-003 was isolated. The test results indicate that the diesel oil transfer pumps performance would not be significantly degraded when operated for up to 2 hours. The test results further demonstrate that the pump could have remained functional for longer periods than the two hours as tested.

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12) Training on work controls will be incorporated in General Employee Training (GET), New Employee Training and continuing training programs for plant staff. This action will be completed by December 15, 1988.

13) Systems training will be incorporated into continuing training programs for chemistry technicians. This action will be completed by September 27, 1988.

ADDITIONAL INFORMATION

Similar occurrences: LER 251 87-017 describes a similar occurrence.

P. O. BOX 14000, JUNO BEACH, FL 33408-0420

FPL

SEPTEMBER 2 1 1988

L-88-417
10 CFR 50.73

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

Gentlemen:

Re: Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
Reportable Event: 250-88-11 Revision 1
Date of Event: May 29, 1988
Mispositioned Diesel Oil Transfer Valve
Due to Personnel Error Results in Potential Loss of
Long Term Fuel Supply to Emergency Diesel Generators

The attached Licensee Event Report Revision is being submitted to provide an update on the corrective action. Our original report was issued June 30, 1988 in FPL Letter L-88-283.

Very truly yours,

W. F. Conway
Senior Vice President - Nuclear

WFC/SDF/gp

Attachment

cc: Dr. J. Nelson Grace, Regional Administrator,
Region II, USNRC
Senior Resident Inspector, USNRC, Turkey Point Plant

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