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 FACIL: 50-250 Turkey Point Plant, Unit 3, Florida Power and Light C      05000250  
 AUTH. NAME      AUTHOR AFFILIATION  
 MOWREY, C.L.      Florida Power & Light Co.  
 PLUNKETT, T.F.      Florida Power & Light Co.  
 RECIP. NAME      RECIPIENT AFFILIATION

SUBJECT: LER 91-010-00: on 910123, TS 3/4.7.7 violated by inadequate leak testing of Fe-55 source. Caused by test instruments' lack of sensitivity. Proper leak tests performed on sealed sources & purchase/test procedures revised. W/920324 ltr.

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NOTES: NRR RAGHAVAN, L

05000250

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FPL

P.O. Box 029100, Miami, FL, 33102-9100

MAR 24 1992

L-92-087  
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: 91-010-00  
Inadequate Leak Teating of Iron-55

The attached Licensee Event Report 250-91-010-00 is being provided in accordance with 10 CFR 50.73 (a) (2) (i).

If there are any questions please contact us.

Very truly yours,

T. F. Plunkett  
Vice President  
Turkey Point Nuclear

TFP/CLM/cm

enclosures

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

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# LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) <b>TURKEY POINT UNITS 3 and 4</b>	DOCKET NUMBER (2) <b>05000250</b>	PAGE (3) <b>1</b> of <b>3</b>
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TITLE (4) **Inadequate Leak Testing of Iron-55 Source**

EVENT DATE (5)			LER NUMBER (6)			RPT DATE (7)			OTHER FACILITIES INV. (8)			
MON	DAY	YR	YR	SEQ #	R#	MON	DAY	YR	FACILITY NAMES			
01	23	91	91	010	00	03	24	92	TURKEY POINT UNIT 4			
												DOCKET # (5) <b>05000251</b>

OPERATING MODE (9) <b>1/1</b>	POWER LEVEL (10) <b>50/100</b>	<u><b>10 CFR 50.73(a) (2) (i)</b></u>
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LICENSEE CONTACT FOR THIS LER (12)

<b>Craig L. Mowrey, Licensing Engineer</b>	TELEPHONE NUMBER <b>305-246-6204</b>
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COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	NPRDS?	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	NPRDS?

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)

On February 28, 1992, during a review of industry information, Health Physics personnel identified a deficiency in the leakage testing of sealed sources. Leak testing is required by Technical Specification (TS) 3/4.7.7. It was determined that the instrument used for leak testing of a metal alloy analyzer containing an Iron-55 sealed source did not have the required sensitivity to detect the low energy emissions produced by the Iron-55 source. Therefore TS 3/4.7.7 was violated as of January 23, 1991, when the six month surveillance interval was exceeded.

The cause of this event was the failure of the individuals involved to recognize the limitation of the leak test equipment. A contributing factor was failure to address sealed sources that contain radioactive material other than alpha, beta, or gamma emitting radionuclides in the procedure for leak testing of radioactive sources.

The analyzer was impounded until proper leak tests were performed, which verified that the source was free of leakage. Health Physics reviewed the site source inventory and ensured that all other sealed sources on site are being adequately leak tested. Other corrective actions include revisions to the procedures controlling purchase and leak testing of sealed sources, and transfer of the alloy analyzer to Florida Power and Light Company's Purchasing Quality Control Department, under the General License provisions of the Florida Administrative Code.

Since no contamination levels were found in excess of TS limits, there were no safety consequences as a result of this event.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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I. EVENT DESCRIPTION

Since March 24, 1990, Turkey Point Nuclear Plant has been in possession of a Texas Nuclear (TN) metal alloy analyzer [EIIS component: AE] that contains an Iron-55 sealed source. Leak tests are required by Technical Specification (TS) 3/4.7.7 for sealed sources that are in use. The tests are required at six-month intervals.

The analyzer had been transferred back to TN for repair in July, 1990, and was properly tested for leakage at TN on July 23, 1990.

Tests for leakage were done on several occasions at Turkey Point using survey instrumentation [EIIS component: RI] that was not capable of detecting the radiation emitted from Iron-55 at the sensitivity level required by TS 3/4.7.7 (0.005 microcuries). The leak tests did not satisfy the TS requirements. Therefore, as of January 23, 1991, TS 3/4.7.7 was violated in that the analyzer was not properly tested for leakage every six months as required.

On February 24, 1992, during a review of industry information, Health Physics personnel learned of LER 400/91-020-00, in which Carolina Power & Light Company reported less than adequate testing of sealed sources, one of which was an Iron-55 source in a metal alloy analyzer.

The metal alloy analyzer was taken out of use and secured until proper leak tests were performed. The Iron-55 sealed source was found not to be leaking.

II. EVENT CAUSE

This event occurred because the individuals that directed and/or performed the leakage tests failed to recognize that the instruments used were not suitable for detecting leakage from the Iron-55 source.

A contributing factor was failure to address sealed sources that contain radioactive material other than alpha, beta, or gamma emitting radionuclides, in the procedure for leak testing of radioactive sources.

III. EVENT SAFETY ANALYSIS

No contamination levels were found in excess of TS or 10CFR20 limits, which would have indicated sealed source leakage. On that basis, the health and safety of the public were not affected.



LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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IV. CORRECTIVE ACTIONS

1. The alloy analyzer was secured until proper tests for leakage could be performed.
2. Texas Nuclear is specifically authorized in Condition 19 of Texas Department of Health, Radioactive Material License number L03524, to conduct leak tests of sealed radioactive sources. Transferable contamination samples (smears) of the source were taken and shipped to TN for analysis. The source was determined to be free from leakage.
3. The Health Physics Department reviewed the Turkey Point source inventory and verified that there are no other sealed sources on site that can not be adequately leak tested.
4. Procedure 0-ADM-022, Procurement of Radioactive Sources, will be revised to include a requirement to verify that Turkey Point has instrumentation suitable for detecting transferable contamination or leakage from a sealed source, before approving procurement. This procedure revision will be completed by April 10, 1992.
5. Procedure 0-HPS-92, Leak Testing of Radioactive Sources, will be revised to include a requirement to test sealed sources that contain other than alpha, beta, or gamma emitting radioactive material, at the same frequency as is currently required for those that do contain alpha, beta, or gamma emitting radioactive material. This revision will be completed by April 10, 1992.
6. The metal alloy analyzer will be transferred to FPL Purchasing Quality Control, under the General License provisions of the Florida Administrative Code, Paragraph 10D-91.306, General Licenses - Radioactive Material Other than Source Material. This transfer will be completed by June 1, 1992.

V. ADDITIONAL INFORMATION

No similar events have been reported.

