NRC FORM 195 (2-70) U.S. NUCLEAR REGULATORY COMMISSION

DOCKET NUMBER 50-251

FILE NUMBER INCIDENT REPORT

NRC DISTRIBUTION FOR PART 50 DOCKET MATERIAL

TO:	FROM:	DATE OF DOCUMENT
Mr. Norman C. Moseley	Florida Power & Light Company Miami, Florida A. D. Schmidt	8/19/76
		DATE RECEIVED 8/31/76

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X / X	☐ / X			One signed copy

DESCRIPTION

Ltr. trans the following:

ACKNOWLEDGED

DO NOT REMOVE (1-P)

PLANT NAME:

Turkey Point #4

ENCLOSURE

Licensee Event Report (RO 50-251/76-7) on 8/5/76 concerning the NSSS vendor informing FP&L of recent developments that affect certain safety analyses at Turkey Point.

(4-P)

NOTE: IF PERSONNEL EXPOSURE IS INVOLVED SEND DIRECTLY TO KREGER/J..COLLINS

FOR ACTION/INFORMATION 9/1/76 RJL

X	BRANCH CHIEF:	Lear
	W/3 CYS FOR ACTION	
X	LIC. ASST.:	Parrish
	W/ 1 CYS	
	ACRS 16 CYS ~~HOLDING~~/SENT TO LA	

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X	NSIC:	

CONTROL NUMBER

1 8876

P. O. BOX 013100, MIAMI, FLORIDA 33101

FLORIDA POWER & LIGHT COMPANY

August 19, 1976

PRN-LI-76-221

Mr. Norman C. Moseley, Director, Region II
Office of Inspection and Enforcement
U. S. Nuclear Regulatory Commission
230 Peachtree Street, N. W., Suite 818
Atlanta, Georgia 30303

Dear Mr. Moseley:

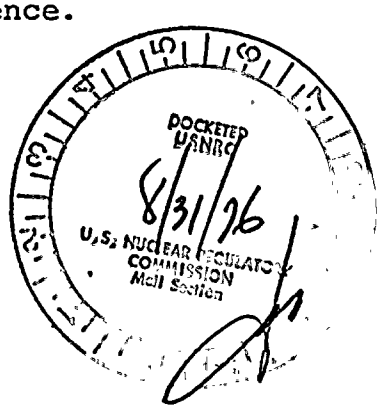
REPORTABLE OCCURRENCE 251-76-7
TURKEY POINT UNIT 4
DATE OF OCCURRENCE: AUGUST 5, 1976

ECCS ANALYSIS

The attached Licensee Event Report is being submitted in accordance with Technical Specification 6.9.2 to provide prompt notification of the subject occurrence.

Very truly yours,

for J R Benson
A. D. Schmidt
Vice President
Power Resources



MAS/cpc

Attachment

cc: Jack R. Newman, Esquire
Director, Office of Inspection and Enforcement (40)
Director, Office of Management Information and
Program Control (3)

8876

LICENSEE EVENT REPORT

CONTROL BLOCK: [ ] (1–6)

(PLEASE PRINT ALL REQUIRED INFORMATION)

0 1	LICENSEE NAME	LICENSE NUMBER	LICENSE TYPE	EVENT TYPE
7 8	F L T P S 4 (9–14)	0 0 — 0 0 0 0 0 — 0 0 (15–25)	4 1 1 1 1 (26–30)	0 1 (31–32)

0 1 CONT	CATEGORY	REPORT TYPE	REPORT SOURCE	DOCKET NUMBER	EVENT DATE	REPORT DATE
7 8	(57–58)	T (59)	O (60)	0 5 0 — 0 2 5 1 (61–68)	0 8 0 5 7 6 (69–74)	0 8 1 9 7 6 (75–80)

EVENT DESCRIPTION

0 2 The NSSS vendor has informed FPL of recent developments that affect
0 3 certain safety analyses at Turkey Point. The consequence has been a
0 4 reduction in the maximum allowable F_Q and $F_{\Delta H}$ as described in the
0 5 attached report.
0 6

0 7	SYSTEM CODE	CAUSE CODE	COMPONENT CODE	PRIME COMPONENT SUPPLIER	COMPONENT MANUFACTURER	VIOLATION
7 8 9	Z Z (10)	C (11)	Z Z Z Z Z Z (12–17)	N (43)	W 1 2 0 (44–47)	N (48)

CAUSE DESCRIPTION

0 8 See Event Description.
0 9
1 0

1 1	FACILITY STATUS	% POWER	OTHER STATUS	METHOD OF DISCOVERY	DISCOVERY DESCRIPTION
7 8	E (9)	1 0 0 (10–12)	N/A (13–44)	d (45)	N/A (46–80)

1 2	FORM OF ACTIVITY RELEASED	CONTENT OF RELEASE	AMOUNT OF ACTIVITY	LOCATION OF RELEASE
7 8	Z (9)	Z (10)	N/A (11–44)	N/A (45–80)

PERSONNEL EXPOSURES

1 3	NUMBER	TYPE	DESCRIPTION
7 8 9	0 0 0 (11)	Z (12)	N/A (13–80)

PERSONNEL INJURIES

1 4	NUMBER	DESCRIPTION
7 8 9	0 0 0 (11)	N/A (12–80)

PROBABLE CONSEQUENCES

1 5 N/A
7 8 9 80

LOSS OR DAMAGE TO FACILITY

1 6	TYPE	DESCRIPTION
7 8 9	Z (10)	N/A (80)

PUBLICITY

1 7 N/A
7 8 9 80

ADDITIONAL FACTORS

1 8 N/A
7 8 9 80

1 9
7 8 9 80

NAME: M. A. Schoppman PHONE: 305/552-3779

GPO 861-657

P. O. BOX 013100, MIAMI, FL 33101

FLORIDA POWER & LIGHT COMPANY

August 19, 1976
L-76-300

Office of Nuclear Reactor Regulation
Attn: Victor Stello, Jr., Director
Division of Operating Reactors
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Mr. Stello:

Re: Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
Westinghouse Safety Analyses

The Westinghouse Electric Corporation has informed Florida Power & Light Company that recent developments have affected the results of certain safety analyses for Westinghouse plants. The following information regarding this problem is being submitted to you in response to an August 13, 1976 telephone request from your staff.

One development involves the temperature of the fluid in the upper head. Past ECCS analyses assumed that the temperature in the upper head was equal to the vessel inlet temperature (T_{cold}). The conservative judgment is to assume that the temperature will be equal to the vessel outlet temperature (T_{hot}). The consequence is a reduction in maximum allowable Heat Flux Hot Channel Factor (F_Q) to prevent operation at unacceptable local power levels. The resulting F_Q limit for Turkey Point is conservatively estimated to be 2.165. The new F_Q limit was derived as shown below:

$$[2.32 - A - B + C]\ D = 2.165$$

2.32 = previous limit on F_Q

A = .26 = estimated reduction in F_Q due to increase in upper head temperature from T_{cold} to T_{hot}.

B = .04 = estimated reduction in F_Q due to plugged steam generator tubes.

C = .05 = estimated increase in F_Q due to the fact that the ECCS analysis peak clad temperature is 50° below the Final Acceptance Criteria.

$D = \frac{2300}{2200}$ = factor for increasing F_Q due to operation 100 Mwt below the power level used in the ECCS analysis.

Note: For a 925 ft^3 accumulator volume, A = .16 and F_Q = 2.27.

Another development involves rod bow. Recent test results indicate that the rod bow DNB penalty is higher than previously used. The combination of this penalty with available margins results in an estimated reduction in DNBR on a region-by-region basis. Increasing the rod bow DNB penalty can be offset by a combination of the following:

a) A reduction in the maximum allowable Nuclear Enthalpy Rise Hot Channel Factor ($F_{\Delta H}$) on a region-by-region basis.

   i) 0% to 4% reduction for new first cycle fuel applied linearly from Beginning-of-Cycle to End-of-Cycle.

   ii) 6% constant reduction for fuel which has received 1 cycle of burnup.

   iii) 7% constant reduction for fuel which has received 2 or more cycles of burnup.

b) A reduction in T_{ave} and a corresponding change in the Overtemperature ΔT equation. (1° F in T_{ave} and 1° F in the constant in the temperature difference term in the Overtemperature ΔT equation = 1% in DNBR.)

c) An increase in reactor coolant flow. 1% flow increase = 1% increase in DNBR.)

For the time being, the increased upper head fluid temperature and the increased rod bow penalty are being offset by operationally limiting F_Q and $F_{\Delta H}$ as described above. In the future, operational considerations may cause us to revise the means by which we accommodate the higher rod bow DNB penalty, in which case we may utilize some other combination of available options.

The revised limits described above represent preliminary estimates. The evaluation of these developments is continuing in

an effort to quantify the effects on the Turkey Point units more precisely.

Very truly yours,

Robert E. Uhrig

Robert E. Uhrig
Vice President

REU/MAS/hlc

cc: Norman C. Moseley, Region II
Jack R. Newman, Esq.

P. O. BOX 013100, MIAMI, FLORIDA 33101

FLORIDA POWER & LIGHT COMPANY

August 19, 1976

PRN-LI-76-221

Mr. Norman C. Moseley, Director, Region II
Office of Inspection and Enforcement
U. S. Nuclear Regulatory Commission
230 Peachtree Street, N. W., Suite 818
Atlanta, Georgia 30303

Dear Mr. Moseley:

REPORTABLE OCCURRENCE 251-76-7
TURKEY POINT UNIT 4
DATE OF OCCURRENCE: AUGUST 5, 1976

ECCS ANALYSIS

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Very truly yours,

for J R Berrien

A. D. Schmidt
Vice President
Power Resources

MAS/cpc

Attachment

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Director, Office of Inspection and Enforcement (40)
Director, Office of Management Information and
Program Control (3)

LICENSEE EVENT REPORT

CONTROL BLOCK: [ ] (1–6) [PLEASE PRINT ALL REQUIRED INFORMATION]

	LICENSEE NAME	LICENSE NUMBER	LICENSE TYPE	EVENT TYPE
01	FLTPS4 (7–8, 9–14)	00–00000–00 (15–25)	4111 (26–30)	01 (31–32)

	CATEGORY	REPORT TYPE	REPORT SOURCE	DOCKET NUMBER	EVENT DATE	REPORT DATE
01 CON'T (7–8)	(57–58)	T (59)	O (60)	05001–02–51 (61–68)	080576 (69–74)	081976 (75–80)

EVENT DESCRIPTION

02 The NSSS vendor has informed FPL of recent developments that affect
03 certain safety analyses at Turkey Point. The consequence has been a
04 reduction in the maximum allowable F_Q and $F_{\Delta H}$ as described in the
05 attached report.
06

	SYSTEM CODE	CAUSE CODE	COMPONENT CODE	PRIME COMPONENT SUPPLIER	COMPONENT MANUFACTURER	VIOLATION
07	ZZ (9–10)	C (11)	ZZZZZZ (12–17)	N (43)	W120 (44–47)	N (48)

CAUSE DESCRIPTION

08 See Event Description.
09
10

	FACILITY STATUS	% POWER	OTHER STATUS	METHOD OF DISCOVERY	DISCOVERY DESCRIPTION
11	E (9)	100 (10–12)	N/A (13–44)	d (45)	N/A (46–80)

	FORM. OF ACTIVITY RELEASED	CONTENT OF RELEASE	AMOUNT OF ACTIVITY	LOCATION OF RELEASE
12	Z (9)	Z (10)	N/A (11–44)	N/A (45–80)

PERSONNEL EXPOSURES

	NUMBER	TYPE	DESCRIPTION
13	000 (9–11)	Z (12)	N/A (13–80)

PERSONNEL INJURIES

	NUMBER	DESCRIPTION
14	000 (9–11)	N/A (12–80)

PROBABLE CONSEQUENCES

15 N/A

LOSS OR DAMAGE TO FACILITY

	TYPE	DESCRIPTION
16	Z (9)	N/A (10–80)

PUBLICITY

17 N/A

ADDITIONAL FACTORS

18 N/A

19

NAME: M. A. Schoppman PHONE: 305/552-3779

GPO 881-667

P. O. BOX 013100, MIAMI, FL 33101

FLORIDA POWER & LIGHT COMPANY

August 19, 1976
L-76-300

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Division of Operating Reactors
U. S. Nuclear Regulatory Commission
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