

AEC DISTRIBUTION FOR PART 50 DOCKET MATERIAL  
(TEMPORARY FORM)

CONTROL NO: 4038

**ENVIRON, FILE (NEPA)**

FROM: Carolina Power & Light Co. Raleigh, N.C. 27602 J.A. Jones	DATE OF DOC: 7-21-72	DATE REC'D 7-24-72	LTR X	MEMO	RPT	OTHER
TO: Mr. John F. O'Leary	ORIG 1 signed	CC 44	OTHER	SENT AEC PDR ✓ SENT LOCAL PDR ✓		
CLASS: <b>U</b> PROP INFO	INPUT	NO CYS REC'D 45	DOCKET NO: 50-261			

DESCRIPTION: Ltr re their 6-7-72 ltr...trans the following:  
  
Ltr notarized 7-19-72....(3 Orig & 42 conf d cys of this portion rec'd)

ENCLOSURES: H.B. Robinson Steam Electric Plant Unit 2 App. A Source Term Calculation Data Supplement 1 dtd 7-21-72  
  
(45 cys encl rec'd)

PLANT NAMES: H.B. Robinson Plant Unit 2

**DO NOT REMOVE ACKNOWLEDGED**

FOR ACTION/INFORMATION DL 7-24-72

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	✓ BENAROYA W/ 4 Copies
GOLLER(L) W/ Copies	STOLZ(L) W/ Copies	SCHEMEL(L) W/ Copies	DICKER(ENVIRO) W/ Copies	W/ Copies

INTERNAL DISTRIBUTION

✓ REG FILES	STELLO-L	VOLLMER-L	KARAS-L L/A PWR	✓ SCHEMEL
✓ AEC PDR	MOORE-L	✓ DENTON-L	MASON-L L/A BWR	✓ KASTNER
✓ REG OPER (2)	LANGE-L	GRIMES-L	BROWN-L L/A PWR	✓ GAMERTSFELDER
✓ OGC-RM P-506	PAWLICKI-L	GAMMILL-L	WILSON-L L/A PWR	
✓ MUNTZING & STAFF	THOMPSON-L	KNIGHTON-ENVIRO	KARI-L L/A BWR	
GIAMBUSSO-L	TEDESCO-L	DICKER-ENVIRO	SMITH-L L/A BWR	
BOYD-L-BWR	LONG-L	✓ PROJ LDR ENVIRO:	✓ GEARIN-L L/A BWR	
✓ DEYOUNG-L-PWR	LAINAS-L	WEST	DIGGS-L L/A	
✓ MULLER-L-ENVIRO	SHAO-L	SALTZMAN-IND.	✓ TEETS-L L/A	
SKOVHOLT-L-OPER	BENAROYA-L	McDONALD-PLANS	WADE-L L/A ENVIRO	
KNUTH-L	✓ MORRIS-RO	NUSSBAUMER-FM	BRAITMAN-A/T	
MACCARY-L	✓ DUBE-L	SMILEY-FM	HARLESS-ENVIRO	
SCHROEDER-L	E. CASE-L	✓ P. COLLINS-L	C.MILES	

EXTERNAL DISTRIBUTION

✓ 1-LOCAL PDR Hartville, S.C.	✓ 5-NATIONAL LAB'S /ORNL/	1-SAN/LA/NY--PDR
1-DTIE-(LAUGHLIN)	1-R. CARROLL-OC, GT	1-CHIEF WATER REACTORS
1-NSIC-(BUCHANAN)	1-R. CATLIN, A-170, GT	1-RD....E. HALL F-309 GT
1-ASLB-YORE/SARYE WOODWARD/H. ST.	1-CONSULTANT'S NEWMARK/ELUME/AGBABIAN	
✓ 1-C. MILES-C-459, GT	1-DR. LEVINE	
✓ 16 CYS ACRS-HOLDING	BROOKHAVEN NATIONAL LAB	

# Carolina Power & Light Company

Raleigh, North Carolina 27602

July 21, 1972



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

Regulatory

File Cy.

RE: DOCKET NO. 50-261

Dear Mr. O'Leary:

In connection with your review of the Environmental Report for the H. B. Robinson Steam Electric Plant, Unit No. 2, we transmitted to you with our letter of June 7, 1972, "Appendix A, Source Term Calculations Data." This document contained our response to Mr. D. J. Skovholt's letter of May 9, 1972, containing 33 questions related to the H. B. Robinson Unit No. 2 plant effluents.

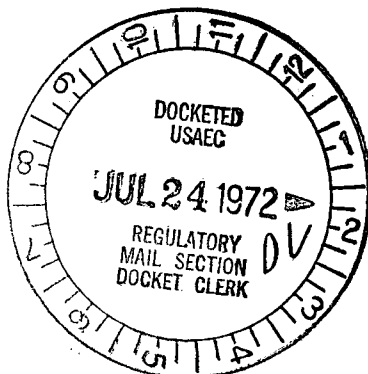
Enclosed herewith as Supplement No. 1 to Appendix A, you will find 45 copies of our amended response to Question Nos. 29 and 32 in the original list of 33 questions. These questions have been amended to reflect additional information which was given to Oak Ridge National Laboratory and AEC personnel during our meeting with them on June 12, 1972 at the Robinson Plant. This Supplement, therefore, amends Appendix A and should be included with the Appendix to achieve an updated filing.

Yours very truly,

J. A. Jones  
Senior Vice President  
Engineering & Operating

JAJ:rea

Enclosures



4038

Rw

In the Matter of )

CAROLINA POWER & LIGHT COMPANY )

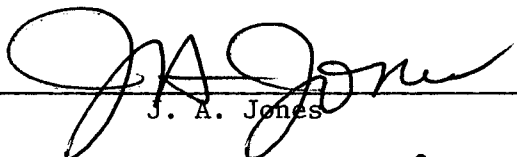
(H. B. Robinson Steam Electric Plant )

Unit No. 2) )

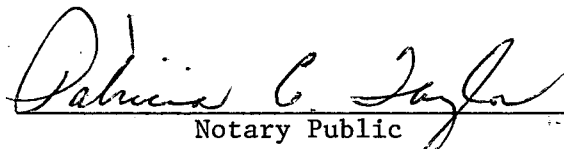
DOCKET NO. 50-261

AFFIDAVIT OF J. A. JONES

I, J. A. Jones, being duly sworn, depose and state that I am Senior Vice President and Group Executive for Engineering and Operating, Carolina Power & Light Company, and am fully cognizant of the contents of the attached letter and Supplement No. 1 to Appendix A titled, "Source Term Calculation Data, Supplement No. 1," for the H. B. Robinson Steam Electric Plant, Unit No. 2, and that the contents of the letter and Supplement are true and correct to the best of my knowledge.

  
J. A. Jones

Subscribed and sworn to before me this 19<sup>th</sup> day of July,  
1972, at Raleigh, North Carolina.

  
Notary Public

My Commission expires:

9-26-76

## H. B. ROBINSON STEAM ELECTRIC PLANT

## APPENDIX "A"

SOURCE TERM CALCULATION DATA  
SUPPLEMENT NO. 1

July 21, 1972

~~Revised w/let dated 7-21-72~~

29. What is the flow rate of gaseous effluent from the main condenser ejector? What treatment is provided? Where is it released?

Response

The original response is amended to read as follows:

The flow rate of gaseous effluent from the main condenser mechanical vacuum pumps is 15 cfs. The effluent is exhausted to the atmosphere through a local vent.

32. Provide average gallons/day and  $\mu\text{Ci/cc}$  for following categories of liquid effluents. Use currently observed data in the industry where different from the SAR or Environmental Report (indicate which is used).
- a) High-level wastes (for example, primary coolant letdown, "clean" or low conductivity waste, equipment drains and deaerated wastes);
  - b) "Dirty" wastes (for example, floor drain wastes, high-conductivity wastes, aerated wastes, and laboratory wastes);
  - c) Laundry, decontamination, and wash-down wastes;
  - d) Steam generator blowdown - give average flow rate and maximum short-term flows and their duration;
  - e) Drains from turbine building.

For these wastes (a-e) provide:

- 1) Number and capacity of collector tanks.
- 2) Fraction of water to be recycled or factors controlling decision.
- 3) Treatment steps - include number, capacity, and process D.F. for each principal nuclide for each step. If step is optional, state factors controlling decision.
- 4) Cooling time from primary loop to discharge.

- 5) How is waste concentrate filter cake, demineralizer resin, evaporator bottoms handled? Give total volume or weight and curies per day or year.

Response

The original response is amended to read as follows:

There are three treatment pathways for liquid wastes shown below:

- 1) CVCS holdup tanks to filter to mixed bed demineralizer to gas stripper to boric acid evaporator to anion bed ion exchanger to monitor tank to discharge.
- 2) Waste holdup tank to filter to waste evaporator to mixed bed demineralizer to waste condensate tank to discharge.
- 3) Chemical drain tank and laundry and hot shower drain tank to waste condensate tank to discharge. \*

The overall decontamination factors are approximately as follows:

<u>Treatment Pathway</u>	<u>H<sup>3</sup>DF</u>	<u>Fission Gas DF</u>	<u>Non-Volatiles DF</u>	<u>Iodine DF</u>
1	1	10 <sup>5</sup>	10 <sup>6</sup>	10 <sup>5</sup>
2	1	N.A.	10 <sup>5</sup>	10 <sup>4</sup>
3	1	N.A.	1	1

Spent resins, evaporator bottoms and other solid wastes are sent to the drumming room. Slurries are dewatered and fixed using vermiculite and cement. Dry solid wastes are compacted. All of this waste is packaged in 55-gallon drums or other DOT "specification" containers for off-site shipment and disposal. Three to six 55-gallon drums are expected to be filled per week. The average drum content is not expected to exceed 1 Curie. Drums are held for decay and shielded as required to meet the appropriate regulations for transportation of radioactive materials.

\* An alternate pathway from chemical drain tank and the laundry and hot shower drain tank is to the waste holdup tank and subsequently through pathway No. 2 above. This is the present practice at the plant.

A. High-level wastes

<u>Source of Liquid Waste</u>	<u>Average Rate (gal/day)</u>	<u>Concentration of Source Before Processing (<math>\mu\text{Ci/cc}</math>)</u>
Reactor Coolant Letdown	1728	$3.9 \times 10^1$ *

\*This activity is 7.7 percent non-volatile fission and activation products, 92.3 percent fission gases. The waste is sent to the CVCS Recycle (Holdup) Tank.

The number and capacity of tanks are listed below:

<u>Tanks</u>	<u>Quantity</u>	<u>Volume (each tank) gallons</u>
CVCS Holdup Tank	3	52,000
Reactor Coolant Drain Tank	1	350
Laundry and Hot Shower Drain Tank	2	600
Chemical Drain Tank	1	375
Waste Holdup Tank	1	25,000
Monitor Tank	2	10,000
Waste Condensate Tank	2	1,000
Steam Generator Drain Tank	1	1,750

B. "Dirty" Wastes

<u>Source of Liquid Wastes</u>	<u>Average Rate (gal/day)</u>	<u>Concentration of Source Before Processing (<math>\mu\text{Ci/cc}</math>)</u>
Laboratories	188	$10^{-1}$ *
Non-Recycleable Reactor Coolant	32	$3.9 \times 10^1$ **
Non-Reactor Grade Leaks	36	$10^{-3}$ **

\*To chemical drain tank.

\*\*To waste holdup tank.

C. Laundry, Decontamination, and Wash-Down Wastes

<u>Source of Liquid Wastes</u>	<u>Average Rate (gal/day)</u>	<u>Concentration of Source Before Processing (<math>\mu\text{Ci/cc}</math>)</u>
Decontamination Water	47	$10^{-4}$ *
Laundry, Hot Shower, Hand Wash	175	$10^{-4}$ **

\*To waste holdup tank.

\*\*To laundry and hot shower drain tank.

D. Steam Generator Blowdown

Steam generator blowdown was discussed in Questions 26 and 27. The treatment of steam generator blowdown when primary to secondary leakage is present in conjunction with fuel defects is not considered to be normal operating conditions.

E. Turbine Building Drains

The turbine is not enclosed and no radioactively contaminated wastes enter the floor drains of the turbine platform. These drains are piped to the storm sewer.

The following are liquid releases from the plant between January and May, 1972:

H. B. Robinson Plant Liquid Waste Releases - 1972

<u>Date</u>	<u>Total Liquid Released to Date (gal)</u>	<u>Gross Activity Released to Date (mCi)</u>	<u>H<sup>3</sup> Released To Date (mCi)</u>
January 28, 1972	301,696.9	69.46	37,746
February 25, 1972	355,774.5	103.13	66,688
March 31, 1972	433,330.5	157.45	95,739
April 28, 1972	496,918.8	203.66	123,630