

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

CONTROL NO: 8794

FILE: \_\_\_\_\_

FROM: Carolina Pwr & Light Co Raleigh, NC E E Utley			DATE OF DOC 8-3-75	DATE REC'D 8-18-75	LTR XX	TWX	RPT	OTHER
TO: Mr Rusche			ORIG 3 signed	CC	OTHER	SENT NRC PDR <u>XX</u> SENT LOCAL PDR <u>XX</u>		
CLASS	UNCLASS XXXXXXXX	PROP INFO	INPUT	NO CYS REC'D 3		DOCKET NO: 50-261		

**DESCRIPTION:**

Ltr re our 6-18-75 ltr...notarized 8-3-75  
.....trans the following:

**ENCLOSURES:**

XN-75-38 "HB Robinson Unit 2 Cycle 4 Reload  
Fuel Licensing Data Submittal"...dtd aug 75  
.....consisting of info concerning ECCS analysis  
.....and fuel reloading....& info concerning  
start-up test procedures....(40 cys encl rec'd)

*see Rpts*

PLANT NAME: Robinson

**FOR ACTION/INFORMATION 8-19-75 ehf**

BUTLER (L) W/ Copies	SCHWENCER (L) W/ Copies	ZIEMANN (L) W/ Copies	REGAN (E) W/ Copies	REID (L) W/ COPIES
CLARK (L) W/ Copies	STOLZ (L) W/ Copies	DICKER (E) W/ Copies	LEAR (L) W/ Copies	<b>ACKNOWLEDGED DO NOT REMOVE</b>
PARR (L) W/ Copies	VASSALLO (L) W/ Copies	KNIGHTON (E) W/ Copies	SPIES W/ Copies	
KNIEL (L) W/ Copies	PURPLE (L) W/ Copies	YOUNGBLOOD (E) W/ Copies	LPM W/ Copies	

**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 <i>BAJWA</i> HARLESS	<u>LIC ASST</u> R. DIGGS (L) H. GEARIN (L) E. GOULBOURNE (L) P. KREUTZER (E) J. LEE (L) M. RUSHBROOK (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
--	--	---	---	--

**EXTERNAL DISTRIBUTION**

1 - LOCAL PDR <i>Hartsville, TN</i>	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		
16 - ACRS HOLDING SENT		

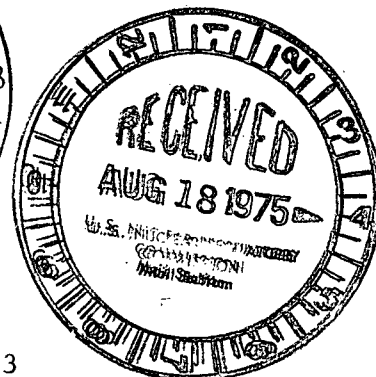
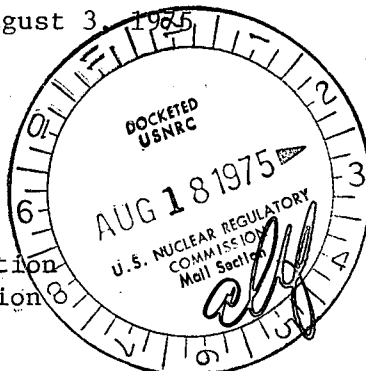
*2-11*

REGULATORY DOCKET FILE COPY  
**CP&L**

Carolina Power & Light Company

August 3, 1975

Mr. Benard C. Rusche, Director  
Office of Nuclear Reactor Regulation  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555



RE: H. B. ROBINSON UNIT NO. 2  
DOCKET NO. 50-261  
FACILITY OPERATING LICENSE DPR-23

Dear Mr. Rusche:

Carolina Power & Light Company (CP&L) is scheduled to terminate H. B. Robinson Unit 2 Cycle 3 operation on November 1, 1975. Fifty-two (52) fuel assemblies manufactured by the Exxon Nuclear Company (ENC) will be loaded into the core, and the unit is scheduled to commence Cycle 4 operation on December 1, 1975.

Carolina Power & Light Company and ENC have developed technical information concerning the reload core in conformance with Enclosure 1 to Mr. Karl R. Goller's letter of June 18, 1975, titled "Guidance for Proposed License Amendments Relating to Refueling." The technical information includes a general description of the reload core, detailed mechanical data on the reload fuel, specifics of the nuclear design, specifics of the thermal hydraulic design, and the accident and transient analysis. This technical information is included in ENC Report XN-75-38, titled "H. B. Robinson Unit 2 Cycle 4 Reload - Fuel Licensing Data Submittal."

The transient analysis and control rod ejection accident discussed in Section 7 of ENC Report XN-75-38 will be provided in ENC Report XN-75-14, titled "Plant Transient Analysis of the H. B. Robinson Unit 2 PWR for 2300 MWt" and ENC Report XN-75-44, titled "Control Rod Ejection Accident for H. B. Robinson Unit 2 Based on Exxon Nuclear Reload Fuel." ENC Reports XN-75-14 and XN-75-44 will be submitted to the NRC in August, 1975.

Carolina Power & Light Company transmits three originals and forty copies of this reload application for Cycle 4 along with 5 copies of ENC Report XN-75-38. Thirty-five (35) copies of the report will be transmitted to the NRC directly by ENC.

In addition CP&L submits 40 copies of Enclosure A to this letter titled "H. B. Robinson Unit 2 Cycle 4 Startup Tests Associated with Core Performance" describing the planned startup tests associated with core performance for the reload core.

8794

August 3, 1975

-2-

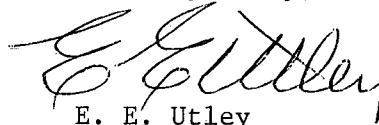
The ECCS analysis for Cycle 4 operation to demonstrate conformance to Appendix K of 10CFR50 is scheduled to be submitted for your review by September 15, 1975. The analysis will use the WREM computer model as modified by ENC. The Robinson Unit 2 Cycle 4 ECCS analysis will include three large break analyses with Moody multipliers of 1.0, 0.6, and 0.4 plus a large split break, plus the small break size that resulted in highest peak clad temperature in prior NSSS analyses.

The ENC fuel has been designed to operate within the existing Technical Specifications. Therefore, no modifications to the Technical Specifications are proposed at this time. If the ECCS analyses for the Cycle 4 reload requires Technical Specifications modifications, those proposed changes will be submitted with the ECCS analyses.

Carolina Power & Light Company will submit copies of ENC Report XN-74-5, Revision 1, titled "Description of Exxon Nuclear Plant Transient Simulation Model for Pressurized Water Reactors (PTS-PWR)" and ENC Report XN-74-5, Revision 1, Supplement 1, titled "Example Transient Analyses Using the Exxon Nuclear Plant Transient Simulation Model for Pressurized Water Reactors (PTS-PWR)" which describe and verify the use of the ENC plant transient simulation model in August at the same time ENC Reports XN-75-14 and XN-75-44 are submitted.

We would appreciate your prompt review of the reload application to permit startup of Cycle 4 by December 1, 1975.

Yours very truly,



E. E. Utley  
Vice President  
Bulk Power Supply

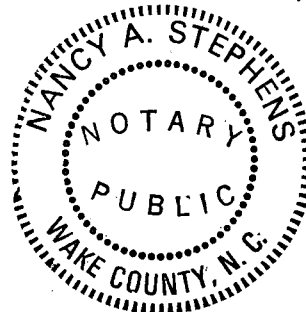
RLM/kr

Enclosures

Sworn to and subscribed before me this *4th* day of *August*, 1975.

*Nancy A. Stephens (Yancey)*  
Notary Public

My Commission expires: *June 29, 1976*



Enclosure A  
H. B. Robinson Unit 2  
Cycle 4 Startup Tests Associated  
With Core Performance

The following Cycle 4 startup tests are planned to measure core performance.

1. Rod Position Indication List; CPL-R-4.11

This test is to verify the Rod Position Indication System satisfactorily performs the required indication and control for each individual rod under hot shutdown conditions.

2. Rod Drive Mechanism Timing Test; CPL-R-5.9.1

This test is to verify the proper timing of each Rod Control System slave cycler. This will be followed by an operational check of each full length Control Rod Drive Mechanism (CRDM) with a Rod Cluster Control Assembly (RCCA) attached prior to initial use of the mechanisms under cold plant conditions.

3. Control Rod Drop Test; CPL-R-4.10.2

This test is to verify the drop time of each rod is less than 1.8 seconds under full flow conditions at both cold and hot shutdown.

4. Initial Criticality; CPL-R-6.1

The purpose of this test is to achieve initial criticality on the core, to establish the upper limit of the neutron flux level for all zero power physics measurements, and to verify the proper operation of the reactivity computer.

5. Design Check Test; CPL-R-6.2

The purpose of this test is to establish the all rods out, hot zero power boron concentration, boron endpoints for each control bank, and measure the temperature coefficient of reactivity at various boron concentrations and rod positions.

6. Boron Dilution; CPL-R-6.3

This test is used to determine the differential and integral worth of the controlling RCC bank and to determine the differential boron worth over the range of the controlling RCC group.

7. Boron Addition; CPL-R-6.4

This test is performed to determine the differential and integral worth of the controlling RCC banks (usually in overlap) and the differential boron worth over the range of the controlling RCC group.

8. Operational Alignment of Nuclear Instrumentation; CPL-R-9.1

This test is used to determine the source range operating voltage at hot shutdown just prior to criticality and to establish the overlap between this source, intermediate, and power range channels. During power escalation it will be used to adjust the power indication such that it will indicate the percent power accurately, determine power range detector currents versus core power, provide data for excore/incore calibration, establish the intermediate and power range detector operating voltages, and verify the excore/incore and power calibration at full power.

9. Operational Alignment of Process Temperature Instrumentation; CPL-R-9.2

The purpose of this test is to obtain isothermal data during heatup on the RTD's and thermocouples. It is also used to verify the calibration of the  $\Delta T$  and  $T_{ave}$  instrumentation.

10. Thermal Power Measurement; CPL-R-9.3

The purpose of this test is to procure data necessary for the proper alignment of the nuclear instrumentation and reactor coolant temperature instrumentation.

11. Power Distribution Maps; CPL-R-9.4

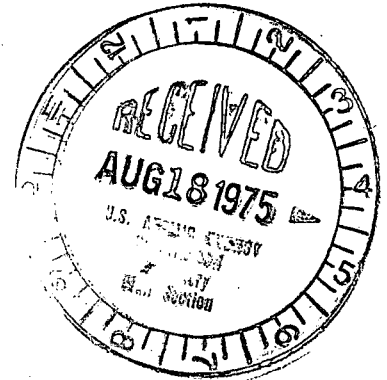
The purpose of this test is to obtain data from core flux maps for evaluation of core power distribution at various power levels. The data obtained will also be used in establishing a proper excore/incore calibration.

**EXXON NUCLEAR COMPANY, Inc.**

2101 Horn Rapids Road, Richland, Washington 99352

PHONE: (509) 946-9621

August 12, 1975



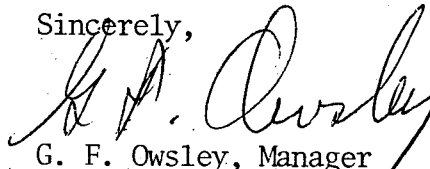
Mr. Benard C. Rusche, Director  
Office of Nuclear Reactor Regulations  
U. S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Dear Mr. Rusche:

Subject: "H. B. Robinson Unit 2 Cycle 4 Reload Fuel Licensing Data  
Submittal," XN-75-38, August, 1975

In their letter of August 3, 1975, (E. E. Utley to B. C. Rusche) Carolina Power and Light Company (CP&L) provided information in support of the scheduled H. B. Robinson Unit 2 Cycle 4 operation, including five copies of the subject report. This letter transmits the 35 additional copies of XN-75-38 referred to in CP&L's August 3 letter.

Sincerely,

  
G. F. Owsley, Manager  
Reload Licensing

GFO:lp

Enclosures (35)

Copy to:  
Mr. D. N. Bridges

8794