

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 8402070377 DOC. DATE: 84/02/02 NOTARIZED: NO

DOCKET #

FACIL: 50-000 Generic Docket

05000000

50-261 H. B. Robinson Plant, Unit 2, Carolina Power and Light

0500026

50-324 Brunswick Steam Electric Plant, Unit 2, Carolina Power

05000324

50-325 Brunswick Steam Electric Plant, Unit 1, Carolina Power

05000325

AUTH. NAME: ZIMMERMAN, S. R.
 AUTH. AFFILIATION: Carolina Power & Light Co.
 RECIP. NAME: EISENHUT, D. G.
 RECIPIENT AFFILIATION: Division of Licensing

SUBJECT: Informs of methods to obtain scaling factors for oil & irradiated components waste streams per 10CFR61. Scaling factors for irradiated components taken directly from NUREG-0782.

DISTRIBUTION CODE: A0019 COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 3
 TITLE: OR Submittal: General Distribution

NOTES:

	RECIPIENT		COPIES			RECIPIENT		COPIES		
	ID	CODE/NAME	LTR	ENCL		ID	CODE/NAME	LTR	ENCL	
	NRR	ORB1 BC	01	7	7	NRR	ORB2 BC	01	7	7
INTERNAL:	ELD/HDS1			1	0	NRR/DE/MTEB			1	1
	NRR/DL DIR			1	1	NRR/DL/ORAB			1	0
	NRR/DSI/METB			1	1	NRR/DSI/RAB			1	1
	<u>REG FILE</u>	04		1	1	RGN2			1	1
EXTERNAL:	ACRS	09		6	6	LPDR	03		2	2
	NRC PDR	02		1	1	NSIC	05		1	1
	NTIS			1	1					

TOTAL NUMBER OF COPIES REQUIRED: LTR 33 ENCL 31



Carolina Power & Light Company
FEB 02 1984

SERIAL: NLS-84-037

Mr. Darrell G. Eisenhut, Director
Division of Licensing
United States Nuclear Regulatory Commission
Washington, DC 20555

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2
DOCKET NO. 50-261
LICENSE NO. DPR-23
BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2
DOCKET NOS. 50-325 AND 50-324
LICENSE NOS. DPR-71 AND DPR-62
10 CFR Part 61

Dear Mr. Eisenhut:

SUMMARY

Although Carolina Power & Light Company (CP&L) has undertaken an extensive and expensive waste sampling and analysis program to determine scaling factors to be used in implementation of 10CFR61, two waste streams--oil and irradiated components--continue to present problems. The purpose of this letter is to inform you of the methods CP&L intends to use to obtain scaling factors for these waste streams. These methods are applicable to both the Brunswick Steam Electric Plant Unit Nos. 1 and 2 and the H. B. Robinson Steam Electric Plant Unit No. 2.

Factors for Oil

A large portion of the waste oil becomes contaminated through direct contact with reactor cooling water. Due to the low levels of contamination and the method of storage (oil from different pumps are frequently mixed together), CP&L intends to use scaling factors based on analyses of the cooling water itself. Activation products are scaled to Co-60 and all other regulated isotopes to Cs-137. These scaling factors will then be applied to all waste streams for which contaminated oil is the primary constituent.

Irradiated Components

The curie content of irradiated components has prevented sampling and analysis of this waste stream. Radiation fields on the order of 1000 R/hr make sampling impractical, and labs capable of performing the necessary analyses are very reluctant to accept samples reading more than 0.1 R/hr.

8402070377 840202
PDR ADOCK 05000261
X PDR

Adol
1/1

Carolina Power & Light Company has used the data given in Table D.14 of NUREG-0782¹ to calculate scaling factors based on Co-60. However, as explained above, direct sampling is not practical; and the plant gamma spectrometer cannot count samples containing the levels of activity which would be found in even a miniscule piece of an irradiated component if one were available. To remedy this situation, CP&L intends to use an R/hr to curie conversion to determine the amounts of gamma emitters present. The conversion will be done in accordance with the Waste Classification Branch Technical Position. The total curie content of a package will be distributed based on core reactor shroud activities taken from Table 7.3-2 of NUREG/CR-0130² for Robinson and Table 7.4-1 of NUREG/CR-0672³ for Brunswick. NUREG/CR-0130 is the source of data used to calculate scaling factors for non-gamma emitters taken from NUREG-0782.

Since the referenced tables in NUREG/CR-0130 and 0672 include relatively short-lived gamma emitters and irradiated components are normally accumulated over a period of years, it is necessary to adjust the distribution of gamma emitters. This will be done by decay correcting from the midpoint of accumulation to the shipping date.

CONCLUSION

Carolina Power & Light Company intends to use the above methods to obtain scaling factors for waste streams. We will assume that this methodology is acceptable unless we hear otherwise from you by February 29, 1984. It should be emphasized that scaling factors for irradiated components are taken directly from NUREG-0782. For further technical information, please contact Ralph Wild at (919) 362-3402 or a member of our Nuclear Licensing staff.

Yours very truly,



S. R. Zimmerman
Manager

Nuclear Licensing Section

ONH/ccc (93700NH)

cc: Messrs. L. B. Higginbotham (NRC)
D. O. Myers (NRC-BSEP)
J. P. O'Reilly (NRC-RII)
G. Requa (NRC)
M. Grotenhuis (NRC)
S. Weise (NRC-HBR)
S. A. Varga (NRC)
D. B. Vassallo (NRC)

References

1. NUREG-0782: Draft Environmental Impact Statement on 10 CFR Part 61 "Licensing Requirements for Land Disposal of Radioactive Waste"

Table D.14: Group 4 - Untreated Isotopic Concentrations (Ci/m³)

2. NUREG/CR-0130: Technology, Safety and Costs of Decommissioning a Reference Pressurized Water Reactor Power Station

Table 7.3-2: Radioactivity Levels in Major Activated Reactor Components at Time of Reactor Shutdown

3. NUREG/CR-0672: Technology, Safety and Costs of Decommissioning a Reference Boiling Water Reactor Power Station

Table 7.4-1: Reference Radionuclide Inventory 1, Neutron-Activated Stainless Steel

February 1, 1984

DISTRIBUTION

~~Docket File~~
ORB#1 Rdg
CParrish

DOCKET NO(S). 50-261

Mr. E. E. Utley, Executive Vice President
Power Supply & Engineering and Construction
Carolina Power and Light Company
Post Office Box 1551
Raleigh, North Carolina 27602

SUBJECT: H. B. ROBINSON STEAM ELECTRIC PLANT 2

The following documents concerning our review of the subject facility are transmitted for your information.

- ☐ Notice of Receipt of Application.
- ☐ Draft/Final Environmental Statement, dated _____.
- ☐ Notice of Availability of Draft/Final Environmental Statement, dated _____.
- ☐ Safety Evaluation Report, or Supplement No. _____, dated _____.
- ☐ Notice of Hearing on Application for Construction Permit.
- ☐ Notice of Consideration of Issuance of Facility Operating License.
- ☐ Application and Safety Analysis Report, Volume _____.
- ☐ Amendment No. _____ to Application/SAR dated _____.
- ☐ Construction Permit No. CPPR- _____ Amendment No. _____, dated _____.
- ☐ Facility Operating License No. _____, Amendment No. _____, dated _____.
- ☐ Order Extending Construction Completion Date, dated _____.
- ☒ Other (Specify) Monthly Notice covering period through January 26, 1984.
Expiration date for hearing requests and comments February 27, 1984.

Division of Licensing
Office of Nuclear Reactor Regulation

Enclosures:
As stated

cc: w/enclosures

OFFICE	ORB#1:DL					
SURNAME	CParrish;ps					
DATE	2/1/84					

Mr. E. E. Utley
Carolina Power and Light Company

H. B. Robinson Steam Electric
Plant 2

cc: G. F. Trowbridge, Esquire
Shaw, Pittman, Potts and Trowbridge
1800 M Street, N.W.
Washington, DC 20036

Regional Radiation Representative
EPA Region IV
345 Courtland Street, N.E.
Atlanta, GA 30308

Mr. McCuen Morrell, Chairman
Darlington County Board of Supervisors
County Courthouse
Darlington, South Carolina 29535

State Clearinghouse.
Division of Policy Development
116 West Jones Street
Raleigh, North Carolina 27603

Attorney General
Department of Justice
Justice Building
Raleigh, North Carolina 27602

U.S. Nuclear Regulatory Commission
Resident Inspector's Office
H. B. Robinson Steam Electric Plant
Route 5, Box 266-1A
Hartsville, South Carolina 29550

James P. O'Reilly
Regional Administrator - Region II
U.S. Nuclear Regulatory Commission
101 Marietta Street
Atlanta, GA 30303

Mr. R. Morgan
General Manager
H. B. Robinson Steam Electric Plant
Post Office Box 790
Hartsville, South Carolina 29550