

NRC DISTRIBUTION FOR PART 50 DOCKET MATERIAL
(TEMPORARY FORM)

CONTROL NO: 7841

FILE: _____

FROM: Carolina Power & Light Raleigh, N C E E Utley		DATE OF DOC 7-18-75	DATE REC'D 7-23-75	LTR XX	TWX	RPT	OTHER
TO: Mr. Goller		ORIG 3 signed	CC	OTHER	SENT NRC PDR <u>xxx</u> SENT LOCAL PDR <u>xxxx</u>		
CLASS	UNCLASS xxx	PROP INFO	INPUT	NO CYS REC'D 40	DOCKET NO: 50-261		
DESCRIPTION: Ltr re their ltr of 4-15-75, furnishing info and position with regards to Reg. Guide dated 1-10-75 and titled "Draft Branch Position Overhead Crane Handling System for Nuclear Power Plants.....				ENCLOSURES: ACKNOWLEDGED DO NOT REMOVE			
PLANT NAME: H B Robinson # 2							

FOR ACTION/INFORMATION

wtm 7-25-75

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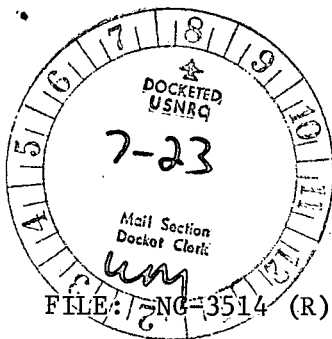
INTERNAL DISTRIBUTION

<u>REG FILE</u> NRC PDR OGC, ROOM P-506A GOSSICK/STAFF CASE GIAMBUSSO BOYD MOORE (L) DEYOUNG (L) SKOVHOLT (L) GOLLER (L) (Ltr) P. COLLINS DENISE REG OPR FILE & REGION (2) MIPC	<u>TECH REVIEW</u> SCHROEDER MACCARY KNIGHT PAWLICKI SHAO STELLO HOUSTON NOVAK ROSS IPPOLITO TEDESCO J. COLLINS LAINAS BENAROYA VOLLMER	DENTON GRIMES GAMMILL KASTNER BALLARD SPANGLER <u>ENVIRO</u> MULLER DICKER KNIGHTON YOUNGBLOOD REGAN PROJECT LDR <u>BASURA</u> HARLESS	<u>LIC ASST</u> R. DIGGS (L) H. GEARIN (L) E. GOULBOURNE (L) P. KREUTZER (E) J. LEE (L) M. RUJHBROOK (L) S. REED (E) M. SERVICE (L) S. SHEPPARD (L) M. SLATER (E) H. SMITH (L) S. TEETS (L) G. WILLIAMS (E) V. WILSON (L) R. INGRAM (L) M. DUNCAN (E)	<u>A/T IND.</u> BRAITMAN SALTZMAN MELTZ <u>PLANS</u> MCDONALD CHAPMAN DUBE (Ltr) E. COUPE PETERSON HARTFIELD (2) KLECKER EISENHUT WIGGINTON <u>E. HUGHES</u>
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EXTERNAL DISTRIBUTION

1 - LOCAL PDR <u>HARTVILLE, S.C.</u>	1 - NATIONAL LABS	1 - PDR-SAN/LA/NY
1 - TIC (ABERNATHY) (1)(2)(10)	1 - W. PENNINGTON, Rm E-201 GT	1 - BROOKHAVEN NAT LAB
1 - NSIC (BUCHANAN)	1 - CONSULTANTS	1 - G. ULRIKSON ORNL
1 - ASLB	NEWMARK/BLUME/AGBABIAN	
1 - Newton Anderson		
14 - ACRS <u>HOLDING/SENT</u>		

BN



CP&L

Carolina Power & Light Company

July 18, 1975

Regulatory Docket File

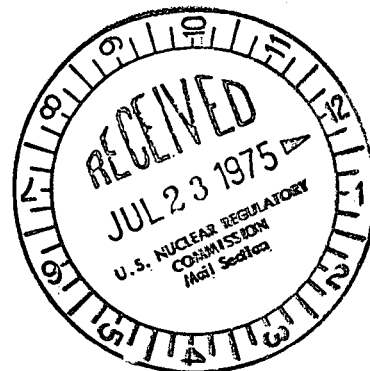
SERIAL: NG-75-1080

Mr. Karl R. Goller
Assistant Director for Operating Reactors
Office of Nuclear Reactor Regulations
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

50-261

Dear Mr. Goller:

H. B. ROBINSON UNIT NO. 2
LICENSE DPR-23
SPENT FUEL SHIPPING CRANE



In our letter to you dated April 15, 1975, Serial NG-75-534, CP&L established positions relative to a draft Regulatory Guide dated January 10, 1975 and titled "Draft Branch Position Overhead Crane Handling System for Nuclear Power Plants." Subsequent review of the position stated for Criteria 1.b of the draft Regulatory Guide shows that a revision to that position is necessary. The draft Regulatory Guide criteria and the revised CP&L position to that criteria are as follows:

- "b. The operating environment including maximum and minimum pressure, temperature, humidity and emergency, corrosive or hazardous conditions should be specified for the crane. The minimum specified operating temperature should be equal to or higher than 60°F above the nil-ductility transition temperature (NDTT) for the ferritic materials. If the minimum specified operating temperature is less than 60°F above the manufacturer's guaranteed NDTT for the ferritic crane materials, testing of the material toughness should be required. The NDTT should be determined by a drop weight test (DWT) performed in accordance with ASTM Specification E-208."

CP&L: The crane is designed for outdoor service with weather protection provided for the mechanical and electrical components. Outside temperature can be expected to range from 20°F to 105°F. However, the lubricants presently selected for this crane are based on an operating temperature range between 32°F and 120°F which is adequate for expected cask-handling operations. Since it has not been a practice for past cranes to include NDTT consideration into crane specifications, no NDTT drop weight tests were performed for this crane. However, it has been deter-

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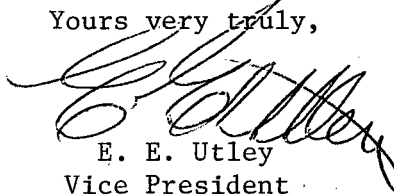
mined from the steel manufacturers for the steel used in this crane that typical values for NDTT are at 40°F. A requirement to have the minimum operating temperature at 60°F above NDTT is not feasible or necessary as shown by the following.

- (1) CMAA #70 specifies a minimum operating temperature of 0°F. Operating experience for all Whiting Corporation cranes built to CMAA #70 and the preceding EOC1 specification #61 has shown no failures due to brittle fracture. Specifications based on service experience which has resulted in no brittle fracture failures assure that the H. B. Robinson cask-handling crane will not experience brittle fracture.
- (2) Failures due to brittle fracture result from high stress concentrations, impact loadings and low temperature. High stress concentrations are prevented in this crane by design practices which eliminate high stress risers and by providing low allowable stresses. The maximum basic allowable stress for any member under tension or compression subject to repeated loading is 17,600 psi. The basic allowable stress includes the dead weight, live load and impact allowance as required by CMAA #70. This gives a minimum safety factor of two based on the yield stress of 36,000 psi for ASTM-A36. The crane is designed for 20,000 to 100,000 loading cycles compared to actual loading cycles of less than 2,500 which will take place over a 40-year life.
- (3) The crane will receive 125% of capacity load test as required by ANSI B.30.2.0 which will prove the capability of the crane to handle a capacity load safely.

Based on the above, the minimum specified operating temperature for the main hoist will not be less than the temperature recorded at the time of the 125% load test. The load test will not be performed at less than 32°F which is the minimum operating temperature with the selected lubricants.

This revision to our previous position does not involve a change in technical specifications or an unreviewed safety question.

Yours very truly,


E. E. Utley
Vice President
Bulk Power Supply

JMB:dwh

cc: Mr. N. B. Bessac
Mr. P. W. Howe
Mr. J. A. Jones
Mr. R. E. Jones
Mr. J. B. McGirt
Mr. W. B. Kincaid
Mr. D. B. Waters