

<b>FROM:</b> Carolina Power & Light Raleigh, NC N. B. Bessac			<b>DATE OF DOC</b> 6-24-74		<b>DATE REC'D</b> 6-27-74		<b>LTR</b> X	<b>TWX</b>	<b>RPT</b>	<b>OTHER</b>	
<b>TO:</b> J. F. O'Leary			<b>ORIG</b> 2 signed		<b>CC</b> 38		<b>OTHER</b>		<b>SENT AEC PDR</b> XX <b>SENT LOCAL PDR</b> XX		
<b>CLASS</b>	<b>UNCLASS</b>	<b>PROP INFO</b>	<b>INPUT</b>		<b>NO CYS REC'D</b> 40		<b>DOCKET NO:</b> 50-261				
XXX											
<b>DESCRIPTION:</b>  Ltr furn info re unusual event re bulged areas in the containment liner.....						<b>ENCLOSURES:</b>  <b>ACKNOWLEDGED</b> <b>DO NOT REMOVE</b>					
<b>PLANT NAME:</b> H. B. ROBINSON UNIT #2											

FOR ACTION/INFORMATION 6-27-74 GMC

BUTLER (L)	SCHWENCER (L)	ZIEMANN (L)	REGAN (E)
W/ CYS	W/ CYS	W/ CYS	W/ CYS
CLARK (L)	STOLZ (L)	DICKER (E)	
W/ CYS	W/ CYS	W/ CYS	W/ CYS
PAPP (L)	VASSALLO (L)	KNIGHTON (E)	
W/ CYS	W/ CYS	W/ CYS	W/ CYS
KNIEL (L)	PURPLE (L)	YOUNGBLOOD (E)	
W/ CYS	W/ CYS	W/ CYS	W/ CYS

## INTERNAL DISTRIBUTION

✓ REG FILE	✓ TECH REVIEW	DENTON	LIC ASST	A/T IND
✓ AEC PDR	✓ HENDRIE	GRIMES	DIGGS (L)	BRAITMAN
✓ OGC	✓ SCHROEDER	GAMMILL	GEARIN (L)	SALTZMAN
✓ MUNTZING/STAFF	✓ MACCARY	KASTNER	GOULBOURNE (L)	B. HURT
✓ CASE	✓ KNIGHT	BALLARD	KREUTZER (E)	
GIAMBUSO	✓ PAWLICKI	SPANGLER	LEE (L)	PLANS
BOYD	✓ SHAO		MAIGRET (L)	MCDONALD
MOORE (L)(LWR-2)	✓ STELLO	ENVIRO	REED (E)	CHAPMAN
DEYOUNG (L)(LWR-1)	✓ HOUSTON	MULLER	SERVICE (L)	DUBE w/input
SKOVHOLT (L)	✓ NOVAK	DICKER	SHEPPARD (L)	E. COUPE
GOLLER (L)	✓ ROSS	KNIGHTON	SLATER (E)	
P. COLLINS	✓ IPPOLITO	YOUNGBLOOD	SMITH (L)	✓ D. THOMPSON (2)
DENISE	✓ TEDESCO	REGAN	TEETS (L)	✓ KLECKER
✓ REG OPR	✓ LONG	PROJECT MGR	WILLIAMS (E)	✓ EISENHUT
✓ FILE & REGION (3)	✓ LAINAS		WILSON (L)	
✓ MORRIS	✓ BENAROYA	HARLESS		
✓ STEELE	✓ VOLLMER			

## EXTERNAL DISTRIBUTION

✓ 1 - LOCAL PDR HARTVILLE, SC	(1)(2)(10)-NATIONAL LABS	1-PDR-SAN/LA/NY
✓ 1 - TIC (ABERNATHY)	1-ASLBP(E/W Bldg, Rm 529)	1-BROOKHAVEN NAT LAB
✓ 1 - NSIC (BUCHANAN)	1-W. PENNINGTON, Rm E-201 GT	1-G. ULRIKSON, ORNL
1 - ASLB	1-B&M SWINEBROAD, Rm E-201 GT	1-AGMED (RUTH GUSMAN)
1 - P. R. DAVIS	1-CONSULTANTS	Rm B-127 GT
✓ 16 - ACRS SENT TO LIC ASST TEETS	NEWARK/BLUME/AGBABIAN	1-RD..MUELLER, Rm E-201
6-27-74		GT



Carolina Power & Light Company

June 24, 1974

File: NG-3513 and NG-3514

Serial: NG-74-766

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

Mr. Norman C. Moseley, Director  
Directorate of Regulatory Operations  
U. S. Atomic Energy Commission  
Region II, Suite 818  
230 Peachtree Street, N.W.  
Atlanta, Georgia 30303

Dear Sirs:

H. B. ROBINSON UNIT NO. 2  
LICENSE NO. DPR-23  
BULGED AREAS IN THE CONTAINMENT LINER

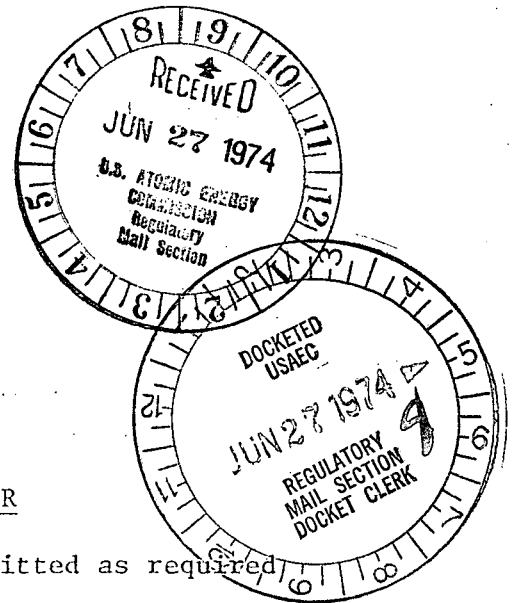
The following unusual event report is submitted as required by Section 6.6.2.b of the Technical Specifications.

A bulge in the containment liner insulation above the operating deck at elevation 330' was noticed just prior to the May 4 plant shutdown for a normal refueling outage. Following the successful completion of an integrated leak rate test and a structural integrity test on the containment, the liner insulation was removed to examine one of the bulged areas more closely. The bulge was in the steel liner of the containment and was deformed toward the center of containment approximately 2.5 inches from the theoretical curvature. There was a void between parts of the bulged liner and the concrete as determined by the sound when tapping the area with a hammer. Eleven similar bulges were located around the containment at the same elevation and other bulges were noticed elsewhere in the containment.

On May 28, 1974, a consulting engineer examined the bulged areas in the containment liner and agreed with our concern for the potential of unusual stresses in the liner under accident conditions.

An investigation was initiated to determine the cause, severity and consequences of the liner bulge. The major points of this investigation are outlined below:

## REGULATORY DOCKET FILE COPY



June 24, 1974


1. The liner was ultrasonically tested to locate the concrete anchor studs. The studs are on 16" centers which is more conservative than the original design of 20" stud centers.
2. Further ultrasonic testing (UT) of the studs revealed thickness indications of  $4\frac{1}{4}$ " to  $4\frac{1}{2}$ " in all but three studs, which had indications at 2". Since the studs installed in this area have a nominal length of 4", it is concluded that all but three studs are intact.
3. Tapping with a hammer and using the hammer as an impact pendulum indicates that all the studs in the void area (even those with the 2" indication by UT) are solid.
4. The plant quality assurance files refer to liner bulges of the same or greater magnitude in the same general areas of containment as the present bulges. The correspondence files also refer to void areas. Those and other factors have led to the assumption that the containment liner bulges are an "as built" condition.
5. The containment liner bulges were inspected by Mr. L. Beratan, Mr. W. Swan and Mr. H. Whitener of the U. S. Atomic Energy Commission.
6. An engineering evaluation of the containment liner bulges were performed by Ebasco Services, Inc. A computer analysis using a finite element mathematical model concluded that the containment liner is safe for continued operation under both normal and accident conditions.
7. The liner bulge investigated above has been instrumented with strain gages which will be observed frequently during the plant heat up and periodically thereafter during the next operating cycle.

From the above it is concluded that the containment liner is safe for continued operation under all conditions. To obtain additional engineering data and as a precautionary measure a liner bulge will be monitored for strain during the next operating cycle. Any additional significant information resulting from our strain monitoring analysis will be provided for your information.

DLF:DBW:mvp

Yours very truly,

cc: Messrs. T. E. Bowman  
B. J. Furr  
W. E. Graham  
D. V. Menscer  
E. E. Utley  
D. B. Waters  
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