

**AEC DISTRIBUTION FOR PART 50 DOCKET MATERIAL**  
(TEMPORARY FORM)

CONTROL NO: 7999

FILE:

FROM: Carolina Power & Light Company Raleigh, N.C. 27602 Mr. E.E. Utley			DATE OF DOC  10-29-73	DATE REC'D  11-5-73	LTR  X	MEMO	RPT	OTHER
TO:  J.F. O'Leary			ORIG  3 signed	CC	OTHER	SENT AEC PDR XXX SENT LOCAL PDR XXX		
CLASS	UNCLASS  XXX	PROP INFO	INPUT	NO CYS REC'D  401		DOCKET NO:  50-261		

**DESCRIPTION:**  
Ltr reporting an abnormal occurrence at the H.B. Robinson unit #2 concern.....Violation of Technical Specifications Limiting Values of F(z) A(z).....and trans the following.....

**ENCLOSURES:**

Table #1: List of Violation of Limiting Values of F(z) S(z) for the Period of October 21 thru 24.

(40 cys encl rec'd)

**DO NOT REMOVE**

**PLANT NAME:** H.B. Robinson

**FOR ACTION/INFORMATION**

11-5-73 JB

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**EXTERNAL DISTRIBUTION**

✓ 1 - LOCAL PDR Hartville, S.C.	(1)(2)(10)-NATIONAL LAB'S	1-PDR-SAN/LA/NY
✓ 1 - DTIE(ABERNATHY)	1-ASLBP(E/W Bldg, Rm 529)	1-GERALD LELLOUCHE
✓ 1 - NSIC(BUCHANAN)	1-W. PENNINGTON, Rm E-201 GT	BROOKHAVEN NAT. LAB
1 - ASLB(YORE/SAYRE/ WOODARD/"H" ST.	1-CONSULTANT'S	1-AGMED(Ruth Gussman)
✓ 16 - CYS ACRS <del>HOLDING</del> Sent to Teets	NEWMARK/BLUME/AGBABIAN	RM-B-127, GT.
11-5-73	1-GERALD ULRICKSON...ORNL	1-RD..MULLER..F-309 GT

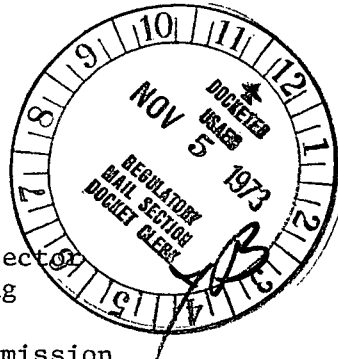
**CP&L**

Carolina Power &amp; Light Company

October 29, 1973

File: NG-3514

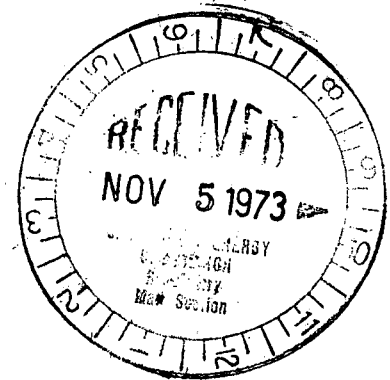
Serial: NG-73-528



Mr. John F. O'Leary Director  
 Directorate of Licensing  
 Office of Regulation  
 U. S. Atomic Energy Commission  
 Washington, D. C. 20545

00 - 261

Dear Mr. O'Leary:



H. B. ROBINSON UNIT NO. 2  
 LICENSE DPR-23  
 VIOLATION OF TECHNICAL SPECIFICATIONS  
 LIMITING VALUES OF  $F(z)$   $S(z)$

In accordance with Section 6.6.2 of the Technical Specifications, the following Abnormal Occurrence is reported.

On October 19, 1973, Carolina Power & Light Company received the approved changes to the Technical Specifications for H. B. Robinson Cycle 2 operation with fuel densification from the Atomic Energy Commission. In Specification 3.10.2.1.1, limiting values for power distributions during operation above 94.8% power were specified, incorporating values of movable detector thimble factors  $\bar{R}_j$ , derived from the analysis of core power maps. A hand analysis of the maps was performed to determine thimble factors for subsequent operation of the plant under the new Technical Specifications and were put into use on October 21, 1973, when the plant was returned to service after a short shutdown period. On October 24, 1973, a computerized analysis of the core power maps, incorporating the spike penalty factors to better determine the thimble factors, revealed that the numbers determined on October 19 were in error, in that the peak value of the penalized  $F_q^N$  had not been correctly chosen from the maps. The limiting values for  $F(z)$   $S(z)$  should have been approximately 12% lower, resulting in several violations of Technical Specification 3.10.2.1.1 during the period October 21 - October 24, 1973. These violations are enumerated in the table below.

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Mr. John F. O'Leary

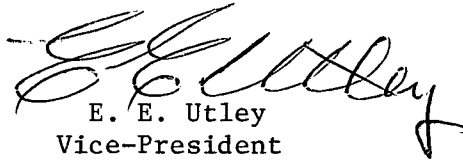
- 2 -

October 29, 1973

Corrective action was taken to place the reactor in a condition of power level and control rod configuration which would avoid further violation of Technical Specifications. An analysis of the surveillance data and a core power map taken October 23 shows that the limiting value of  $F_q^N$  for Cycle 2, 2.34, was not violated at any time during the period in question, but the surveillance limit was violated since it includes approximately 5% additional margin. The people involved in the calculation of these factors have been made aware of the consequences of their action, and no further action is deemed necessary. The results of the computer method for determining thimble factors have been verified for correctness, and the use of this method in the future should avoid recurrence of this violation. There is no proprietary information contained in this report.

This incident was reported to DRO by telephone and to DRO and DRL by telegraph on October 25, 1973.

Yours very truly,



E. E. Utley  
Vice-President  
Bulk Power Supply

DBW:mvp  
Attachment

cc: Messrs. C. D. Barham  
N. B. Bessac  
T. E. Bowman  
B. J. Furr  
D. V. Menscer  
D. B. Waters

TABLE 1

LIST OF VIOLATIONS OF LIMITING VALUES OF  $F(z)$   $S(z)$   
FOR THE PERIOD OF OCTOBER 21-24

<u>Date</u>	<u>Time Of Measurement</u>	<u>Power Level (%)</u>	<u>Limiting Value Of <math>F(z)</math> <math>S(z)</math></u>	<u>Measured Value Of <math>F(z)</math> <math>S(z)</math></u>
10-21-73	1358	99	1.533	1.575
	1421	97.5	1.556	1.600
	1428	98	1.548	1.596
	1458	99.5	1.525	1.612
	1544	97.5	1.556	1.612
	1559	97.7	1.553	1.608
	1659	99.6	1.523	1.589
	1759	100	1.517	1.580
	1844	100	1.517	1.572
	1854	100	1.517	1.570
	1903	100	1.517	1.569
	1923	100	1.517	1.562
	1953	99.9	1.519	1.576
	2053	99.9	1.519	1.549
	2153	99.9	1.519	1.578
	2253	99.9	1.519	1.573
10-22-73	0025	99.7	1.522	1.556
	0053	99	1.532	1.566
	0135	99.8	1.520	1.548
	0253	99.8	1.520	1.544
	0412	99.8	1.520	1.542
	0511	99.9	1.519	1.525
	1853	99.9	1.519	1.534
	2055	99.6	1.523	1.532
	2237	99.4	1.527	1.542
10-23-73	0052	99.5	1.525	1.530
	0253	99.8	1.520	1.528
	1717	99.9	1.519	1.520
	1854	100	1.517	1.518
	2031	100	1.517	1.520
	2232	100	1.517	1.528
10-24-73	0910	99.9	1.519	1.525
	1119	99.6	1.523	1.539
	1319	99.4	1.527	1.536
	1410	99.6	1.523	1.540