

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

CONTROL NO: 5388

FROM: Carolina Power & Light Company Raleigh, North Carolina 27602 E. E. Utley		DATE OF DOC: 9-22-72	DATE REC'D 10-2-72	LTR x	MEMO	RPT	OTHER
TO: D. J. Skovholt		ORIG 1 signed	CC	OTHER	SENT AEC PDR X SENT LOCAL PDR X		
CLASS: U PROP INFO		INPUT	NO CYS REC'D 1		DOCKET NO: 50-261		

DESCRIPTION:

Ltr re our 8-8-72 ltr...furnishing results of study regarding potential flooding of critical equipment (re Quad-Cities Unit # 1 flooding incident)

ENCLOSURES:

PLANT NAMES: H. B. Robinson, Unit # 2

ACKNOWLEDGED DO NOT REMOVE

FOR ACTION/INFORMATION 10-3-72 fod

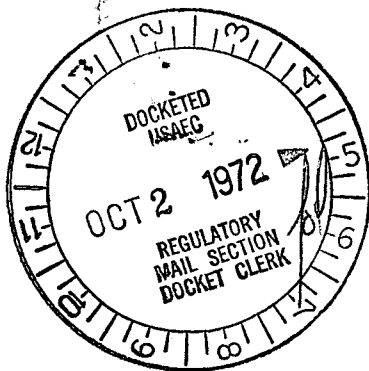
BUTLER(L) W/ Copies	KNIEL(L) W/ Copies	VASSALLO(L) W/ Copies	ZIEMANN(L) W/ Copies	KNIGHTON(ENVIRO) W/ Copies
CLARK(L) W/ Copies	SCHWENCER(L) W/ Copies	H. DENTON W/ Copies	CHITWOOD(FM) W/ Copies	YOUNGBLOOD(ENVIRO) W/ Copies
GOLLER W/ Copies	STOLZ(L) W/ Copies	SCHEMEL(L) W/6 Copies	DICKER(ENVIRO) W/ Copies	

INTERNAL DISTRIBUTION

<input checked="" type="checkbox"/> REG FILE	<input checked="" type="checkbox"/> TECH REVIEW	<input checked="" type="checkbox"/> VOLLMER	HARLESS	WADE	E
<input checked="" type="checkbox"/> AEC PDR	<input checked="" type="checkbox"/> HENDRIE	DENTON		SHAFFER	F & M
<input checked="" type="checkbox"/> OGC, ROOM P-506A	<input checked="" type="checkbox"/> SCHROEDER	GRIMES	F & M	BROWN	E
<input checked="" type="checkbox"/> MUNTZING/STAFF	<input checked="" type="checkbox"/> MACCARY	GAMMILL	SMILEY	G. WILLIAMS	E
<input checked="" type="checkbox"/> CASE	<input checked="" type="checkbox"/> LANGE	KASTNER	NUSSBAUMER		
GIAMBUSSO	<input checked="" type="checkbox"/> PAWLICKI	BALLARD		A/T IND	
BOYD-L(BWR)	<input checked="" type="checkbox"/> SHAO	FINE	LIC ASST.	BRATTMAN	
DEYOUNG-L(PWR)	<input checked="" type="checkbox"/> KNUTH	ENVIRO	SERVICE L	SALTZMAN	
<input checked="" type="checkbox"/> SKOVHOLT-L	<input checked="" type="checkbox"/> STELLO	MULLER	MASON L		
P. COLLINS	<input checked="" type="checkbox"/> MOORE	DICKER	WILSON L	PLANS	
	THOMPSON	KNIGHTON	KARI L	MCDONALD	
REG OPR	<input checked="" type="checkbox"/> TEDESCO	YOUNGBLOOD	SMITH L	DUBE	
<input checked="" type="checkbox"/> FILE & REGION (2)	<input checked="" type="checkbox"/> LONG	PROJECT LEADER	GEARIN L		
<input checked="" type="checkbox"/> MORRIS	<input checked="" type="checkbox"/> LAINAS		DIGGS L	INFO	
<input checked="" type="checkbox"/> STELLE	<input checked="" type="checkbox"/> BENAROYA		TEETS L	C. MILES	
	<input checked="" type="checkbox"/> HOUSTON				

EXTERNAL DISTRIBUTION

<input checked="" type="checkbox"/> 1-LOCAL PDR Hartville, S. C.			
<input checked="" type="checkbox"/> 1-DTIE(ABERNATHY)	(1)(5)(9)-NATIONAL LAB'S	1-PDR-SAN/LA/NY	
<input checked="" type="checkbox"/> 1-NSIC(BUCHANAN)	1-R. CARROLL-OC, GT-B227	1-GERALD LELLOUCHE	
1-ASLB-YORE/SAYRE	1-R. CATLIN, A-170-GT	BROOKHAVEN NAT. LAB	
WOODWARD/H. ST.	1-CONSULANT'S	1-BOLAND, IDAHO FALLS,	
<input checked="" type="checkbox"/> 16-CYS ACRS HOLDING	NEWARK/BLUME/AGABIAN	IDAHO(50-331 Only)	
Sent 10-3-72 to		1-RD...MULLER...F-309GT	
Lic. Asst. S. Teets			
for Dist.			

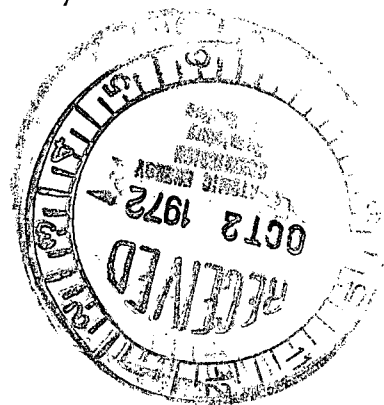


Carolina Power & Light Company

Raleigh, North Carolina 27602

September 22, 1972

Mr. Donald J. Skovholt
Assistant Director
for Operating Reactors
Directorate of Licensing
Atomic Energy Commission
Washington, D.C. 20545



H. B. ROBINSON UNIT NO. 2
LICENSE DPR-23
FLOODING OF CRITICAL EQUIPMENT

50-261

Regulatory

File Cy.

Dear Mr. Skovholt:

As a result of the failure of an expansion bellows in a facility of another utility, your letter of August 8, 1972, requested Carolina Power & Light Company to review our facilities to ensure that the potential for a similar incident was unlikely. This letter is submitted in respect to our H. B. Robinson Plant.

A study of the H. B. Robinson Unit No. 2 has been made and it is concluded that failure of any Robinson system which does not meet the criteria of Class I seismic construction would not cause flooding sufficient to adversely affect the performance of engineered safety systems and that failure of any equipment would not cause flooding such that common mode failure of redundant safety related equipment would result.

The outdoor type installation at the H. B. Robinson Plant, particularly in the circulating water system, is considerably different from many plants and minimizes the consequences of flooding from a circulating water system failure. The Robinson installation does not have reverse flow capabilities and, as a result, the piping installation is relatively simple. The eight connections at the condenser (four outlets and four inlets) each include a manually operated butterfly valve and an expansion joint. Since the butterfly valves are manually operated, the inadvertent closure of these valves as a result of valve operator failure does not exist. The rubber expansion joints, however, are of conventional design and could fail causing flooding.

Assuming that a condenser inlet expansion joint were to fail, the following consequences can be postulated. If, at the time of such a rupture, all three circulating water pumps were running with a normal lake level of 220 feet elevation, a flow of 8140 gallons per second could be expected. This flow rate would flood the circulating water intake and

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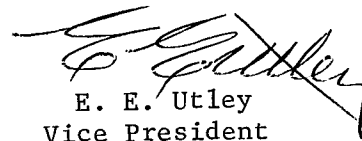
September 22, 1972

discharge wells, the turbine sump, and the condensate piping trench in approximately five seconds. When these volumes filled from a pit elevation of 221.5 feet to the floor elevation of 226 feet, the water would run off to the ground floor of the turbine building. The open construction of the turbine building would enable the water to flow out of the building onto the surrounding plant grade of approximately 225 feet elevation. Various flood drains and storm drains and the contour of the plant grade would direct this water to the Black Creek basin adjacent to the plant. The wide expanse of the surrounding property precludes the possibility of accumulation of water in the turbine building to any significant depth. All electrical motors on the ground floor are at least two feet above the floor elevation. No engineered safety systems would be endangered by such flooding. All such safety features are isolated from the potential flooded area or are installed at elevations not subject to flooding.

If one of the four outlet expansion joints were to fail, the flooding of the ground floor would be no more severe than for the failure of an inlet joint. In fact, since the outlet expansion joints open directly into the discharge header, it is quite likely that a major portion of the water would continue to drain off in its normal flow path.

Therefore, it is concluded that in view of the design of the Robinson circulating water system, the elevations and grade of the plant, and the open construction of the turbine building, the potential for flooding of safety related equipment does not exist at H. B. Robinson Unit No. 2.

Yours very truly,



E. E. Utley
Vice President
Bulk Power Supply

NBB/za

cc: Mr. N. B. Bessac
Mr. B. J. Furr
Mr. P. W. Howe
Mr. R. L. Mayton, Jr.