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See Rpt.

SUBJECT: "Semi-Annual Radioactive Effluent Release Rept for Jul-Dec 1989."

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VICE PRESIDENT
NUCLEAR PRODUCTION

TELEPHONE
(704) 373-4531

February 28, 1990

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555

Subject: Oconee Nuclear Station
Docket Nos. 50-269, -270, -287
Semi-Annual Radioactive Effluent Release Report

Dear Sir:

Pursuant to Oconee Nuclear Station Technical Specification 6.6.1.4 and 10 CFR 50.36a (a)(2), please find attached the 1989 Semi-Annual Radioactive Effluent Release Report for July 1 - December 31, 1989.

Attachment 1 contains the Semi-Annual Radioactive Effluent Release and Solid Waste Disposal Reports. Attachment 2 provides details of unplanned (or abnormal) offsite releases. The meteorological data, concurrent with the release of gaseous effluents, is included as Attachment 3. Pursuant to Technical Specification 3.5.5, please find attached a description of all Radioactive Gas and Liquid Monitors that were inoperable for greater than 30 days (Attachment 4). Please note that no revisions to the Offsite Dose Calculation Manual were made during this reporting period.

Very truly yours,

T. W. Hampton
for

Hal B. Tucker

PJN106/td

Attachments
cc: Mr. S. D. Ebneter, Regional Administrator
U. S. Nuclear Regulatory Commission
Region II
101 Marietta Street, NW, Suite 2900
Atlanta, GA 30323

Mr. L. A. Wiens
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, DC 20555

Mr. P. H. Skinner
NRC Resident Inspector
Oconee Nuclear Station

IE48
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Duke Power Company

Oconee Nuclear Station

Attachment 1

Radioactive Effluent Release and Solid Waste Disposal Reports

OCONEE NUCLEAR STATION
RADIOACTIVE EFFLUENT RELEASES
DATE : 02/27/90

I. LIQUID RELEASES

YEAR : 1989

	UNITS	1ST QTR	2ND QTR	3RD QTR	4TH QTR	TOTAL
GROSS RADIOACTIVITY						
A. TOTAL RELEASE	CURIES	1.09E+00	6.45E-01	7.13E-01	1.43E+00	3.88E+00
B. AVERAGE CONCENTRATION RELEASED	UCI/ML	7.83E-09	8.05E-09	3.92E-09	5.43E-09	5.83E-09
C. MAXIMUM CONCENTRATION RELEASED	UCI/ML	1.00E-07	1.10E-07	7.26E-08	2.26E-07	2.26E-07
2. TRITTIUM						
A. TOTAL RELEASE	CURIES	2.59E+02	1.96E+02	2.55E+02	3.14E+02	1.02E+03
B. AVERAGE CONCENTRATION RELEASED	UCI/ML	1.86E-06	2.44E-06	1.40E-06	1.19E-06	1.54E-06
3. DISSOLVED NOBLE GASES						
A. TOTAL RELEASE	CURIES	1.60E+00	1.83E+00	3.11E-01	2.62E+00	6.36E+00
B. AVERAGE CONCENTRATION RELEASED	UCI/ML	1.15E-08	2.28E-08	1.71E-09	9.95E-09	9.57E-09
4. GROSS ALPHA ACTIVITY						
A. TOTAL RELEASE	CURIES	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
B. AVERAGE CONCENTRATION RELEASED	UCI/ML	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
5. VOLUME OF LIQUID WASTE TO DISCHARGE CANAL	LITERS	1.04E+07	6.91E+08	1.41E+09	8.90E+08	3.00E+09
6. VOLUME OF DILUTION WATER	LITERS	1.39E+11	8.02E+10	1.82E+11	2.63E+11	6.64E+11
7. RADIONUCLIDES RELEASED	CURIES					
NA-24		1.07E-04	7.53E-05	0.00E+00	0.00E+00	1.82E-04
CR-51		3.71E-02	7.34E-03	4.52E-04	1.80E-01	2.25E-01
MN-54		3.78E-03	2.53E-03	3.23E-03	1.03E-02	1.98E-02
FE-55		3.34E-02	8.52E-02	2.58E-01	9.63E-02	4.73E-01
FE-59		1.39E-04	1.14E-03	7.08E-04	4.19E-03	6.17E-03
CO-57		4.72E-04	2.49E-04	1.72E-04	6.42E-04	1.54E-03
CO-58		3.30E-01	1.12E-01	5.26E-02	4.32E-01	9.27E-01
CO-60		4.71E-02	4.57E-02	6.02E-02	1.19E-01	2.72E-01
ZN-65		1.44E-04	1.18E-03	7.34E-04	1.50E-03	3.56E-03
SR-89		1.93E-04	5.78E-05	9.24E-05	4.28E-04	7.71E-04
SR-90		1.50E-05	2.82E-05	3.32E-05	3.31E-05	1.09E-04
SR-92		3.28E-03	7.03E-05	1.06E-03	3.19E-03	7.59E-03
ZR-95		1.61E-02	4.25E-03	1.05E-03	1.38E-02	3.52E-02
NB-95		4.28E-02	2.00E-02	2.24E-02	3.23E-02	1.17E-01
NB-97		6.10E-02	2.50E-03	4.63E-02	2.84E-02	1.38E-01
MO-99		0.00E+00	6.81E-06	0.00E+00	8.76E-04	8.82E-04
TC-99M		3.39E-04	2.08E-04	3.67E-04	1.87E-03	2.79E-03
RU-103		4.24E-03	2.35E-03	2.28E-04	8.41E-03	1.52E-02
RU-106		3.96E-02	2.88E-02	3.02E-02	2.91E-02	1.28E-01
AG-110M		1.73E-01	1.36E-01	1.39E-01	2.06E-01	6.54E-01
I-131		3.51E-02	3.57E-02	5.02E-03	1.92E-02	9.49E-02
I-132		1.05E-04	2.91E-04	0.00E+00	2.28E-03	2.68E-03
I-133		3.78E-04	1.15E-03	1.97E-05	3.22E-04	1.88E-03
I-134		1.02E-04	0.00E+00	0.00E+00	0.00E+00	1.02E-04
SB-122		0.00E+00	3.02E-04	3.49E-05	7.93E-04	1.13E-03
SB-124		1.24E-02	8.71E-03	2.05E-03	8.31E-03	3.15E-02
SB-125		2.01E-01	1.01E-01	5.27E-02	9.55E-02	4.49E-01
SN-113		1.16E-03	0.00E+00	4.51E-05	9.22E-04	2.13E-03
TE-132		3.68E-05	3.07E-04	0.00E+00	2.31E-03	2.66E-03
CS-134		3.24E-03	7.51E-03	5.52E-03	1.77E-02	3.40E-02
CS-136		5.69E-04	5.96E-04	1.45E-04	3.94E-04	1.71E-03
CS-137		8.83E-03	1.18E-02	6.54E-03	2.05E-02	4.76E-02
CS-138		4.70E-05	0.00E+00	8.10E-04	0.00E+00	8.57E-04
BA-140		0.00E+00	1.14E-04	6.59E-04	5.81E-03	6.58E-03
LA-140		4.31E-03	1.05E-02	5.82E-03	6.02E-02	8.08E-02
CE-141		2.29E-03	2.04E-04	4.57E-05	3.12E-04	2.86E-03
CE-144		2.02E-02	3.61E-03	6.41E-03	3.23E-03	3.35E-02
W-187		0.00E+00	1.65E-04	0.00E+00	0.00E+00	1.65E-04
NP-239		1.04E-03	0.00E+00	0.00E+00	1.63E-03	2.66E-03
SB-126		8.86E-05	0.00E+00	0.00E+00	2.80E-05	1.17E-04
AR-41		0.00E+00	0.00E+00	0.00E+00	3.62E-05	3.62E-05
XE-131M		5.71E-03	1.63E-02	0.00E+00	3.18E-02	5.38E-02
XE-133		1.50E+00	1.36E+00	1.80E-01	1.23E+00	4.27E+00
XE-133M		6.81E-03	5.51E-03	0.00E+00	1.39E-03	1.37E-02
XE-135		1.31E-02	2.73E-03	5.68E-04	4.68E-03	2.11E-02

OFFSITE DOSE ASSESSMENT

LIQUID CALCULATIONS

STATION CODE : ONS
YEAR : 89
START DATE : 1
STOP DATE : 90
DILUTION VOLUME: 1.39E+11

02/27/90 10:00

OFFSITE DOSE ASSESSMENT

LIQUID CALCULATIONS

STATION CODE : ONS
YEAR : 89
START DATE : 91
STOP DATE : 181
DILUTION VOLUME: 8.02E+10

02/27/90 10:00

OCONEE [redacted] DOSE RELEASE 091-181 89 ALL 02/27/90 [redacted] [redacted]

SKIN MAXIMUM DOSE- 1.21D-02 MREM CRITICAL AGE- TEEN CRITICAL PATHWAY- SHORE

CO 60	51.34 %
AG 110M	24.32 %
SB 125	11.85 %
CS 137	6.30 %

BONE MAXIMUM DOSE- 2.61D-01 MREM CRITICAL AGE- CHILD CRITICAL PATHWAY- FISH

CS 134	29.91 %
CS 137	65.73 %

LIVER MAXIMUM DOSE- 3.79D-01 MREM CRITICAL AGE- TEEN CRITICAL PATHWAY- FISH

H 3	8.93 %
CS 134	39.45 %
CS 137	47.01 %

T. BODY MAXIMUM DOSE- 2.88D-01 MREM CRITICAL AGE- ADULT CRITICAL PATHWAY- FISH

H 3	16.63 %
CS 134	41.87 %
CS 137	38.88 %

THYROID MAXIMUM DOSE- 5.52D-01 MREM CRITICAL AGE- INFANT CRITICAL PATHWAY- DRINKING

H 3	11.22 %
I 131	88.31 %

KIDNEY MAXIMUM DOSE- 1.64D-01 MREM CRITICAL AGE- CHILD CRITICAL PATHWAY- FISH

H 3	38.82 %
CS 134	24.19 %
CS 137	32.64 %

LUNG MAXIMUM DOSE- 1.02D-01 MREM CRITICAL AGE- CHILD CRITICAL PATHWAY- DRINKING

H 3	62.89 %
CS 134	14.10 %
CS 137	19.11 %

GI-LLI MAXIMUM DOSE- 9.33D-01 MREM CRITICAL AGE- ADULT CRITICAL PATHWAY- FISH

H 3	5.13 %
NB 95	86.52 %

OFFSITE DOSE ASSESSMENT

LIQUID CALCULATIONS

STATION CODE : ONS
YEAR : 89
START DATE : 182
STOP DATE : 273
DILUTION VOLUME: 1.82E+11

02/27/90 10:01

SKIN MAXIMUM DOSE- 5.70D-03 MREM CRITICAL AGE- TEEN CRITICAL PATHWAY- SHORE

CO 60	63.65 %
AG 110M	23.40 %
SB 125	5.82 %

BONE MAXIMUM DOSE- 7.55D-02 MREM CRITICAL AGE- CHILD CRITICAL PATHWAY- FISH

FE 55	6.52 %
CS 134	33.87 %
CS 137	56.13 %

LIVER MAXIMUM DOSE- 1.25D-01 MREM CRITICAL AGE- CHILD CRITICAL PATHWAY- FISH

H 3	29.67 %
CS 134	33.67 %
CS 137	32.55 %

T. BODY MAXIMUM DOSE- 9.77D-02 MREM CRITICAL AGE- ADULT CRITICAL PATHWAY- FISH

H 3	28.39 %
CS 134	40.39 %
CS 137	28.28 %

THYROID MAXIMUM DOSE- 6.64D-02 MREM CRITICAL AGE- INFANT CRITICAL PATHWAY- DRINKING

H 3	54.01 %
I 131	45.96 %

KIDNEY MAXIMUM DOSE- 6.53D-02 MREM CRITICAL AGE- CHILD CRITICAL PATHWAY- DRINKING

H 3	56.63 %
CS 134	19.93 %
CS 137	20.28 %

LUNG MAXIMUM DOSE- 4.90D-02 MREM CRITICAL AGE- CHILD CRITICAL PATHWAY- DRINKING

H 3	75.35 %
CS 134	9.54 %
CS 137	9.75 %

GI-LLI MAXIMUM DOSE- 4.62D-01 MREM CRITICAL AGE- ADULT CRITICAL PATHWAY- FISH

H 3	6.00 %
NB 95	87.11 %

OFFSITE DOSE ASSESSMENT

LIQUID CALCULATIONS

STATION CODE : ONS
YEAR : 89
START DATE : 274
STOP DATE : 365
DILUTION VOLUME: 2.63E+11

02/27/90 10:21

SKIN MAXIMUM DOSE- 7.78D-03 MREM CRITICAL AGE- TEEN CRITICAL PATHWAY- SHORE

CO 60	63.75 %
AG 110M	17.57 %
SB 125	5.34 %
CS 137	5.22 %

BONE MAXIMUM DOSE- 1.53D-01 MREM CRITICAL AGE- CHILD CRITICAL PATHWAY- FISH

CS 134	36.94 %
CS 137	59.85 %

LIVER MAXIMUM DOSE- 2.30D-01 MREM CRITICAL AGE- TEEN CRITICAL PATHWAY- FISH

H 3	7.25 %
CS 134	47.15 %
CS 137	41.41 %

T. BODY MAXIMUM DOSE- 1.75D-01 MREM CRITICAL AGE- ADULT CRITICAL PATHWAY- FISH

H 3	13.46 %
CS 134	49.87 %
CS 137	34.13 %

THYROID MAXIMUM DOSE- 1.11D-01 MREM CRITICAL AGE- INFANT CRITICAL PATHWAY- DRINKING

H 3	27.39 %
I 131	72.40 %

KIDNEY MAXIMUM DOSE- 9.21D-02 MREM CRITICAL AGE- ADULT CRITICAL PATHWAY- FISH

H 3	25.64 %
CS 134	37.63 %
CS 137	33.72 %

LUNG MAXIMUM DOSE- 5.41D-02 MREM CRITICAL AGE- CHILD CRITICAL PATHWAY- DRINKING

H 3	58.11 %
CS 134	19.16 %
CS 137	19.15 %

GI-LLI MAXIMUM DOSE- 4.75D-01 MREM CRITICAL AGE- ADULT CRITICAL PATHWAY- FISH

NB 95	84.45 %

OFFSITE DOSE ASSESSMENT

LIQUID CALCULATIONS

STATION CODE : ONS
YEAR : 90
START DATE : 1
STOP DATE : 365
DILUTION VOLUME: 6.64E+11

02/27/90 10:23

SKIN	MAXIMUM DOSE-	2.33D-03	MREM	CRITICAL AGE-	TEEN	CRITICAL PATHWAY-	SHORE		
	CO 60	61.26 %							
	AG 110M	10.47 %							
	SB 125	15.17 %							
	CS 137	7.58 %							
BONE	MAXIMUM DOSE-	5.81D-02	MREM	CRITICAL AGE-	CHILD	CRITICAL PATHWAY-	FISH		
	CS 134	29.89 %							
	CS 137	68.71 %							
LIVER	MAXIMUM DOSE-	7.70D-02	MREM	CRITICAL AGE-	TEEN	CRITICAL PATHWAY-	FISH		
	CS 134	43.22 %							
	CS 137	53.87 %							
T. BODY	MAXIMUM DOSE-	5.38D-02	MREM	CRITICAL AGE-	ADULT	CRITICAL PATHWAY-	FISH		
	CS 134	49.85 %							
	CS 137	48.42 %							
THYROID	MAXIMUM DOSE-	2.68D-02	MREM	CRITICAL AGE-	INFANT	CRITICAL PATHWAY-	DRINKING		
	I 131	98.17 %							
KIDNEY	MAXIMUM DOSE-	2.68D-02	MREM	CRITICAL AGE-	TEEN	CRITICAL PATHWAY-	FISH		
	CS 134	39.59 %							
	CS 137	53.01 %							
LUNG	MAXIMUM DOSE-	1.16D-02	MREM	CRITICAL AGE-	TEEN	CRITICAL PATHWAY-	FISH		
	CO 60	10.45 %							
	CS 134	35.20 %							
	CS 137	48.32 %							
GI-LLI	MAXIMUM DOSE-	7.70D-02	MREM	CRITICAL AGE-	ADULT	CRITICAL PATHWAY-	FISH		
	NB 95	87.29 %							

OCONEE NUCLEAR STATION
RADIOACTIVE EFFLUENT RELEASES
DATE : 02/27/90

II. AIRBORNE RELEASES — YEAR : 1989

	UNITS	1ST QTR	2ND QTR	3RD QTR	4TH QTR	TOTAL
TOTAL NOBLE GASES	CURIES	3.01E+03	2.45E+03	7.44E+02	2.76E+03	8.97E+03
TOTAL HALOGENS	CURIES	1.35E-02	6.97E-03	1.53E-03	9.16E-03	3.11E-02
3. TOTAL PARTICULATE GROSS BETA-GAMMA	CURIES	7.69E-03	1.10E-03	9.82E-04	7.81E-03	1.76E-02
4. TOTAL TRITIUM	CURIES	1.71E+01	6.19E+01	2.12E+01	1.75E+01	1.18E+02
5. TOTAL PARTICULATE GROSS ALPHA ACTIVITY	CURIES	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
6. MAXIMUM NOBLE GAS RELEASE RATE	UCI/SEC	1.60E+03	1.60E+03	1.60E+03	1.60E+03	1.60E+03
7. RADIONUCLIDES RELEASED	CURIES					
PARTICULATES						
NA-24		1.64E-05	0.00E+00	0.00E+00	0.00E+00	1.64E-05
CR-51		3.50E-06	0.00E+00	0.00E+00	0.00E+00	3.50E-06
MN-54		7.87E-07	0.00E+00	0.00E+00	1.50E-05	1.57E-05
CO-57		8.67E-08	0.00E+00	3.63E-07	2.22E-07	6.72E-07
CO-58		5.92E-04	0.00E+00	2.80E-07	1.94E-04	7.86E-04
CO-60		1.06E-05	0.00E+00	0.00E+00	8.71E-05	9.77E-05
RB-88		1.30E-03	8.75E-04	8.77E-04	9.99E-04	4.05E-03
RB-89		0.00E+00	0.00E+00	0.00E+00	8.41E-06	8.41E-06
SR-89		2.04E-07	1.75E-07	0.00E+00	0.00E+00	3.78E-07
SR-90		0.00E+00	4.33E-09	0.00E+00	0.00E+00	4.33E-09
SR-91		0.00E+00	4.91E-07	0.00E+00	0.00E+00	4.91E-07
SR-92		1.64E-07	0.00E+00	0.00E+00	0.00E+00	1.64E-07
ZR-95		1.41E-06	0.00E+00	0.00E+00	0.00E+00	1.41E-06
NB-95		2.06E-06	0.00E+00	0.00E+00	0.00E+00	2.06E-06
MO-99		0.00E+00	0.00E+00	3.57E-08	5.93E-06	5.97E-06
TC-99M		1.62E-06	1.03E-07	3.79E-08	0.00E+00	1.77E-06
RU-103		1.91E-07	0.00E+00	0.00E+00	8.24E-05	8.26E-05
RU-106		1.06E-07	0.00E+00	0.00E+00	0.00E+00	1.06E-07
AG-110M		1.13E-06	0.00E+00	0.00E+00	0.00E+00	1.13E-06
SB-125		0.00E+00	0.00E+00	8.52E-06	8.03E-04	8.11E-04
TE-132		5.04E-09	0.00E+00	0.00E+00	0.00E+00	5.04E-09
CS-134		1.54E-03	2.37E-05	8.48E-06	5.11E-03	6.68E-03
CS-136		9.88E-06	3.34E-07	0.00E+00	2.89E-07	1.05E-05
CS-137		4.16E-03	1.87E-04	8.18E-05	1.28E-04	4.56E-03
CS-138		4.50E-05	9.02E-06	5.17E-06	3.38E-04	3.97E-04
BA-140		0.00E+00	9.60E-07	0.00E+00	4.11E-06	5.06E-06
CE-141		0.00E+00	0.00E+00	0.00E+00	6.66E-08	6.66E-08
CE-143		1.81E-07	0.00E+00	0.00E+00	0.00E+00	1.81E-07
SB-126		0.00E+00	0.00E+00	0.00E+00	3.77E-05	3.77E-05
HALOGENS						
I-131		1.02E-02	4.65E-03	1.10E-03	6.55E-03	2.25E-02
I-132		1.09E-04	5.21E-04	1.73E-06	6.03E-04	1.23E-03
I-133		2.78E-03	1.61E-03	4.30E-04	1.80E-03	6.63E-03
I-134		1.12E-06	0.00E+00	0.00E+00	5.40E-06	6.52E-06
I-135		3.82E-04	1.88E-04	0.00E+00	1.95E-04	7.65E-04
GASES						
AR-41		2.62E-01	0.00E+00	0.00E+00	0.00E+00	2.62E-01
KR-85		2.25E+02	1.53E+02	2.23E+01	7.29E+01	4.74E+02
KR-85M		4.69E-01	1.45E-01	4.72E+00	3.12E+00	8.45E+00
KR-87		5.32E-02	0.00E+00	0.00E+00	0.00E+00	5.32E-02
KR-88		4.47E-01	1.79E-03	0.00E+00	2.80E-01	7.28E-01
XE-131M		6.26E+01	4.43E+01	3.10E+00	2.96E+01	1.40E+02
XE-133		2.69E+03	2.22E+03	6.82E+02	2.57E+03	8.16E+03
XE-133M		2.11E+01	1.14E+01	6.10E-01	1.75E+01	5.06E+01
XE-135		1.39E+01	1.69E+01	3.10E+01	7.53E+01	1.37E+02
XE-135M		2.45E-02	4.87E-02	0.00E+00	5.04E-02	1.24E-01

OFFSITE DOSE ASSESSMENT

GAS CALCULATIONS

ANNUAL AVERAGE METEOROLOGICAL DATA

STATION CODE : ONS
YEAR : 89
START DATE : 001
STOP DATE : 090

02/27/90 09:47

OCONEE GROUND AND ELEVATED COMBINED SUMMARY 001-090 89 02/27/90
SPECIAL LOCATION
AT 1.50 MILES S

NOBLE GAS EXPOSURE:

BETA AIR DOSE = 4.44E-02 MILLIRADS
GAMMA AIR DOSE = 1.37E-02 MILLIRADS

TOTAL BODY DOSE = 8.05E-03 MILLIREM TOTAL SKIN DOSE = 2.60E-02 MILLIREM

KR 85	0.32%		11.93%
XE133	92.52%		80.80%

OCONEE GROUND AND ELEVATED COMBINED SUMMARY 001-090 89 02/27/90
SPECIAL LOCATION
AT 4.50 MILES WNW

IODINE, PARTICULATE, AND TRITIUM EXPOSURE SUMMARY:

MAXIMUM ORGAN - THYROID
CRITICAL AGE - INFANT
CRITICAL PATHWAY - COW MILK @ 98.96%

MAXIMUM ORGAN DOSE = 1.38E-01 MILLIREM
I 131 98.56%

OFFSITE DOSE ASSESSMENT

GAS CALCULATIONS

ANNUAL AVERAGE METEOROLOGICAL DATA

STATION CODE : ONS
YEAR : 89
START DATE : 091
STOP DATE : 181

02/27/90 09:49

OCONEE GROUND AND ELEVATED COMBINED SUMMARY 091-181 89 02/27/90
SPECIAL LOCATION
AT 4.00 MILES S

NOBLE GAS EXPOSURE:

BETA AIR DOSE = 3.59E-02 MILLIRADS
GAMMA AIR DOSE = 1.09E-02 MILLIRADS

TOTAL BODY DOSE = 6.37E-03 MILLIREM TOTAL SKIN DOSE = 2.09E-02 MILLIREM

KR 85	0.35%	12.98%
XE133	94.19%	80.90%

OCONEE GROUND AND ELEVATED COMBINED SUMMARY 091-181 89 02/27/90
SPECIAL LOCATION
AT 4.50 MILES WNW

IODINE, PARTICULATE, AND TRITIUM EXPOSURE SUMMARY:

MAXIMUM ORGAN - THYROID
CRITICAL AGE - INFANT
CRITICAL PATHWAY - COW MILK @ 99.74%

MAXIMUM ORGAN DOSE = 6.49E-02 MILLIREM
I 131 99.29%

OFFSITE DOSE ASSESSMENT

GAS CALCULATIONS

ANNUAL AVERAGE METEOROLOGICAL DATA

STATION CODE : ONS
YEAR : 89
START DATE : 182
STOP DATE : 273

02/27/90 09:50

OCONEE GROUND AND ELEVATED COMBINED SUMMARY 182-273 89 02/27/90
SPECIAL LOCATION
AT 1.50 MILES S

NOBLE GAS EXPOSURE:

BETA AIR DOSE = 2.57E-02 MILLIRADS
GAMMA AIR DOSE = 8.88E-03 MILLIRADS

TOTAL BODY DOSE = 5.23E-03 MILLIREM TOTAL SKIN DOSE = 1.49E-02 MILLIREM

XE133	91.52%	90.33%
XE135	7.77%	7.22%

OCONEE GROUND AND ELEVATED COMBINED SUMMARY 182-273 89 02/27/90
SPECIAL LOCATION
AT 4.50 MILES WNW

IODINE, PARTICULATE, AND TRITIUM EXPOSURE SUMMARY:

MAXIMUM ORGAN - THYROID
CRITICAL AGE - INFANT
CRITICAL PATHWAY - COW MILK @ 99.65%

MAXIMUM ORGAN DOSE = 1.54E-02 MILLIREM
I 131 99.05%

OFFSITE DOSE ASSESSMENT

GAS CALCULATIONS

ANNUAL AVERAGE METEOROLOGICAL DATA

STATION CODE : ONS
YEAR : 89
START DATE : 274
STOP DATE : 365

02/27/90 09:50

OCONEE GROUND AND ELEVATED COMBINED SUMMARY 274-365 89 02/27/90
SPECIAL LOCATION
AT 1.50 MILES S

NOBLE GAS EXPOSURE:

BETA AIR DOSE = 4.37E-02 MILLIRADS
GAMMA AIR DOSE = 1.50E-02 MILLIRADS

TOTAL BODY DOSE = 8.84E-03 MILLIREM TOTAL SKIN DOSE = 2.58E-02 MILLIREM
XE133 89.70% 86.82%
XE135 9.23% 8.38%

OCONEE GROUND AND ELEVATED COMBINED SUMMARY 274-365 89 02/27/90
SPECIAL LOCATION
AT 4.50 MILES WNW

IODINE, PARTICULATE, AND TRITIUM EXPOSURE SUMMARY:

MAXIMUM ORGAN - THYROID
CRITICAL AGE - INFANT
CRITICAL PATHWAY - COW MILK @ 98.68%

MAXIMUM ORGAN DOSE = 9.36E-02 MILLIREM
I 131 98.49%

OFFSITE DOSE ASSESSMENT

GAS CALCULATIONS

ANNUAL AVERAGE METEOROLOGICAL DATA

STATION CODE : ONS
YEAR : 89
START DATE : 001
STOP DATE : 365

02/27/90 09:51

OCONEE GROUND AND ELEVATED COMBINED SUMMARY 001-365 89 02/27/90
SPECIAL LOCATION
AT 1.50 MILES S

NOBLE GAS EXPOSURE:

BETA AIR DOSE = 1.45E-01 MILLIRADS
GAMMA AIR DOSE = 4.70E-02 MILLIRADS

TOTAL BODY DOSE = 2.76E-02 MILLIREM TOTAL SKIN DOSE = 8.46E-02 MILLIREM

KR 85	0.19%	7.61%
XE133	91.88%	84.49%
XE135	6.10%	5.28%

OCONEE GROUND AND ELEVATED COMBINED SUMMARY 001-365 89 02/27/90
SPECIAL LOCATION
AT 4.50 MILES WNW

IODINE, PARTICULATE, AND TRITIUM EXPOSURE SUMMARY:

MAXIMUM ORGAN - THYROID
CRITICAL AGE - INFANT
CRITICAL PATHWAY - COW MILK @ 99.41%

MAXIMUM ORGAN DOSE = 3.13E-01 MILLIREM
I 131 98.72%

SUPPLEMENTAL INFORMATION

OCONEE NUCLEAR STATION
EFFLUENT AND WASTE DISPOSAL SUPPLEMENTAL INFORMATION
REPORT DATE: 02/27/90
PERIOD COVERED: START DAY = 001 STOP DAY = 365

I. REGULATORY LIMITS - STATION

A. [redacted]BLE GASES - AIR DOSE
1. CALENDAR QUARTER - GAMMA DOSE = 15 MRAD
2. CALENDAR QUARTER - BETA DOSE = 30 MRAD
3. CALENDAR YEAR - GAMMA DOSE = 30 MRAD
4. CALENDAR YEAR - BETA DOSE = 60 MRAD

B. LIQUID EFFLUENTS - DOSE
1. CALENDAR QUARTER - TOTAL BODY DOSE = 4.5 MREM
2. CALENDAR QUARTER - ORGAN DOSE = 15 MREM
3. CALENDAR YEAR - TOTAL BODY DOSE = 9 MREM
4. CALENDAR YEAR - ORGAN DOSE = 30 MREM

C. IODINE - 131 AND 133, TRITIUM, PARTICULATES W/T 1/2) 8 DAYS - ORGAN DOSE
1. CALENDAR QUARTER = 22.5 MREM
2. CALENDAR YEAR = 45 MREM

II. MAXIMUM PERMISSIBLE CONCENTRATIONS
A. GASEOUS EFFLUENTS - INFORMATION FOUND IN OFFSITE DOSE CALCULATION MANUAL
B. LIQUID EFFLUENTS - INFORMATION FOUND IN 10CFR20, APPENDIX B, TABLE II, COLUMN 2

III. AVERAGE ENERGY - NOT APPLICABLE

IV. MEASUREMENTS AND APPROXIMATIONS OF TOTAL RADIOACTIVITY
INFORMATION FOUND IN OFFSITE DOSE CALCULATION MANUAL

V. BATCH RELEASES
A. LIQUID EFFLUENT
1. 7.03E+02 = TOTAL NUMBER OF BATCH RELEASES
2. 2.73E+05 = TOTAL TIME(MIN.) FOR BATCH RELEASES.
3. 4.46E+04 = MAXIMUM TIME(MIN.) FOR A BATCH RELEASE.
4. 3.88E+02 = AVERAGE TIME(MIN.) FOR A BATCH RELEASE.
5. 3.00E+00 = MINIMUM TIME(MIN.) FOR A BATCH RELEASE.
6. 9.22E+06 = AVERAGE DILUTION WATER FLOW DURING RELEASES(GPM).

B. GASEOUS EFFLUENT
1. 1.97E+02 = TOTAL NUMBER OF BATCH RELEASES.
2. 7.11E+05 = TOTAL TIME(MIN.) FOR BATCH RELEASES.
3. 4.46E+04 = MAXIMUM TIME(MIN.) FOR A BATCH RELEASE.
4. 3.61E+03 = AVERAGE TIME(MIN.) FOR A BATCH RELEASE.
5. 2.00E+01 = MINIMUM TIME(MIN.) FOR A BATCH RELEASE.

VI. [redacted]RMAL RELEASES

A. [redacted]QUID
1. NUMBER OF RELEASES _____
2. TOTAL ACTIVITY RELEASED(CURIES) _____

B. GASEOUS
1. NUMBER OF RELEASES _____
2. TOTAL ACTIVITY RELEASED(CURIES) _____

SUPPLEMENTAL REPORT

OCONEE NUCLEAR STATION

Values represented by "0.00E+00" within the body of the semi-annual and/or annual report are below the minimum detectable limits of the Oconee counting systems. Typical MDA's for the Oconee counting systems are listed below:

ISOTOPE	ENERGY (Kev)	AVERAGE MDA
XE-133	80	1.32E-06
CE-144	133	1.42E-06
KR-88	196	1.82E-06
XE-135	249	5.04E-07
KR-87	402	9.99E-07
CS-137	661	3.17E-07
MO-99	778	1.22E-06
MN-54	834	2.18E-07
ZN-65	1115	4.27E-07
CO-60	1332	2.24E-07

OCONEE NUCLEAR STATION

The estimated percentage of error for both Liquid and Gaseous effluent release data at Oconee Nuclear Station has been determined to be ±23%. This number was derived by summing the following individual estimates of errors:

1) Flow rate determining devices = ± 5%

2) Counting error = ±15%

3) Sample preparation error = ± 3%

FUEL CYCLE CALCULATIONS

1989 OCONEE FUEL CYCLE SUMMARY DAYS 001-365 02/27/90 AT 10:39

MAXIMUM TOTAL BODY	S	1.50 MILES	6.50E-01	AGE : ADULT	
MAXIMUM ORGAN	S	1.50 MILES	2.63E+00	AGE : ADULT	ORGAN : GI-TRACK

DUKE POWER CO
OCONEE NUCLEAR S
SOLID RADIOACTIVE WASTE SHIPPED TO A DISPOSAL FACILITY

REPORT PERIOD JUL 1 - DEC 31 1989

TYPES OF WASTE SHIPPED	NUMBER OF SHIPMENTS	NUMBER OF CONTAINERS	WASTE CLASS A-U	A-S	B	C	CONT. TYPE	BURIAL VOLUME CU.FT.	CU.MET.	TOTAL ACT. CI
1) WASTE FROM LIQUID SYSTEM										
(A) DEWATERED POWDEX RESIN	2	7	7	0	0	0	STC	1451.8	41.11	0.687
(B) DEWATERED BEAD RESIN	4	4	0	0	0	4	STC	481.2	13.62	1086.1
(C) EVAPORATOR CONCENTRATES	0	0								
(D) DEWATERED MECHANICAL FILTERS										
1.PRIMARY FILTER MEDIA	4	9	0	4	2	3	STC	344.7	9.761	39.111
2.SECONDARY FILTER MEDIA	1	*	*	0	0	0	STC	76.3	2.16	0.033
(E) DEWATERED DEMINERALIZERS	6	22	9	1	12	0	STC	667.1	18.89	84.925
(F) SOLIDIFIED (CEMENT) OIL, ACIDS,SLUDGES	1	3	0	3	0	0	STC	114.9	3.253	2.211
2) DRY SOLID WASTE										
(A) DRY ACTIVE WASTE (COMPACTED) (1)	0									
(2)	1	1	1				STC	9.25	0.26	0.005
(3)	38	*	*				STC	3347.5	94.79	2.277
(B) DRY ACTIVE WASTE (NON-COMPACTED)	3	52	50	0	0	2	STC	958.6	27.14	25.393
(C) DRY ACTIVE WASTE (BROKERED)	0	0								
(D) IRRADIATED COMPONENTS	1	1	0	1	0	0	STC	38.3	1.084	2.798
TOTAL	61	99	67	9	14	9		7489.6	212.0	1243.54

NOTE: (1) SHIPMENTS FROM WESTINGHOUSE TO CNSI @ BARNWELL
(2) SHIPMENTS FROM ALARON TO CNSI @ BARNWELL
(3) SHIPMENTS FROM SEG TO CNSI @ BARNWELL

* SHIPMENTS MADE FROM OTHER COMPANYS SO INFORMATION IS NOT KNOWN

SEMI-ANNUAL SOLID WASTE REPORT WORKSHEET
TYPE OF WASTE POWDEX RESINS
PERIOD JUL 1-DEC31
YEAR 1989

ISOTOPE	% ABUNDANCE/LINER							# OF LINERS SHIPPED			7	# OF SHIPMENTS			2							TOTAL	AVE.
CR-51	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 =	0 =	0
MN-54	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 =	0.1 =	0.01
CO-57	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 =	0 =	0
CO-58	0	0	0	0	0.1	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 =	0.3 =	0.04
CO-60	0.1	0.1	0.1	0.1	0.1	0.6	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 =	1.2 =	0.17
NB-95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 =	0 =	0
ZR-95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 =	0 =	0
CS-134	10.9	11.6	10.7	12	22.1	20.8	21.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 =	109.9 =	15.7
RU-103	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 =	0 =	0
AG-110M	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 =	0 =	0
SB-125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 =	0 =	0
I-131	1.4	1.4	1.6	1.4	0.7	0.7	0.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 =	7.9 =	1.12
CS-137	25.3	25.9	24.7	26.9	34.5	32.4	33.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 =	203 =	29
H-3	50.5	48.7	51.2	47	27.2	26.3	29.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 =	280.2 =	40.0
NI-63	0.6	0.7	0.7	0.6	0.3	3.2	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 =	6.5 =	0.92
FE-55	0.3	0.4	0.4	0.4	0.2	1.8	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 =	3.7 =	0.52
SR-90	9.3	9.5	9.1	9.9	12.7	11.9	12.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 =	74.6 =	10.6
TE-125M	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 =	0 =	0
CS-136	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 =	0 =	0
XE-133	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 =	0 =	0
C-14	0	0	0	0	0	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 =	0.2 =	0.02
PU-241	1.1	1.1	1.1	1.1	1.5	1.4	1.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 =	8.7 =	1.24
TRU	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 =	3.1 =	0.44
XE-131M	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 =	0 =	0
LA-140	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 =	0 =	0
TC-99	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 =	0 =	0
CE-144	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 =	0 =	0
TOTAL	100	99.8	100	99.8	99.9	100	99.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 =	699.4 =	99.9
CLASS C	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 =	0	
CLASS B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 =	0	
CLASS AS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 =	0	
CLASS AU	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 =	7	
CURIES	0.072	0.074	0.071	0.077	0.133	0.137	0.123	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 =	0.687	
CU. FT.	207.4	207.4	207.4	207.4	207.4	207.4	207.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 =	1451.	
CU. M.	5.873	5.873	5.873	5.873	5.873	5.873	5.873	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 =	41.11	

SEMI-ANNUAL SOLID WASTE REPORT WORKSHEET
TYPE OF WASTE BEAD RESINS
PERIOD JUL 1 - DEC 31
YEAR 1989

ISOTOPE	% ABUNDANCE/LINER				# OF LINERS SHIPPED				4		# OF SHIPMENTS				4							TOTAL	AVE.
CR-51	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 = 0	= 0
MN-54	0.7	1.2	0.8	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 = 3.2	= 0.8
CO-57	0.1	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 = 0.3	= 0.07
CO-58	11.7	13.8	6.7	5.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 = 37.8	= 9.45
CO-60	1.9	2.4	1.7	1.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 = 7.2	= 1.8
NB-95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 = 0	= 0
ZR-95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 = 0	= 0
CS-134	27	28.1	32.8	36.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 = 124.5	= 31.1
RU-103	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 = 0	= 0
AG-110M	0	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 = 0.2	= 0.05
SB-125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 = 0	= 0
I-131	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 = 0	= 0
CS-137	53.4	47.6	53.4	52.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 = 207.1	= 51.7
H-3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 = 0	= 0
NI-63	2.6	3.3	2.3	1.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 = 9.9	= 2.47
FE-55	1.9	2.5	1.7	1.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 = 7.3	= 1.82
SR-90	0.4	0.4	0.4	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 = 1.6	= 0.4
TE-125M	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 = 0	= 0
CS-136	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 = 0	= 0
XE-133	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 = 0	= 0
C-14	0.1	0.1	0.1	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 = 0.4	= 0.1
PU-241	0.1	0.1	0.1	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 = 0.4	= 0.1
TRU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 = 0	= 0
XE-131M	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 = 0	= 0
LA-140	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 = 0	= 0
TC-99	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 = 0	= 0
CE-144	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 = 0	= 0
TOTAL	99.9	99.9	100	100.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 = 399.9	= 99.9
CLASS C	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 = 4	
CLASS B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 = 0	
CLASS AS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 = 0	
CLASS AU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 = 0	
CURIES	280	322.2	244.3	239.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 = 1086.	
CU. FT.	120.3	120.3	120.3	120.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 = 481.2	
CU. M.	3.406	3.406	3.406	3.406	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 = 13.62	

SEMI-ANNUAL SOLID WASTE REPORT WORKSHEET
TYPE OF WASTE PRIMARY FILTER MEDIA
PERIOD JUL 1- DEC 31
YEAR 1989

ISOTOPE	% ABUNDANCE/LINER						# OF LINERS SHIPPED			9	# OF SHIPMENTS			4									TOTAL	AVE.
CR-51	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	= 0	= 0
MN-54	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	0	0	0	0	0	0	0	0	0	0	0	0	0	= 13.5	= 1.5
CO-57	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	= 0	= 0
CO-58	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.4	2.4	0	0	0	0	0	0	0	0	0	0	0	0	0	= 21.5	= 2.38
CO-60	38.4	38.4	38.4	38.3	38.3	38.3	38.4	38.4	38.4	0	0	0	0	0	0	0	0	0	0	0	0	0	= 345.3	= 38.3
NB-95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	= 0	= 0
ZR-95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	= 0	= 0
CS-134	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	= 0	= 0
RU-103	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	= 0	= 0
AG-110M	23.6	23.6	23.6	23.6	23.6	23.6	23.5	23.6	23.6	0	0	0	0	0	0	0	0	0	0	0	0	0	= 212.3	= 23.5
SB-125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	= 0	= 0
I-131	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	= 0	= 0
CS-137	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	= 2.7	= 0.3
H-3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	= 0.9	= 0.1
NI-63	28.5	28.5	28.5	28.5	28.5	28.5	28.6	28.5	28.5	0	0	0	0	0	0	0	0	0	0	0	0	0	= 256.6	= 28.5
FE-55	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	0	0	0	0	0	0	0	0	0	0	0	0	0	= 27.9	= 3.1
SR-90	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	= 3.6	= 0.4
TE-125M	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	= 0	= 0
CS-136	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	= 0	= 0
XE-133	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	= 0	= 0
C-14	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	= 3.6	= 0.4
PU-241	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	= 4.5	= 0.5
TRU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	= 0	= 0
XE-131M	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	= 0	= 0
LA-140	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	= 0	= 0
TC-99	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	= 1.8	= 0.2
CE-144	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	= 5.4	= 0.6
TOTAL	100	100	100	99.9	99.9	99.9	99.9	100	100	0	0	0	0	0	0	0	0	0	0	0	0	0	= 899.6	= 99.9
CLASS C	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	= 3	
CLASS B	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	= 2	
CLASS AS	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	= 4	
CLASS AU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	= 0	
CURIES	10.08	5.477	0.756	0.934	0.657	0.739	8.56	9.651	2.257	0	0	0	0	0	0	0	0	0	0	0	0	0	= 39.11	
CU. FT.	38.3	38.3	38.3	38.3	38.3	38.3	38.3	38.3	38.3	0	0	0	0	0	0	0	0	0	0	0	0	0	= 344.7	
CU. M.	1.084	1.084	1.084	1.084	1.084	1.084	1.084	1.084	1.084	0	0	0	0	0	0	0	0	0	0	0	0	0	= 9.761	

SEMI-ANNUAL SOLID WASTE REPORT WORKSHEET
TYPE OF WASTE SECONDARY FILTER MEDIA
PERIOD JUL 1 - DEC 31
YEAR 1989

ISOTOPE	% ABUNDANCE/LINER		# OF LINERS SHIPPED								2	# OF SHIPMENTS										1	TOTAL	AVE.
CR-51	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	= 0	= 0
MN-54	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	= 0	= 0
CO-57	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	= 0	= 0
CO-58	0.3	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	= 0.6	= 0.3
CO-60	1.1	1.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	= 2.2	= 1.1
NB-95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	= 0	= 0
ZR-95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	= 0	= 0
CS-134	0.3	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	= 0.6	= 0.3
RU-103	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	= 0	= 0
AG-110M	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	= 0	= 0
SB-125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	= 0	= 0
I-131	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	= 0	= 0
CS-137	2.6	2.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	= 5.2	= 2.6
H-3	84.7	84.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	= 169.4	= 84.7
NI-63	6.2	6.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	= 12.4	= 6.2
FE-55	3.4	3.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	= 6.8	= 3.4
SR-90	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	= 2	= 1
TE-125M	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	= 0	= 0
CS-136	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	= 0	= 0
XE-133	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	= 0	= 0
C-14	0.3	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	= 0.6	= 0.3
PU-241	0.1	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	= 0.2	= 0.1
TRU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	= 0	= 0
XE-131M	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	= 0	= 0
LA-140	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	= 0	= 0
TC-99	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	= 0	= 0
CE-144	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	= 0	= 0
TOTAL	100	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	= 200	= 100
CLASS C	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	= 0	
CLASS B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	= 0	
CLASS AS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	= 0	
CLASS AU	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	= 2	
CURIES	0.007	0.007	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	= 0.014	
CU. FT.	90	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	= 180	
CU. M.	2.548	2.548	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	= 5.097	

These filters were sent to SEG for compaction.
Actual burial volume is reflected on the semi-annual report.

TYPE OF WASTE DEMIN VESSELS
PERIOD JUL 1- DEC31
YEAR 1989

ISOTOPE	% ABUNDANCE/LINER							# OF LINERS SHIPPED				22	# OF SHIPMENTS				6						TOTAL	AVE.
CR-51	0	0.1	0.6	0	0	0.1	0	0	0.2	0	0.3	0	1.4	3.5	0.5	0	0	0	0	0	0	0	= 6.7	= 0.30
MN-54	0.1	0.3	0.5	0.5	0	0.8	0.8	0.2	0.2	0.8	0.2	0	0.3	0.4	0.1	0	0	0	0	0	0	0	= 5.2	= 0.23
CO-57	0.2	0	0	0	0	0.1	0.1	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	= 0.5	= 0.02
CO-58	12.3	29.8	28.1	11	8.2	16.8	11.9	26.5	2.9	32.7	10.6	0	20	17.8	7.1	0	0	0	0	0	0	0	= 235.7	= 10.7
CO-60	2.2	0.8	2	3	1.1	4.8	5.4	1.1	1.5	2.3	1.4	0	2.6	1.5	0.8	0.1	0.1	0	0.1	0.1	0.1	0.1	= 31.1	= 1.41
NB-95	0.2	0.3	1.8	0.8	0.2	1.3	0.9	0.1	0.2	0	0	0	0.1	0.3	0.1	0	0	0	0	0	0	0	= 6.3	= 0.28
ZR-95	0.1	0.2	0.5	0.1	0.1	0.4	0.2	0	0	0	0	0	0.1	0.2	0.1	0	0	0	0	0	0	0	= 2	= 0.09
CS-134	29.7	27.5	15.4	28.1	35.1	33.2	18.7	27	53.2	22	33.6	41.2	10.2	29.2	33.9	1	2.5	5.8	1.4	1.4	0.3	5.9	= 456.3	= 20.7
RU-103	0	0.1	0.1	0	0	0.1	0	0	0.1	0	0	0	0	0.1	0	0	0	0	0	0	0	0	= 0.5	= 0.02
AG-110M	2.2	1.4	6.4	2.1	1.2	3.9	3.9	1	3	1.4	1.4	0	37.8	0.6	0.6	0	0	0	0	0	0	0	= 66.9	= 3.04
SB-125	1.9	0.7	13.2	1.9	1.9	0.9	0.7	0.4	4.2	0.2	0.6	0	0.1	0.5	0.8	0	0	0	0	0	0	0	= 28	= 1.27
I-131	0	1.1	0.5	8.9	2.4	4.6	7	0.7	0.5	1.8	1.6	0	4.1	2.8	4.9	0.1	0	0	0.2	0.2	0	0	= 41.4	= 1.88
CS-137	41.4	33.8	20.1	31.5	44.8	13.9	28.7	38.1	21.5	29.3	44.6	54.6	12.5	36.2	47.6	2.8	6.8	17.7	3	3	0.7	18.6	= 551.2	= 25.0
H-3	0.5	0.1	1.6	0.1	0.2	0.1	0.1	0	0.5	0.1	0.1	4.1	0	0.1	0.2	95.5	90.2	76.5	95	95	98.5	74.9	= 633.4	= 28.7
NI-63	5.5	2	4.8	7.1	2.6	11.5	13.1	2.7	3.5	5.6	3.3	0	6.1	3.6	1.9	0.3	0.2	0	0.2	0.2	0.2	0.3	= 74.7	= 3.39
FE-55	3.1	1.2	2.8	4.3	1.6	7	7.9	1.7	2.1	3.4	2	0	3.7	2.2	1.1	0.2	0.1	0	0.1	0.1	0.1	0.2	= 44.9	= 2.04
SR-90	0.1	0.1	0	0.1	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	0	0.1	0.1	0	0	0	0	0	0	0	= 1.2	= 0.05
TE-125M	0.4	0.1	1.5	0.1	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	= 2.2	= 0.1
CS-136	0	0.2	0.1	0.3	0.4	0.3	0.5	0.1	6.1	0.2	0.1	0	0.5	0.7	0.1	0	0	0	0	0	0	0	= 9.6	= 0.43
XE-133	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	= 0	= 0
C-14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	= 0	= 0
PU-241	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	= 0	= 0
TRU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	= 0	= 0
XE-131M	0	0.1	0	0	0	0	0.1	0	0	0.1	0	0	0.1	0	0.1	0	0	0	0	0	0	0	= 0.5	= 0.02
FE-59	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1	0.1	0	0	0	0	0	0	0	= 0.3	= 0.01
TC-99	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	= 0	= 0
CE-144	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	= 0	= 0
TOTAL	99.9	99.9	100	99.9	100	99.8	100.1	99.7	99.8	100.1	99.9	100	99.7	99.9	100.1	100	99.9	100	100	100	99.9	100	= 2198.	= 99.9
CLASS C	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	= 0	
CLASS B	1	1	0	1	1	1	1	1	0	1	1	0	1	1	1	0	0	0	0	0	0	0	= 12	
CLASS AS	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	= 1	
CLASS AU	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	1	1	1	1	1	1	1	= 9	
CURIES	0.964	5.092	0.311	4.66	2.26	10.3	6.845	10.66	0.869	9.25	5.12	0.124	20.65	5.16	2.62	0.005	0.006	0.007	0.005	0.005	0.005	0.007	= 84.92	
CU. FT.	38.3	38.3	18.8	38.3	38.3	38.3	38.3	38.3	38.3	38.3	38.3	18.8	38.3	38.3	38.3	18.8	18.8	18.8	18.8	18.8	18.8	18.8	= 667.1	
CU. M.	1.084	1.084	0.532	1.084	1.084	1.084	1.084	1.084	1.084	1.084	1.084	0.532	1.084	1.084	1.084	0.5323	0.532	0.532	0.532	0.53236	0.532	0.532	= 18.89	

TYPE OF WASTE SOLIDIFIED (CEMENT) OIL,ACIDS, SLUDGES
PERIOD JUL 1-DEC31
YEAR 1989
OF SHIPMENTS 1
OF CONTAINERS 3

ISOTOPE	% ABUNDANCE/CONTAINER												TOTAL	AVE
CR-51	0	0	0	0	0	0	0	0	0	0	0	0 =	0 =	0
MN-54	0.3	0.3	0.3	0	0	0	0	0	0	0	0	0 =	0.9 =	0.3
CO-57	0.1	0.1	0.1	0	0	0	0	0	0	0	0	0 =	0.3 =	0.1
CO-58	0.3	0.3	0.3	0	0	0	0	0	0	0	0	0 =	0.9 =	0.3
CO-60	24.7	24.7	24.7	0	0	0	0	0	0	0	0	0 =	74.1 =	24.7
NB-95	0	0	0	0	0	0	0	0	0	0	0	0 =	0 =	0
ZR-95	0	0	0	0	0	0	0	0	0	0	0	0 =	0 =	0
CS-134	0	0	0	0	0	0	0	0	0	0	0	0 =	0 =	0
RU-103	0	0	0	0	0	0	0	0	0	0	0	0 =	0 =	0
AG-110M	0	0	0	0	0	0	0	0	0	0	0	0 =	0 =	0
SB-125	0.8	0.8	0.8	0	0	0	0	0	0	0	0	0 =	2.4 =	0.8
I-131	0	0	0	0	0	0	0	0	0	0	0	0 =	0 =	0
CS-137	0	0	0	0	0	0	0	0	0	0	0	0 =	0 =	0
H-3	0.1	0.1	0.1	0	0	0	0	0	0	0	0	0 =	0.3 =	0.1
NI-63	18.1	18.1	18.1	0	0	0	0	0	0	0	0	0 =	54.3 =	18.1
FE-55	40.5	40.5	40.5	0	0	0	0	0	0	0	0	0 =	121.5 =	40.5
SR-90	0	0	0	0	0	0	0	0	0	0	0	0 =	0 =	0
TE-125M	0.2	0.2	0.2	0	0	0	0	0	0	0	0	0 =	0.6 =	0.2
CS-136	0	0	0	0	0	0	0	0	0	0	0	0 =	0 =	0
XE-133	0	0	0	0	0	0	0	0	0	0	0	0 =	0 =	0
C-14	15	15	15	0	0	0	0	0	0	0	0	0 =	45 =	15
PU-241	0	0	0	0	0	0	0	0	0	0	0	0 =	0 =	0
TRU	0	0	0	0	0	0	0	0	0	0	0	0 =	0 =	0
XE-131M	0	0	0	0	0	0	0	0	0	0	0	0 =	0 =	0
LA-140	0	0	0	0	0	0	0	0	0	0	0	0 =	0 =	0
TC-99	0	0	0	0	0	0	0	0	0	0	0	0 =	0 =	0
CE-144	0	0	0	0	0	0	0	0	0	0	0	0 =	0 =	0
	100.1	100.1	100.1	0	0	0	0	0	0	0	0	0		100.1
CLASS C	0	0	0	0	0	0	0	0	0	0	0	0 =	0	
CLASS B	0	0	0	0	0	0	0	0	0	0	0	0 =	0	
CLASS AS	1	1	1	0	0	0	0	0	0	0	0	0 =	3	
CLASS AU	0	0	0	0	0	0	0	0	0	0	0	0 =	0	
CURIES	0.737	0.737	0.737	0	0	0	0	0	0	0	0	0 =	2.211	
CU. FT.	38.3	38.3	38.3	0	0	0	0	0	0	0	0	0 =	114.9	
CU. M.	1.084	1.084	1.084	0	0	0	0	0	0	0	0	0 =	3.253	

TYPE OF WASTE DAW COMPACTED
PERIOD JUL 1 - DEC 31
YEAR 1989
OF SHIPMENTS FROM SEG TO BARNWELL 38

SHIPMENTS SEG RSR #	CU.FT. TO SEG	CURIES TO SEG	CU.FT. TO BURIAL	CURIES TO BURIAL	COMPLETE
89-137	2080	0.19	179	0.19	Y
89-138	2080	0.318	324.9	0.317	Y
89-143	2080	0.13	288	0.128	N
89-144	2080	0.023	82.2	0.01	N
89-149	2080	0.131	213	0.083	N
89-155	2080	0.131	229.6	0.099	N
89-161	2080	0.065	267.5	0.065	Y
89-165	2080	0.215	258	0.199	N
89-167	2080	0.118	251.4	0.118	Y
89-168	2080	0.105	102.3	0.056	N
89-169	2080	0.199	263.5	0.199	Y
89-172	2080	0.254	279	0.252	Y
89-174	2080	0.248	221.7	0.223	N
89-179	2080	0.387	47.2	0.075	N
89-180	2080	0.354	0	0	
89-188	2080	0.333	0	0	
89-120	2080	0.11	8.5	0.004	Y
89-127	2080	0.198	48	0.042	Y
89-131	2080	0.207	283.7	0.207	Y
	0	0	0	0	
	0	0	0	0	
	39520	3.716	3347.	2.277	

TOT. CU.M. 94.79

SEMI-ANNUAL SOLID WASTE REPORT WORKSHEET

TYPE OF WASTE DAW UNCOMPACTED
PERIOD JUL 1 - DEC 31
YEAR 1989
OF SHIPMENTS 3
OF CONTAINERS 52

RSR #	CU.FT.	CURIES	A-S	A-U	B	C
89-142	38.3	7.09	0	0	0	1
89-142	38.3	16.69	0	0	0	1
89-153	330	0.176	0	44	0	0
89-162	552	1.437	0	6	0	0
_____	0	0	0	0	0	0
_____	0	0	0	0	0	0
_____	0	0	0	0	0	0
_____	0	0	0	0	0	0
_____	0	0	0	0	0	0
_____	0	0	0	0	0	0
_____	0	0	0	0	0	0
_____	0	0	0	0	0	0
_____	0	0	0	0	0	0
TOTAL	958.6	25.39	0	50	0	2

TOTAL CU.M. 27.14

DUKE POWER COMPANY
OCONEE NUCLEAR STATION
SUMMARY OF MAJOR RADIONUCLIDE COMPOSITION

TYPE OF WASTE	RADIONUCLIDE	% ABUNDANCE
2. DRY SOLID WASTE		
(A) DRY ACTIVE WASTE (COMPACTED)	H-3	0.6
	CR-51	2.4
	CO-58	21.5
	CO-60	4.0
	SB-125	1.2
	CS-134	23.6
	CS-137	33.6
	NI-63	2.8
	FE-55	7.2
	C-14	2.3
	PU-241	0.1
	SR-90	0.4
	TC-99	0.3
(B) DRY ACTIVE WASTE (NON-COMPACTED)	H-3	0.6
	CR-51	2.3
	CO-58	21.3
	CO-60	4.0
	SB-125	1.2
	CS-134	23.6
	CS-137	33.7
	NI-63	2.8
	FE-55	7.2
	C-14	2.3
	PU-241	0.1
	SR-90	0.4
	TC-99	0.3

Duke Power Company

Oconee Nuclear Station

Attachment 2

Summary of Unplanned Radioactive Releases to Unrestricted Areas

UNPLANNED RELEASES TO UNRESTRICTED AREAS OF RADIOACTIVE MATERIALS IN GASEOUS AND LIQUID EFFLUENTS

There were no unplanned releases during the period of July 1, 1989 thru December 31, 1989.

Duke Power Company

Oconee Nuclear Station

Attachment 3

Meteorological Data

1989 METEOROLOGY JOINT FREQUENCY DISTRIBU (THIRD QUARTER)

PASQUILL STABILITY A

	WIND SPEED CLASS									
	0.45-1.49	1.50-2.49	2.50-3.49	3.50-4.49	4.50-5.49	5.50-6.49	6.50-7.49	7.50-8.49	>9.50 M/S	TOTAL
	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.
SECTOR										
-N-	4	2	1	2	.	.	.	.	.	9
-NNE-	.	5	.	.	.	.	.	.	.	5
-NE-	2	3	5	12	6	2	.	.	.	30
-ENE-	.	3	6	3	8	1	2	.	.	23
-E-	1	2	6	3	3	.	.	.	.	15
-ESE-	.	5	2	.	.	.	.	.	.	7
-SE-	1	5	3	.	.	.	.	.	.	9
-SSE-	1	10	3	.	.	.	.	.	.	14
-S-	1	15	8	3	.	.	.	.	.	27
-SSW-	14	42	21	7	1	.	.	.	.	85
-SW-	10	42	16	5	3	.	3	2	1	82
-WSW-	6	15	4	1	2	.	.	.	1	29
-W-	4	.	1	1	1	.	.	.	.	7
-WNW-	6	4	.	.	.	.	.	.	.	10
-NW-	2	1	.	.	.	.	.	.	.	3
-NNW-	4	2	.	.	.	.	.	.	.	6
TOTAL	56	156	76	37	24	3	5	2	2	361

1989 METEOROLOGY JOINT FREQUENCY DISTRIBU (THIRD QUARTER)

PASQUILL STABILITY B

	WIND SPEED CLASS									
	0.45-1.49	1.50-2.49	2.50-3.49	3.50-4.49	4.50-5.49	5.50-6.49	6.50-7.49	7.50-8.49	>9.50 M/S	TOTAL
	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.
SECTOR										
-N-	6	.	.	.	.	.	.	.	.	6
-NNE-	3	4	1	1	.	.	.	.	.	9
-NE-	1	11	3	7	2	4	1	1	.	30
-ENE-	4	5	4	1	1	1	1	.	.	17
-E-	1	4	7	2	.	.	2	.	.	16
-ESE-	2	2	1	1	.	.	.	.	.	6
-SE-	.	2	1	.	.	.	.	.	.	3
-SSE-	2	2	2	.	.	1	.	.	.	7
-S-	4	2	.	1	.	.	.	.	.	7
-SSW-	4	6	6	2	2	.	.	.	.	20
-SW-	5	5	1	1	.	1	.	.	1	14
-WSW-	1	7	1	.	1	.	.	.	1	11
-W-	.	1	1	.	.	.	.	.	.	2
-WNW-	2	.	.	1	.	2	.	.	.	5
-NW-	2	.	.	.	.	.	.	.	.	2
-NNW-	6	.	.	1	.	.	.	.	.	7
TOTAL	43	51	28	18	6	9	4	1	2	162

OCONEE NUCLEAR STATION
1989 METEOROLOGY JOINT FREQUENCY DISTRIBUTIONS (THIRD QUARTER)

PASQUILL STABILITY C

SECTOR	WIND SPEED CLASS 0.45-1.49 NO.	1.50-2.49 NO.	2.50-3.49 NO.	3.50-4.49 NO.	4.50-5.49 NO.	5.50-6.49 NO.	6.50-7.49 NO.	7.50-8.49 NO.	>9.50 M/S NO.	TOTAL NO.
-N-	5	2	2	.	.	.	.	.	.	9
-NNE-	2	1	3	1	.	.	.	.	.	7
-NE-	1	6	4	6	4	3	3	.	.	27
-ENE-	1	5	9	4	4	4	.	1	.	28
-E-	2	3	4	.	.	1	.	.	.	10
-ESE-	1	2	1	1	.	.	.	.	.	5
-SE-	1	1	2	.	.	.	.	.	.	4
-SSE-	1	4	.	.	.	.	.	.	.	5
-S-	.	3	.	.	.	.	.	.	.	3
-SSW-	3	.	.	.	.	1	.	.	.	4
-SW-	3	8	4	2	1	.	1	1	2	22
-WSW-	3	2	1	.	.	.	.	.	.	6
-W-	1	.	.	.	.	.	.	.	.	1
-WNW-	6	.	.	.	.	2	.	.	.	8
-NW-	6	.	.	.	.	.	.	.	.	6
-NNW-	3	.	.	1	.	.	.	.	.	4
TOTAL	39	37	30	15	9	11	4	2	2	149

1989 METEOROLOGY JOINT FREQUENCY DISTRIBUTION (THIRD QUARTER)

PASQUILL STABILITY D

	WIND SPEED CLASS										
	0.45-1.49	1.50-2.49	2.50-3.49	3.50-4.49	4.50-5.49	5.50-6.49	6.50-7.49	7.50-8.49	8.50-9.49	>9.50 M/S	TOTAL
	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.
SECTOR											
-N-	34	37	14	2	3	1	.	1	.	.	92
-NNE-	12	32	24	15	12	5	.	.	.	.	100
-NE-	5	37	48	37	35	22	3	2	.	.	189
-ENE-	9	18	49	21	19	12	7	3	.	.	138
-E-	2	13	22	9	7	5	.	.	.	.	58
-ESE-	6	10	10	3	1	.	.	.	.	.	30
-SE-	4	18	11	2	1	.	1	.	.	.	37
-SSE-	3	8	9	3	.	.	.	.	.	.	23
-S-	5	8	3	4	1	.	.	.	.	.	21
-SSW-	5	7	9	7	3	.	.	.	.	.	31
-SW-	9	16	16	10	6	2	4	1	1	2	67
-WSW-	9	13	5	3	.	.	.	.	.	.	30
-W-	19	9	1	3	1	.	.	.	1	.	34
-WNW-	24	8	1	1	2	1	.	1	.	.	38
-NW-	26	16	9	5	.	.	.	.	.	.	56
-NNW-	29	48	13	2	.	.	1	1	.	.	94
TOTAL	201	298	244	127	91	48	16	9	2	2	1038

1989 METEOROLOGY JOINT FREQUENCY DISTRIBUTION (THIRD QUARTER)

PASQUILL STABILITY E

	WIND SPEED CLASS							
	0.45-1.49	1.50-2.49	2.50-3.49	3.50-4.49	4.50-5.49	5.50-6.49	6.50-7.49	TOTAL
SECTOR	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.
-N-	21	33	9	2	.	.	1	66
-NNE-	16	26	8	1	.	1	1	53
-NE-	9	15	6	2	.	.	.	32
-ENE-	7	13	10	3	4	1	.	38
-E-	.	8	16	1	.	1	.	26
-ESE-	7	7	8	4	.	.	.	26
-SE-	2	6	8	.	1	.	.	17
-SSE-	8	7	8	.	.	.	.	23
-S-	3	5	5	.	.	.	.	13
-SSW-	2	4	4	4	1	.	.	15
-SW-	4	5	5	2	2	1	.	19
-WSW-	5	6	1	2	.	1	.	15
-W-	5	3	.	.	.	.	.	8
-WNW-	8	5	2	.	.	.	.	15
-NW-	22	9	2	.	.	.	.	33
-NNW-	29	32	7	.	.	.	.	68
-CALM-	1	.	.	.	.	.	.	1
TOTAL	149	184	99	21	8	5	2	468

1989 METEOROLOGY JOINT FREQUENCY DISTRIBU (THIRD QUARTER)

PASQUILL STABILITY F

	WIND SPEED CLASS				
	0.45-1.49	1.50-2.49	2.50-3.49	5.50-6.49	TOTAL
SECTOR	NO.	NO.	NO.	NO.	NO.
-NE-	.	1	.	.	1
-E-	1	.	.	.	1
-ESE-	.	.	1	.	1
-SE-	.	.	2	.	2
-S-	1	1	.	.	2
-SSW-	1	.	.	.	1
-WSW-	.	.	.	1	1
TOTAL	3	2	3	1	9

1989 METEOROLOGY JOINT FREQUENCY DISTRIBU (THIRD QUARTER)

PASQUILL STABILITY G

	WIND SPEED CLASS	
	0.45-1.49	TOTAL
	NO.	NO.
SECTOR		
-WNW-	1	1
TOTAL	1	1

1989 METEOROLOGY JOINT FREQUENCY DISTRIBUT (THIRD QUARTER)

ALL STABILITY CLASSES

	WIND SPEED CLASS										
	0.45-1.49	1.50-2.49	2.50-3.49	3.50-4.49	4.50-5.49	5.50-6.49	6.50-7.49	7.50-8.49	8.50-9.49	>9.50 M/S	TOTAL
	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.
SECTOR											
-N-	70	74	26	6	3	1	1	1	.	.	182
-NNE-	33	68	36	18	12	6	1	.	.	.	174
-NE-	18	73	66	64	47	31	7	3	.	.	309
-ENE-	21	44	78	32	36	19	10	4	.	.	244
-E-	7	30	55	15	10	7	2	.	.	.	126
-ESE-	16	26	23	9	1	.	.	.	.	.	75
-SE-	8	32	27	2	2	.	1	.	.	.	72
-SSE-	15	31	22	3	.	1	.	.	.	.	72
-S-	14	34	16	8	1	.	.	.	.	.	73
-SSW-	29	59	40	20	7	1	.	.	.	.	156
-SW-	31	76	42	20	12	4	8	4	1	6	204
-WSW-	24	43	12	6	3	2	.	.	.	2	92
-W-	29	13	3	4	2	.	.	.	1	.	52
-WNW-	47	17	3	2	2	5	.	1	.	.	77
-NW-	58	26	11	5	.	.	.	.	.	.	100
-NNW-	71	82	20	4	.	.	1	1	.	.	179
-CALM-	1	.	.	.	.	.	.	.	.	.	1
TOTAL	492	728	480	218	138	77	31	14	2	8	2188

1989 METEOROLOGY JOINT FREQUENCY DISTRIBUTION (FOURTH QUARTER)

PASQUILL STABILITY A

	WIND SPEED CLASS									
	1.50-2.49	2.50-3.49	3.50-4.49	4.50-5.49	5.50-6.49	6.50-7.49	7.50-8.49	8.50-9.49	>9.50 M/S	TOTAL
	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.
SECTOR										
-ENE-	.	.	1	.	2	.	.	.	.	3
-E-	.	.	.	1	.	.	.	.	.	1
-SSE-	1	.	.	.	.	.	.	.	.	1
-SSW-	4	4	4	.	1	.	.	.	.	13
-SW-	2	8	.	1	.	1	.	2	1	15
-WSW-	1	1	.	.	.	1	.	.	4	7
-W-	.	.	.	.	.	2	.	1	1	4
-WNW-	.	.	.	.	.	.	1	1	1	3
TOTAL	8	13	5	2	3	4	1	4	7	47

1989 METEOROLOGY JOINT FREQUENCY DISTRIBUTI[redacted]OURTH QUARTER)

PASQUILL STABILITY B

	WIND SPEED CLASS										
	0.45-1.49	1.50-2.49	2.50-3.49	3.50-4.49	4.50-5.49	5.50-6.49	6.50-7.49	7.50-8.49	8.50-9.49	>9.50 M/S	TOTAL
	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.
SECTOR											
-N-	.	1	.	.	.	.	.	.	.	.	1
-NE-	.	.	.	.	.	2	7	.	.	.	9
-ENE-	.	1	1	2	.	.	1	.	.	.	5
-E-	.	.	3	1	3	.	1	.	.	.	8
-ESE-	.	1	1	.	.	.	.	.	.	.	2
-SE-	.	1	.	.	.	.	.	.	.	.	1
-SSE-	.	1	.	.	.	.	.	.	.	.	1
-S-	.	1	2	1	.	.	.	.	.	.	4
-SSW-	.	2	5	6	4	1	.	1	.	.	19
-SW-	.	7	7	.	2	4	1	.	1	2	24
-WSW-	.	7	1	.	.	.	.	1	.	1	10
-W-	.	.	.	.	.	.	1	1	1	1	4
-WNW-	1	.	.	.	.	.	1	.	.	.	2
-NW-	1	.	.	.	.	1	.	.	.	.	2
-NNW-	.	.	.	.	.	1	.	.	.	.	1
TOTAL	2	22	20	10	9	9	12	3	2	4	93

PASQUILL STABILITY C

	WIND SPEED CLASS										
	0.45-1.49	1.50-2.49	2.50-3.49	3.50-4.49	4.50-5.49	5.50-6.49	6.50-7.49	7.50-8.49	8.50-9.49	>9.50 M/S	TOTAL
	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.
SECTOR											
-N-	.	.	.	.	.	1	.	.	.	.	1
-NNE-	.	.	.	1	1	.	.	.	.	.	2
-NE-	.	1	.	.	4	4	1	.	.	.	10
-ENE-	.	1	1	3	8	6	.	2	.	.	21
-E-	1	2	1	.	.	1	.	.	.	.	5
-ESE-	.	1	1	.	.	.	.	.	.	.	2
-SE-	.	4	.	.	.	.	.	.	.	.	4
-SSE-	.	1	.	.	.	.	.	.	.	.	1
-S-	3	2	.	.	.	1	1	.	.	.	7
-SSW-	.	7	7	6	2	4	.	.	.	.	26
-SW-	.	4	2	2	3	4	1	.	2	2	20
-WSW-	1	2	.	.	.	.	.	2	.	3	8
-W-	1	1	1	.	.	1	1	.	.	1	6
-WNW-	3	1	.	1	.	1	.	3	.	2	11
-NW-	.	.	.	.	1	.	1	.	.	1	3
-NNW-	.	.	.	1	.	.	.	1	.	.	2
TOTAL	9	27	13	14	19	23	5	8	2	9	129

1989 METEOROLOGY JOINT FREQUENCY DISTRIBUTION (FOURTH QUARTER)

PASQUILL STABILITY D

	WIND SPEED CLASS										
	0.45-1.49	1.50-2.49	2.50-3.49	3.50-4.49	4.50-5.49	5.50-6.49	6.50-7.49	7.50-8.49	8.50-9.49	>9.50 M/S	TOTAL
SECTOR	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.
-N-	8	10	3	2	2	.	1	.	.	.	26
-NNE-	5	8	7	6	1	1	.	2	.	.	30
-NE-	3	8	17	21	17	8	4	.	.	.	78
-ENE-	5	4	16	30	21	15	2	.	.	.	93
-E-	8	14	13	14	9	3	1	.	.	.	62
-ESE-	6	9	4	1	.	.	.	.	.	.	20
-SE-	6	12	6	.	.	.	.	.	.	.	24
-SSE-	8	8	10	4	.	.	.	.	.	1	31
-S-	6	14	16	4	2	1	.	1	.	1	45
-SSW-	7	16	29	26	17	14	7	3	1	1	121
-SW-	8	17	24	13	22	26	11	14	12	11	158
-WSW-	10	16	13	7	9	19	10	5	12	11	112
-W-	11	13	3	2	4	6	10	2	2	1	54
-WNW-	11	1	4	8	7	12	3	3	2	.	51
-NW-	6	7	3	.	7	2	2	3	2	.	32
-NNW-	9	4	2	2	4	3	.	.	.	.	24
TOTAL	117	161	170	140	122	110	51	33	31	26	961

1989 METEOROLOGY JOINT FREQUENCY DISTRIBUTIONS (FOURTH QUARTER)

PASQUILL STABILITY E

	WIND SPEED CLASS										
	0.45-1.49	1.50-2.49	2.50-3.49	3.50-4.49	4.50-5.49	5.50-6.49	6.50-7.49	7.50-8.49	8.50-9.49	>9.50 M/S	TOTAL
	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.
SECTOR											
-N-	20	90	29	5	.	.	.	.	.	.	144
-NNE-	14	45	23	3	1	.	.	.	.	.	86
-NE-	6	9	9	9	1	.	.	.	.	.	34
-ENE-	3	5	11	6	1	1	.	.	.	.	27
-E-	6	10	9	7	1	1	.	.	.	.	34
-ESE-	8	7	2	.	.	.	.	.	.	.	17
-SE-	9	8	4	1	1	.	.	.	.	1	24
-SSE-	6	10	13	6	1	.	2	.	.	1	39
-S-	9	12	12	7	1	.	.	.	.	.	41
-SSW-	10	8	10	11	2	.	.	.	.	.	41
-SW-	7	20	19	14	6	9	4	2	4	2	87
-WSW-	14	21	8	2	9	7	4	3	4	3	75
-W-	13	15	2	1	3	5	1	4	2	.	46
-WNW-	19	10	5	3	.	.	.	.	.	.	37
-NW-	27	17	4	.	.	.	.	.	.	.	48
-NNW-	22	29	5	1	.	.	.	.	.	.	57
-CALM-	1	.	.	.	.	.	.	.	.	.	1
TOTAL	194	316	165	76	27	23	11	9	10	7	838

1989 METEOROLOGY JOINT FREQUENCY DISTRIBUTION (FOURTH QUARTER)

PASQUILL STABILITY F

	WIND SPEED CLASS						
	0.45-1.49	1.50-2.49	2.50-3.49	3.50-4.49	4.50-5.49	6.50-7.49	TOTAL
SECTOR	NO.	NO.	NO.	NO.	NO.	NO.	NO.
-N-	5	19	3	.	.	.	27
-NNE-	1	25	13	.	.	.	39
-NE-	1	.	.	.	.	.	1
-ENE-	.	.	1	.	1	.	2
-E-	3	1	.	2	.	.	6
-ESE-	1	3	.	.	.	.	4
-SE-	2	2	.	.	2	.	6
-SSE-	.	2	.	.	1	.	3
-S-	1	1	1	.	.	.	3
-SSW-	2	.	1	1	.	.	4
-SW-	.	1	3	1	1	.	6
-WSW-	2	.	.	.	1	1	4
-W-	.	.	.	.	1	.	1
-WNW-	1	.	.	.	.	.	1
-NW-	1	.	.	.	.	.	1
-NNW-	2	1	1	.	1	.	5
TOTAL	22	55	23	4	8	1	113

1989 METEOROLOGY JOINT FREQUENCY DISTRIBUTION (FOURTH QUARTER)

PASQUILL STABILITY G

	WIND SPEED CLASS				
	0.45-1.49	1.50-2.49	2.50-3.49	5.50-6.49	TOTAL
SECTOR	NO.	NO.	NO.	NO.	NO.
-N-	.	1	.	.	1
-NNE-	.	1	2	.	3
-ENE-	.	1	.	.	1
-SSE-	.	.	1	.	1
-S-	.	2	.	.	2
-SSW-	.	1	.	.	1
-WSW-	.	.	2	1	3
-WNW-	.	1	.	.	1
-NW-	.	1	.	.	1
-NNW-	1	.	.	.	1
TOTAL	1	8	5	1	15

1989 METEOROLOGY JOINT FREQUENCY DISTRIBUTION (FOURTH QUARTER)

ALL STABILITY CLASSES

	WIND SPEED CLASS										
	0.45-1.49	1.50-2.49	2.50-3.49	3.50-4.49	4.50-5.49	5.50-6.49	6.50-7.49	7.50-8.49	8.50-9.49	>9.50 M/S	TOTAL
	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.
SECTOR											
-N-	33	121	35	7	2	1	1	.	.	.	200
-NNE-	20	79	45	10	3	1	.	2	.	.	160
-NE-	10	18	26	30	22	14	12	.	.	.	132
-ENE-	8	12	30	42	31	24	3	2	.	.	152
-E-	18	27	26	24	14	5	2	.	.	.	116
-ESE-	15	21	8	1	.	.	.	.	.	.	45
-SE-	17	27	10	1	3	.	.	.	.	1	59
-SSE-	14	23	24	10	2	.	2	.	.	2	77
-S-	19	32	31	12	3	2	1	1	.	1	102
-SSW-	19	38	56	54	25	20	7	4	1	1	225
-SW-	15	51	63	30	35	43	18	16	21	18	310
-WSW-	27	47	25	9	19	27	16	11	16	22	219
-W-	25	29	6	3	8	12	15	7	6	4	115
-WNW-	35	13	9	12	7	13	4	7	3	3	106
-NW-	35	25	7	.	8	3	3	3	2	1	87
-NNW-	34	34	8	4	5	4	.	1	.	.	90
-CALM-	1	.	.	.	.	.	.	.	.	.	1
TOTAL	345	597	409	249	187	169	84	54	49	53	2196

Duke Power Company

Oconee Nuclear Station

Attachment 4

Radioactive Gas and Liquid Monitors
Inoperable for Greater Than 30 Days

RADIOACTIVE GAS AND LIQUID MONITORS
INOPERABLE FOR GREATER THAN 30 DAYS

1, 2, 3 RIA-35

RIA-35 for each unit has been inoperable during the entire reporting period, July 1,1989 to December 31,1989. These RIA's Which monitor Low Pressure Service Water (LPSW) have been out of service for an extended period due to not receiving a sufficiently representative composite sample for all portions of the LPSW system. These monitors will be returned to service following implementation of an NSM which will identify and resolve LPSW design deficiencies.

Radwaste Facility Ventilation Monitoring System

The Radwaste Facility Noble Gas Activity Monitor (4RIA-45), the Iodine Sampler, Particulate Sampler, Effluent Flow Rate Monitor and the Sampler Flow Rate Monitor were all out of service for the entire reporting period, July 1, 1989 to December 31, 1989. These instruments are all integrated into one system which has not operated satisfactorily since initial employment of the Radwaste Facility for radwaste processing. The apparent design problems in this system will be resolved by an NSM and then returned to service.