

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

CONTROL NO: 6725

FILE: ENVIRO

FROM: Carolina Power & Light Company Raleigh, N. C. 27602 J. A. Jones			DATE OF DOC 9-4-73	DATE REC'D 9-5-73	LTR X	MEMO	RPT	OTHER
TO: Mr. O'Leary			ORIG 3 signed	CC	OTHER	SENT AEC PDR <u> X </u> SENT LOCAL PDR <u> X </u>		
CLASS	UNCLASS XX	PROP INFO	INPUT	NO CYS REC'D 40		DOCKET NO: 50-261		
DESCRIPTION: Ltr re our 7-30-73 ltr.....furnishing requested info for clarification of info relative to the H. B. Robinson Unit # 2 Enviro Review..... W/Attached - Appendix A & Appendix B.				ENCLOSURES: addl <div style="text-align: center; font-size: 1.2em; font-weight: bold;"> ACKNOWLEDGED Do Not Remove </div>				
PLANT NAME: H. B. Robinson Unit # 2								

FOR ACTION/INFORMATION

9-6-73

AB

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INTERNAL DISTRIBUTION

✓ <u>REG FILE</u> ✓ AEC PDR OGC, ROOM P-506A ✓ MUNTZING/STAFF CASE GIAMBUSO BOYD MOORE (L)(BWK) DEYOUNG(L)(PWR) ✓ SKOVHOLT (L) P. COLLINS <u>REG OPR</u> ✓ FILE & REGION(3) MORRIS STEELE	<u>TECH REVIEW</u> HENDRIE SCHROEDER MACCARY KNIGHT PAWLICKI SHAO STELLO HOUSTON NOVAK ROSS IPPOLITO TEDESCO LONG LAINAS ✓ BENAROYA VOLLMER	DENTON GRIMES GAMMILL KASTNER ✓ BALLARD SPANGLER <u>ENVIRO</u> MULLER DICKER KNIGHTON YOUNGBLOOD REGAN PROJECT LDR ✓ HARLESS	<u>LIC ASST</u> DIGGS (L) GEARIN (L) GOULBOURNE (L) LEE (L) MAIGRET (L) SERVICE (L) ✓ SHEPPARD (E) SMITH (L) ✓ TEETS (L) WADE (E) WILLIAMS (E) WILSON (L)	<u>A/T IND</u> BRAITMAN SALTZMAN <u>PLANS</u> MCDONALD DUBE <u>INFO</u> C. MILES ✓ SCHEMEL
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EXTERNAL DISTRIBUTION

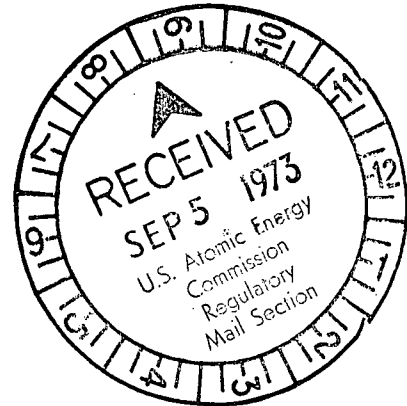
✓ 1 - LOCAL PDR Hartville, S. C. ✓ 1 - DTIE(ABERNATHY) 1 - NSIC(BUCHANAN) 1 - ASLB(YORE/SAYRE/ WOODARD/"H" ST. 16 - CYS ACRS HOLDING	✓ (1) (2) NATIONAL LAB'S ANL 1-R.Schoonmaker, OC, GT, D-323 ✓ 1-R. CATLIN, E-256-GT 1-CONSULTANT'S NEWMARK/BLUME/AGBABIAN 1-GERALD ULRIKSON...ORNL	1-PDR-SAN/LA/NY 1-GERALD LELLOUCHE BROOKHAVEN NAT. LAB 1-AGMED(WALTER KOESTER RM-C-427-GT 1-RD..MULLER..F-309 GT
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Carolina Power & Light Company

September 4, 1973

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

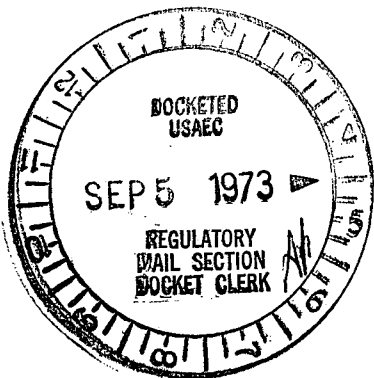
RE: DOCKET NO. 50-261

Dear Mr. O'Leary:

On July 30, 1973, Mr. William H. Regan, Jr., Chief, Environmental Projects Branch 4, transmitted a request to Carolina Power & Light Company for additional clarifying information relative to the H. B. Robinson Unit 2 environmental review.

We have completed our review of this request and are pleased to provide the following information as requested. Our responses are numbered in accordance with the numbering contained in Mr. Regan's letter of July 30.

- 1) Carolina Power & Light Company submitted an application for a discharge permit in accordance with the Refuse Act of 1899. This application was filed June 29, 1971. When the 1972 Amendments to the Federal Water Quality Act became effective, the Company's application was transferred from the Corps of Engineers to the Environmental Protection Agency. This application is presently being reviewed by the EPA Regional Office in Atlanta, Georgia for a National Pollution Discharge Elimination System permit.
- 2) As a part of normal maintenance, each transmission line right-of-way is traveled once a year by two or three men. This inspection not only serves as a line maintenance function but also as a monitor for transmission right-of-way use. Any evidence of ecological damage or potential ecological damage by "all-terrain" vehicles on the right-of-way will be immediately brought to the attention of the property owner and his cooperation in curbing the activity solicited. In granting a right-of-way easement for the construction and operation of transmission lines, the landowner retains all rights of ownership and use that would not endanger the integrity of the line. The Company, therefore, cannot prohibit the use of "all-terrain" vehicles unless the operation endangers the line. In the event the "all-terrain" vehicles cause damage to the property, the property owner will have to take the necessary steps to prevent damage to his own property.



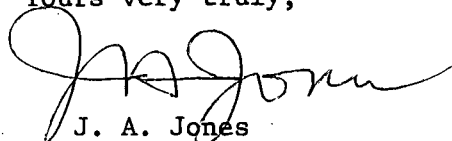
Mr. John F. O'Leary

- 2 -

September 4, 1973

- 3) Enclosed as Appendix A to this letter is a heat balance for H. B. Robinson Unit 2 at 2200 MWt. Also enclosed is a heat balance at 2300 MWt which is the design power level used in the environmental review.
- 4) Attached as Appendix B to this letter is a copy of Carolina Power & Light Company's response to the South Carolina Pollution Control Authority's letter of June 7, 1973.

Yours very truly,



J. A. Jones
Executive Vice President

JAJ:jjj

Attachments

APPENDIX "A"

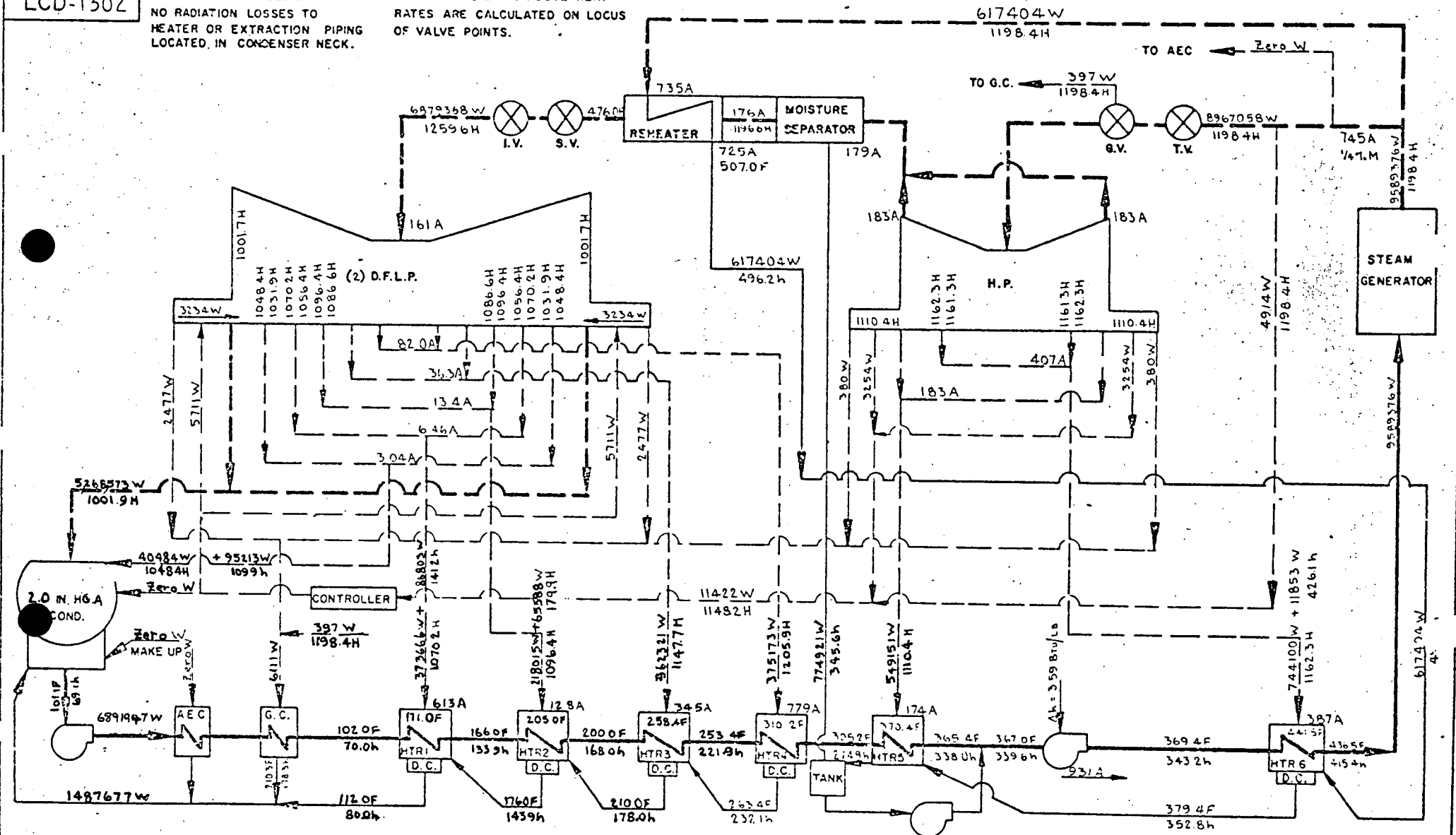
H. B. ROBINSON UNIT NO. 2

HEAT BALANCES

LCD-1302

CALCULATIONS BASED ON
NO RADIATION LOSSES TO
HEATER OR EXTRACTION PIPING
LOCATED IN CONDENSER NECK.

PRIMARY VALVE AND ABOVE HEAT
RATES ARE CALCULATED ON LOCUS
OF VALVE POINTS.



$$\text{GROSS HEAT RATE} = \frac{9582376 / (1198.4 - 415.4)}{739589} =$$

10152 $\frac{\text{BTU}}{\text{KWH}}$

739328 KW TURBINE GENERATOR UNIT
854090 KVA 0.9 PF 22000 VOLTS 75 #H
745 PSIA 510 FTT. 2.0 IN. Hg ABS.
739589 KW LOAD HEAT BALANCE
MAX GUARANTEED

WESTINGHOUSE ELECTRIC CORP.
LESTER, PENNA.

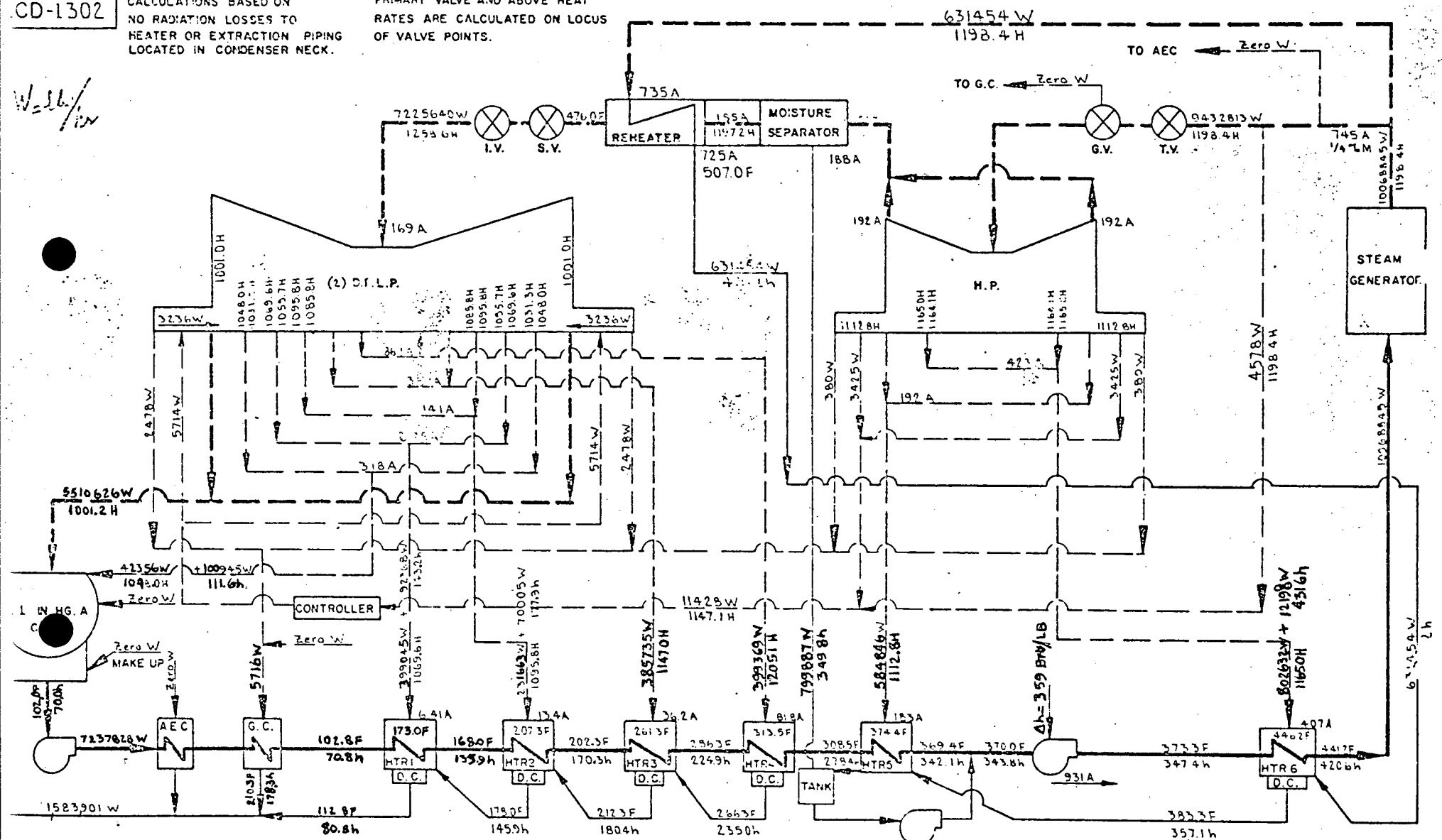
CALC BY JPF	DATE 6/22/64	CT-13606

CD-1302

CALCULATIONS BASED ON
NO RADIATION LOSSES TO
HEATER OR EXTRACTION PIPING
LOCATED IN CONDENSER NECK.

PRIMARY VALVE AND ABOVE HEAT
RATES ARE CALCULATED ON LOCUS
OF VALVE POINTS.

$W = 16 \frac{1}{2} \text{ in}$



739328 KW TURBINE GENERATOR UNIT
854090KVA 0.9 PF 22000VOLTS 75 #H
745 PSIA 510 FTT 2.0 IN Hg ABS.
TC 4F - 4.4 INCH
769548 KW LOAD HEAT BALANCE
MAX CALCULATED AT 21 IN HG A - NOT GUARANTEED

WESTINGHOUSE ELECTRIC CORP.
LESTER, PENNA.

CALC BY JPF	DATE 6/21/66	CT - 18605

LOSS HEAT RATE $\frac{10068845(1198.4 - 420.6)}{769548} =$

10177

BTU
KWH

APPENDIX "B"

H. B. ROBINSON UNIT NO. 2

RESPONSE TO SOUTH CAROLINA

POLLUTION CONTROL AUTHORITY COMMENTS

Carolina Power &
Light Company

H. B. Robinson
Steam Electric
Plant Unit No. 2

Comment:

"The Environmental Report for this project indicates that approximately 60% of the temperature rise through the Impoundment is caused by natural conditions. Carolina Power and Light has been requested to provide additional information to further substantiate this phenomenon.

CP&L Response:

During the 12-month period of April 1959 through March 1960, prior to the startup of Unit 1, natural influences caused an average yearly rise in water temperatures between the lake inflow and lake outflow of approximately 5.4°F. During the 12 months of 1972 when both Units 1 and 2 were in operation and influencing water temperature, the difference of temperature between lake inflow and lake outflow averaged 9.7°F. Therefore, influence of plant operation accounts for an additional 4.3°F or approximately 44% of the total rise of temperature from lake inflow to lake outlet while 56% is due to natural conditions:

April 1959 - March 1960

Average S. C. 23 temperature	65.0°
Average U. S. 1 temperature	<u>59.6°</u>
Influence due to natural conditions	5.4° Δt

1972

Average S. C. 23	68.8°
Average U. S. 1	<u>59.1°</u>
Influence due to natural and plant operation	9.7° Δt

Carolina Power &
Light Company

H. B. Robinson
Steam Electric
Plant Unit No. 2

Influence due to natural and plant operation	9.7° Δt
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Influence due to natural	5.4° Δt
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Influence due to plant operation	4.3° Δt
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Therefore, plant operation	44%
natural conditions	56%

It should be noted that the applicant is aware that the yearly average will vary from year to year due to a variety of meteorological conditions. The degree of induced error has not been calculated, but it is felt these data are representative figures. All data are available for review.

Carolina Power &
Light Company

H. B. Robinson
Steam Electric
Plant Unit No. 2

Comment:

"The Draft Environmental Impact Statement predicts a rise of 6°F. in the discharge from Robinson Impoundment. Carolina Power and Light has been requested to outline proposals to ensure that the discharge from Robinson will not violate the 5°F. rise after appropriate mixing."

CP&L Response:

The 6°F. rise applies to surface temperatures and does not take into account the reduction of downstream temperature achieved through the discharge of sub-surface waters through the Howell-Bunger valves. Compliance with South Carolina Water Quality Standards will be achieved through appropriate operation of these valves.

Carolina Power &
Light Company

H. B. Robinson
Steam Electric
Plant Unit No. 2

Comment:

"Carolina Power and Light has been requested to outline monitoring procedures it intends to implement to show that there will be no violation of applicable standards for the discharge from Robinson."

CP&L Response:

There is continuous temperature monitoring of the discharge from the lake which provides a means of verifying compliance with the 90°F. maximum temperature standard; however there is no direct measure for the rise above ambient. Temperature rise therefore will be determined from a computed lake equilibrium temperature based on local meteorological conditions.