B 09/11/78

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)
DISTRIBUTION FOR INCOMING MATERIAL

50-269 270 287

REC: OREILLY J P
NRC

ORG: PARKER W O
DUKE PWR

DOCDATE: 08/28/78
DATE RCVD: 09/11/78

DOCTYPE: LETTER NOTARIZED: NO

COPIES RECEIVED
LTR 1 ENCL 1

SUBJECT:
FORWARDING SUBJECT FACILITY"S SEMIANNUAL RADIOACTIVE EFFLUENT RELEASE AND ENVIRON MONITORING REPT COVERING THE PERIOD JANUARY 1, 1978 THROUGH JUNE 30, 1978.

PLANT NAME: OCONEE - UNIT 1
OCONEE - UNIT 2
OCONEE - UNIT 3

REVIEWER INITIAL: XJM
DISTRIBUTER INITIAL: JSM

********** DISTRIBUTION OF THIS MATERIAL IS AS FOLLOWS **********

NOTES:
1. M. CUNNINGHAM -- ALL AMENDMENTS TO FSAR AND CHANGES TO TECH SPECS

ANNUAL ENVIRONMENTAL RPTS (OL STAGE).
(DISTRIBUTION CODE A007)

FOR ACTION: BR CHIEF ORB#4 BC**W/7 ENCL

INTERNAL:
REG FILE**W/ENCL
I & E**W/2 ENCL
ENVIRO SPEC BR**W/ENCL
RAD ASSESSMENT BR**W/ENCL
NRC PDR**W/ENCL
EEB**W/ENCL
EFFLUENT TREAT SYS**W/ENCL
KASTNER**W/ENCL

EXTERNAL:
LPDR'S
WALHALLA, SC**W/ENCL
TERA**W/ENCL
NSIC**W/ENCL
ACRS CAT B**W/ENCL

Envlpe I

DISTRIBUTION: LTR 20 ENCL 20
SIZE: 1P+13P

CONTROL NBR: 782480287

********** THE END **********

DUKE POWER COMPANY
POWER BUILDING
422 SOUTH CHURCH STREET, CHARLOTTE, N. C. 28242

WILLIAM O. PARKER, JR.
VICE PRESIDENT
STEAM PRODUCTION

TELEPHONE: AREA 704
373-4083

August 28, 1978

Mr. James P. O'Reilly, Director
Region II
Office of Inspection and Enforcement
U. S. Nuclear Regulatory Commission
Suite 1217
230 Peachtree Street, Northwest
Atlanta, Georgia 30303

Reference: Oconee Nuclear Station
Docket Nos. 50-269, -270, -287

Dear Mr. O'Reilly:

Pursuant to 10CFR50, §50.36 and Oconee Nuclear Station Technical Specification 6.6.1.2(c), please find attached data concerning radioactive effluents released from Oconee Nuclear Station. This report covers the period January 1 through June 30, 1978.

Very truly yours,

William O. Parker, Jr.

RLG:vr
Attachment

cc: Director, Office of Inspection and Enforcement

A007
A031
S
1/1

ATTACHMENT 1

RADIOACTIVE EFFLUENT RELEASES
SOLID WASTE

RADIOACTIVE EFFLUENT RELEASES
SOLID WASTE

Total volume of solid waste packaged (cubic feet) 26,073.8

Total estimated activity involved (Curies) 752.

Disposal of materials shipped off-site: All shipments to Chem-Nuclear Systems Waste Disposal Facility at Barnwell, South Carolina.

DATE	CUBIC FT.	# OF CURIES
1/3/78	185	2.38
1/6/78	185	2.61
1/7/78	238	1.89
1/9/78	238	1.14E+1
1/10/78	130	1.45
1/12/78	377.4	4.16E-1
1/13/78	205	2.10
1/17/78	205	1.25E+1
1/18/78	235	1.50E+1
1/19/78	205	4.07
1/21/78	238	4.78
1/22/78	238	8.93
1/23/78	766.6	6.88E-1
1/24/78	205	1.86E+1
1/25/78	391.4	2.23
1/27/78	185	2.80E+1
1/30/78	357.4	2.82E-1
2/1/78	205	9.23
2/2/78	283	5.08
2/6/78	130	5.10E-4
2/7/78	185	3.74
2/9/78	166	1.40E-2
2/9/78	80	1.20E-4
2/9/78	80	1.29E-4
2/13/78	185	6.04

DATE	CUBIC FT.	# OF CURIES
2/15/78	756.2	2.10E-1
2/15/78	60	8.24E-1
2/15/78	60	5.55E-5
2/16/78	185	3.02
2/17/78	185	3.49
2/20/78	657.8	3.32E-1
2/22/78	205	6.21
2/27/78	60	1.94E-2
2/27/78	60	6.78E-2
2/27/78	60	5.39E-2
2/27/78	60	2.25E-2
2/27/78	60	6.20E-2
3/1/78	185	7.29
3/3/78	185	8.44E-2
3/5/78	238	1.71E+1
3/8/78	589	4.17E-1
3/10/78	205	6.79
3/14/78	7.4	5.10
3/14/78	205	1.26E+1
3/15/78	637.8	3.38E-1
3/17/78	205	7.39
3/21/78	205	9.43
3/22/78	74	4.08E+1
3/27/78	205	7.82
3/30/78	7.4	1.19
3/31/78	205	7.91
3/31/78	238	8.23
4/4/78	167	8.10E-1
4/5/78	238	4.23E+1
4/5/78	468.4	5.96E-1
4/7/78	238	7.29
4/7/78	205	1.04E+1
4/11/78	166	3.00E-2
4/11/78	166	7.00E-2
4/12/78	205	1.17E+1
4/14/78	14.8	1.02
4/14/78	205	9.89
4/18/78	205	7.73

DATE	CUBIC FT.	# OF CURIES
4/18/78	14.8	5.10E-1
4/20/78	14.8	2.55
4/20/78	238	4.76
4/21/78	170	4.25
4/21/78	14.8	1.70
4/22/78	512	8.00E-2
4/24/78	592	2.90E-1
4/25/78	205	3.38
4/25/78	14.8	5.95
4/28/78	14.8	6.63
5/1/78	205	3.99
5/3/78	7.4	3.40E+1
5/4/78	537.2	1.03
5/5/78	238	1.09E+1
5/5/78	7.4	1.19
5/6/78	205	9.03
5/7/78	7.4	6.80E-1
5/7/78	238	2.24
5/12/78	238	1.73E+1
5/14/78	130	2.06
5/16/78	130	1.07E+1
5/18/78	238	1.14
5/18/78	205	3.16
5/19/78	868	2.19
5/19/78	45	8.73E+1
5/22/78	238	3.06
5/23/78	238	1.04
5/26/78	238	4.00
5/26/78	576.4	1.78E-1
5/26/78	205	3.19
5/28/78	238	2.43
5/31/78	205	2.66
6/3/78	205	3.85
6/4/78	205	2.22
6/5/78	238	6.51
6/6/78	205	1.96

DATE	CUBIC FT.	# OF CURIES
6/8/78	205	3.32
6/9/78	81.4	3.04
6/9/78	205	2.50
6/9/78	238	2.05
6/12/78	205	7.37
6/12/78	238	1.16
6/14/78	205	1.06E+1
6/15/78	130	1.03E+1
6/16/78	205	1.43E+1
6/16/78	621.6	7.03E-1
6/17/78	130	1.53E+1
6/20/78	205	1.40E+1
6/26/78	130	4.10E-1
6/28/78	205	3.63
6/28/78	205	1.74E+1
6/30/78	238	7.84
6/30/78	562.4	1.84
6/30/78	205	8.09
	TOTAL 26073.8	7.52E+2

ATTACHMENT 2

RADIOACTIVE EFFLUENT RELEASES
LIQUID RELEASES

RADIOACTIVE EFFLUENT RELEASES — YEAR 197[illegible]

I. LIQUID RELEASES	UNITS	JANUARY	FEBRUARY	MARCH	SUB-TOTAL
1. GROSS RADIOACTIVITY					
A. TOTAL RELEASE	CURIES	4.85E-01	2.38E-01	2.64E-01	1.04E+00
B. AVERAGE CONCENTRATION RELEASED	UCI/ML	2.37E-09	7.14E-09	2.84E-09	2.97E-09
C. MAXIMUM CONCENTRATION RELEASED	UCI/ML	1.07E-07	1.52E-07	3.45E-08	1.06E-07
2. IODINE					
A. TOTAL RELEASE	CURIES	6.17E+01	9.84E+01	1.48E+02	3.24E+02
B. AVERAGE CONCENTRATION RELEASED	UCI/ML	3.98E-07	2.39E-06	1.40E-06	9.24E-07
3. DISSOLVED NOBLE GASES					
A. TOTAL RELEASE	CURIES	4.13E-01	1.79E-01	2.59E-01	8.52E-01
B. AVERAGE CONCENTRATION RELEASED	UCI/ML	2.01E-09	4.45E-09	2.49E-09	2.43E-09
4. GROSS ALPHA RADIOACTIVITY					
A. TOTAL RELEASE	CURIES	0.	0.	0.	0.
B. AVERAGE CONCENTRATION RELEASED	UCI/ML	0.	0.	0.	0.
5. VOLUME OF LIQUID WASTE TO DISCHARGE CANAL	LITERS	1.69E+07	7.03E+06	1.16E+07	3.55E+07
6. VOLUME OF DILUTION WATER	LITERS	2.06E+11	4.03E+10	1.04E+11	3.50E+11
7. ISOTOPES RELEASED	CURIES				
SR-[illegible]		2.38E-03	9.34E-04	4.03E-04	3.42E-03
SR-[illegible]		1.30E-02	9.14E-03	6.95E-03	2.91E-02
I-131		7.51E-02	8.94E-02	1.22E-01	2.86E-01
I-133		3.13E-03	3.14E-03	5.67E-03	1.19E-02
XE-133		3.17E-01	7.76E-02	2.01E-01	5.95E-01
XE-135		5.70E-03	1.52E-03	3.67E-03	1.10E-02
CS-137		1.49E-01	4.67E-02	4.36E-02	2.39E-01
CS-134		8.37E-02	2.06E-02	2.48E-02	1.29E-01
CS-[illegible]		4.99E-02	2.95E-02	1.36E-02	9.29E-02
CS-[illegible]		6.52E-02	4.62E-02	2.77E-02	1.39E-01
CR-51		2.24E-03	1.49E-03	2.23E-03	5.95E-03
[illegible]		8.93E-03	3.54E-03	2.93E-03	1.54E-02
MN-[illegible]		0.	1.44E-05	2.16E-05	3.59E-05
CO-[illegible]		1.39E-04	4.20E-06	8.52E-06	2.29E-04
[illegible]		9.22E-03	1.61E-02	5.67E-03	3.10E-02
XE-133[illegible]		3.72E-04	2.73E-04	1.47E-03	2.11E-03
I-132		8.01E-07	0.	0.	8.01E-07
SR-[illegible]		7.99E-04	7.79E-05	2.41E-04	1.12E-03
[illegible]		7.82E-04	0.	1.26E-03	2.04E-03
[illegible]		3.34E-04	0.	5.63E-06	3.90E-04
[illegible]		2.22E-05	0.	2.74E-05	4.96E-05
[illegible]		8.12E-04	5.34E-04	3.82E-04	1.73E-03
[illegible]		1.67E-04	0.	0.	1.67E-04
[illegible]		1.12E-03	9.40E-04	6.19E-04	2.68E-03
[illegible]		0.	0.	0.	0.
[illegible]		5.53E-04	0.	0.	5.53E-04
SB-132		0.	0.	0.	0.
AG-110		5.06E-03	1.16E-02	4.02E-03	2.07E-02
[illegible]		0.	0.	6.45E-06	6.45E-06
[illegible]		1.26E-03	2.76E-03	7.91E-04	4.81E-03
[illegible]		3.34E-04	5.07E-05	7.10E-05	5.36E-04
SB-124		0.	0.	0.	0.
I-135		5.46E-03	1.65E-03	7.79E-04	7.89E-03
[illegible]		5.10E-05	2.35E-04	2.30E-04	5.16E-04
CS-136		0.	0.	0.	0.
XE-131		5.69E-03	5.87E-03	3.10E-03	1.47E-02
CR-[illegible]		4.38E-05	9.05E-04	4.46E-04	1.39E-03
[illegible]		5.38E-04	7.23E-04	4.36E-04	1.70E-03
CO-57		2.00E-04	7.26E-05	6.31E-05	3.42E-04
CO-[illegible]		1.69E-04	0.	1.62E-05	1.85E-04
[illegible]		9.24E-06	0.	2.94E-05	3.86E-05
CD-115[illegible]		0.	0.	0.	0.
[illegible]		5.96E-04	9.77E-04	2.92E-04	1.87E-03
[illegible]		4.83E-05	0.	2.23E-05	7.06E-05
CD-115		1.67E-04	4.61E-04	4.40E-05	6.62E-04
CE-134		0.	0.	0.	0.
AR-41		3.20E-05	8.42E-06	0.	4.12E-05
I-134		0.	1.31E-06	0.	1.31E-06
RB-[illegible]		5.81E-03	1.14E-03	2.76E-04	7.23E-03
SB-125[illegible]		2.16E-05	0.	0.	2.16E-05
CS-134		8.40E-06	0.	0.	8.40E-06
XE-[illegible]		8.40E-02	9.40E-02	4.83E-02	2.26E-01
RU-103		2.65E-05	1.18E-05	1.00E-04	1.39E-04
SB-125		1.10E-03	2.02E-04	4.36E-05	1.36E-03
SN-125		1.42E-03	0.	0.	1.42E-03
AE-135		0.	1.35E-05	0.	1.35E-05
SN-123[illegible]		0.	0.	0.	0.
F-18		0.	0.	0.	0.
AG-106[illegible]		2.57E-05	0.	3.44E-05	6.00E-05
XE-135M		0.	0.	0.	0.
SR-91		0.	8.03E-05	0.	8.03E-05
MO-[illegible]		0.	7.03E-05	0.	7.03E-05
8. PERCENT OF TECHNICAL SPECIFICATIONS LIMIT (15 CI) FOR TOTAL ACTIVITY RELEASED		3.26E+00	1.32E+00	1.76E+00	6.93E+00

RADIOACTIVE EFFLUENT RELEASES — YEAR 1978

I. LIQUID RELEASES	UNITS	APRIL	MAY	JUNE	SUB-TOTAL
1. GROSS RADIOACTIVITY					
A. TOTAL RELEASE	CURIES	6.56E-01	1.41E+00	4.49E-01	2.52E+00
B. AVERAGE CONCENTRATION RELEASED	UCI/ML	9.29E-09	6.67E-09	8.20E-09	7.49E-09
C. MAXIMUM CONCENTRATION RELEASED	UCI/ML	2.63E-07	3.71E-07	1.78E-07	2.84E-07
2. TRITIUM					
A. TOTAL RELEASE	CURIES	1.14E+02	7.13E+01	6.38E+01	2.49E+02
B. AVERAGE CONCENTRATION RELEASED	UCI/ML	1.62E-06	3.36E-07	1.17E-06	7.40E-07
3. DISSOLVED NOBLE GASES					
A. TOTAL RELEASE	CURIES	1.34E+00	6.91E-01	9.81E-01	3.01E+00
B. AVERAGE CONCENTRATION RELEASED	UCI/ML	1.90E-08	3.26E-09	1.81E-08	8.94E-09
4. GROSS ALPHA RADIOACTIVITY					
A. TOTAL RELEASE	CURIES	0.	0.	0.	0.
B. AVERAGE CONCENTRATION RELEASED	UCI/ML	0.	0.	0.	0.
5. VOLUME OF LIQUID WASTE TO DISCHARGE CANAL	LITERS	9.22E+06	1.41E+07	9.48E+06	3.28E+07
6. VOLUME OF DILUTION WATER	LITERS	7.06E+10	2.12E+11	5.41E+10	3.37E+11
7. ISOTOPES RELEASED	CURIES				
[illegible]		2.58E-03	9.60E-03	1.62E-03	1.38E-02
[illegible]		7.01E-03	2.12E-02	3.60E-03	3.18E-02
I-131		2.18E-01	6.31E-02	3.74E-02	3.19E-01
I-133		7.00E-03	4.00E-03	2.36E-03	1.34E-02
[illegible]		1.18E+00	3.99E-01	8.16E-01	2.40E+00
[illegible]		9.05E-03	5.73E-03	1.49E-02	2.97E-02
CS-137		4.41E-02	3.40E-02	2.22E-02	1.00E-01
CS-134		2.39E-02	2.14E-02	1.20E-02	5.93E-02
[illegible]		6.90E-02	9.47E-02	1.67E-02	1.80E-01
[illegible]		1.75E-01	8.38E-01	2.91E-01	1.35E+00
SR-91		4.19E-02	6.62E-02	5.40E-03	1.13E-01
[illegible]		5.60E-03	1.69E-02	2.51E-03	2.30E-02
[illegible]		0.	0.	1.84E-05	1.84E-05
[illegible]		4.36E-04	1.74E-03	3.49E-05	2.21E-03
[illegible]		1.34E-02	1.17E-01	1.10E-02	1.46E-01
[illegible]		1.05E-02	1.35E-03	7.68E-03	1.97E-02
[illegible]		0.	0.	0.	0.
I-132		2.35E-03	2.24E-03	1.66E-04	4.75E-03
[illegible]		0.	0.	2.09E-04	2.09E-04
[illegible]		0.	0.	2.61E-04	2.61E-04
[illegible]		7.08E-04	6.34E-04	3.06E-05	1.39E-03
[illegible]		4.52E-04	1.09E-03	3.32E-04	1.87E-03
[illegible]		0.	3.30E-05	2.32E-05	6.32E-05
[illegible]		4.83E-03	1.11E-03	5.06E-04	6.45E-03
[illegible]		0.	0.	0.	0.
[illegible]		0.	0.	0.	0.
[illegible]		0.	0.	0.	0.
[illegible]		9.78E-03	3.30E-02	3.33E-03	5.13E-02
[illegible]		1.43E-03	1.38E-04	1.73E-03	3.32E-03
[illegible]		7.69E-03	9.19E-03	6.09E-04	1.76E-02
[illegible]		3.32E-04	3.07E-03	8.95E-04	4.30E-03
[illegible]		0.	0.	0.	0.
I-135		1.70E-04	3.45E-04	2.71E-04	7.85E-04
[illegible]		0.	1.88E-03	9.25E-05	1.97E-03
[illegible]		0.	0.	0.	0.
[illegible]		3.35E-02	1.93E-02	6.48E-03	6.43E-02
[illegible]		6.73E-03	6.07E-03	9.94E-05	1.29E-02
[illegible]		4.66E-04	2.54E-04	3.94E-04	1.11E-03
[illegible]		4.69E-04	2.00E-03	2.33E-04	2.72E-03
[illegible]		7.34E-04	1.72E-03	3.00E-04	2.81E-03
[illegible]		0.	2.82E-05	1.93E-05	4.75E-05
[illegible]		0.	0.	0.	0.
[illegible]		2.82E-04	1.13E-04	1.36E-04	5.56E-04
[illegible]		0.	0.	1.64E-05	1.64E-05
[illegible]		6.24E-05	4.45E-05	1.38E-04	2.05E-04
[illegible]		0.	0.	0.	0.
[illegible]		4.91E-05	2.41E-04	9.01E-05	3.80E-04
[illegible]		0.	0.	0.	0.
I-134		9.26E-04	1.86E-04	3.34E-02	3.45E-02
[illegible]		0.	0.	0.	0.
[illegible]		0.	3.30E-03	0.	3.30E-03
[illegible]		9.58E-02	2.63E-01	1.36E-01	4.96E-01
[illegible]		3.00E-03	2.60E-03	3.26E-05	5.63E-03
[illegible]		4.97E-04	7.94E-04	8.60E-05	1.38E-03
[illegible]		0.	0.	0.	0.
[illegible]		0.	2.37E-03	0.	2.37E-03
[illegible]		0.	0.	0.	0.
[illegible]		0.	0.	0.	0.
[illegible]		0.	2.92E-05	0.	2.92E-05
[illegible]		0.	0.	0.	0.
[illegible]		4.32E-05	5.24E-05	0.	6.42E-05
[illegible]		0.	3.38E-04	2.39E-05	3.64E-04
[illegible]		0.	0.	0.	0.
[illegible]		0.	0.	0.	0.
[illegible]		0.	0.	0.	0.
[illegible]		0.	0.	0.	0.
8. PERCENT OF TECHNICAL SPECIFICATIONS		4.37E+00	9.43E+00	2.99E+00	1.68E+01

I. LIQUID RELEASES

	UNITS	1st QUARTER	2nd QUARTER	SUB-TOTAL
1. GROSS RADIOACTIVITY				
A. TOTAL RELEASE	CURIES	1.04E+00	2.52E+00	3.56E+00
B. AVERAGE CONCENTRATION RELEASED	UCI/ML	2.97E-09	7.48E-09	5.13E-09
C. MAXIMUM CONCENTRATION RELEASED	UCI/ML	1.08E-07	2.84E-07	1.93E-07
2. TRITIUM				
A. TOTAL RELEASE	CURIES	3.24E+02	2.49E+02	5.73E+02
B. AVERAGE CONCENTRATION RELEASED	UCI/ML	9.24E-07	7.40E-07	8.34E-07
3. DISSOLVED NOBLE GASES				
A. TOTAL RELEASE	CURIES	8.52E-01	3.01E+00	3.86E+00
B. AVERAGE CONCENTRATION RELEASED	UCI/ML	2.43E-09	8.94E-09	5.62E-09
4. GROSS ALPHA RADIOACTIVITY				
A. TOTAL RELEASE	CURIES	0.	0.	0.
B. AVERAGE CONCENTRATION RELEASED	UCI/ML	0.	0.	0.
5. VOLUME OF LIQUID WASTE DISCHARGED	LITERS	3.35E+07	3.28E+07	6.83E+07
6. VOLUME OF DILUTION WATER	LITERS	3.50E+11	3.37E+11	6.87E+11
7. ISOTOPES RELEASED	CURIES			
BA-LA-140		3.42E-03	1.38E-02	1.72E-02
SR-89		2.91E-02	3.18E-02	6.09E-02
I-131		2.86E-01	3.18E-01	6.05E-01
I-133		1.19E-02	1.34E-02	2.53E-02
XE-133		5.95E-01	2.40E+00	2.99E+00
XE-135		1.10E-02	2.97E-02	4.07E-02
CS-137		2.39E-01	1.00E-01	3.39E-01
CS-134		1.29E-01	5.93E-02	1.88E-01
CO-60		9.29E-02	1.80E-01	2.73E-01
CO-58		1.39E-01	1.35E+00	1.49E+00
CR-51		5.95E-03	1.13E-01	1.19E-01
MN-54		1.54E-02	2.50E-02	4.04E-02
KR-87		3.59E-05	1.84E-05	5.43E-05
ZR-97		2.29E-04	2.21E-03	2.44E-03
NB-97		3.10E-02	1.46E-01	1.77E-01
XE-133M		2.11E-03	1.97E-02	2.18E-02
I-132		8.01E-07	0.	8.01E-07
CS-136		1.12E-03	4.75E-03	5.87E-03
KR-85M		2.04E-03	2.09E-04	2.25E-03
KR-88		3.90E-04	2.61E-04	6.51E-04
ZN-65		4.96E-05	1.39E-03	1.44E-03
SR-90		1.73E-03	1.87E-03	3.60E-03
SR-92		1.67E-04	6.32E-05	2.30E-04
CE-144		2.49E-03	6.49E-03	9.13E-03
ZN-66		0.	0.	0.
MO-99		5.53E-04	0.	5.53E-04
SB-122		0.	0.	0.
AG-110M		2.07E-02	5.13E-02	7.20E-02
BA-139		6.45E-06	3.32E-03	3.33E-03
NB-95		4.31E-03	1.76E-02	2.24E-02
FE-59		5.36E-04	4.80E-03	5.33E-03
SB-124		0.	0.	0.
I-135		7.89E-03	7.35E-04	8.68E-03
I-137		5.16E-04	1.97E-03	2.49E-03
CS-138		0.	0.	0.
XE-131M		1.47E-02	6.43E-02	7.90E-02
ZR-95		1.39E-03	1.29E-02	1.43E-02
NP-239		1.70E-03	1.11E-03	2.81E-03
SE-75		3.42E-04	2.72E-03	3.06E-03
TC-99M		1.85E-04	2.81E-03	2.99E-03
LA-24		3.86E-05	4.75E-05	8.61E-05
CD-115M		0.	0.	0.
Y-92		1.87E-03	5.36E-04	2.42E-03
IN-115M		7.06E-05	1.64E-05	8.70E-05
CD-115		8.62E-04	2.66E-04	9.27E-04
SE-134		0.	0.	0.
AR-41		4.12E-05	3.80E-04	4.21E-04
I-134		1.31E-06	0.	1.31E-06
MO-99		7.23E-03	3.45E-02	4.17E-02
SN-125M		2.16E-05	0.	2.16E-05
CS-136		8.40E-06	5.50E-03	5.51E-03
KR-85		2.26E-01	4.93E-01	7.21E-01
RU-103		1.39E-04	5.63E-03	5.77E-03
SB-125		1.38E-03	1.38E-03	2.72E-03
SN-126		1.42E-03	0.	1.42E-03
XE-135		1.38E-06	2.37E-03	2.38E-03
SN-123M		0.	0.	0.
F-18		0.	0.	0.
AG-106 M		6.00E-05	2.92E-05	8.92E-05
XE-138M		0.	0.	0.
BA-01		8.03E-05	6.42E-05	1.44E-04
RU-05		7.03E-06	3.84E-04	4.34E-04
Y-05		0.	0.	0.
CD-109		0.	0.	0.
PR-144		0.	0.	0.
AG-106		0.	0.	0.

8. PERCENT OF TECHNICAL SPECIFICATIONS LIMIT (10 CI) FOR TOTAL ACTIVITY RE-

ATTACHMENT 3

RADIOACTIVE EFFLUENT RELEASES
AIRBORNE RELEASES

RADIOACTIVE EFFLUENT RELEASES

YEAR 1976

II. AIRBORNE RELEASES	UNITS	JANUARY	FEBRUARY	MARCH	SUB-TOTAL
1. TOTAL NOBLE GASES	CURIES	4.71E+02	8.54E+02	1.75E+03	3.08E+03
2. TOTAL HALOGENS	CURIES	5.94E-03	2.06E-02	4.34E-03	3.09E-02
3. TOTAL PARTICULATE GROSS BETA-GAMMA	CURIES	5.16E-04	3.45E-03	9.97E-04	4.96E-03
4. TOTAL TRITIUM	CURIES	2.61E-01	1.57E-01	1.64E-03	4.19E-01
5. TOTAL PARTICULATE GROSS ALPHA ACTIVITY	CURIES	0.	0.	0.	0.
6. MAXIMUM NOBLE GAS RELEASE RATE	UCI/SEC	1.60E+03	1.60E+03	1.60E+03	1.60E+03
7. PERCENT OF APPLICABLE LIMIT FOR:					
A. NOBLE GASES	%	9.23E-01	1.67E+00	3.43E+00	6.03E+00
B. HALOGENS	%	1.56E+00	5.41E+00	1.14E+00	8.12E+00
C. PARTICULATES	%	4.69E-02	3.14E-01	9.06E-02	4.51E-01
8. ISOTOPES RELEASED	CURIES				
PARTICULATES					
CS-137		1.84E-07	1.78E-07	8.88E-06	9.24E-06
BA-LA-140		0.	4.13E-08	8.09E-08	1.22E-07
SR-90		7.99E-05	5.70E-05	6.38E-05	2.01E-04
CS-134		1.29E-08	1.86E-05	2.77E-06	2.14E-05
SR-89		3.76E-04	2.68E-04	3.01E-04	9.45E-04
CO-58		1.61E-06	3.38E-06	2.14E-06	7.14E-06
CS-136		1.56E-06	0.	0.	1.56E-06
CS-135		1.77E-06	1.25E-05	2.30E-05	3.73E-05
MN-54		0.	3.65E-08	3.23E-07	3.60E-07
MO-99		0.	0.	0.	0.
NB-95		0.	6.60E-09	0.	6.60E-09
CO-60		5.39E-06	1.89E-05	1.40E-06	2.57E-05
NA-24		0.	0.	0.	0.
AG-110M		1.39E-06	8.02E-08	1.54E-07	1.62E-06
CR-51		0.	0.	2.85E-07	2.85E-07
SB-123M		0.	0.	0.	0.
TC-99M		0.	0.	3.83E-08	3.83E-08
AG-108M		0.	0.	0.	0.
RB-86		3.91E-05	3.07E-03	5.93E-04	3.70E-03
NP-239		0.	0.	0.	0.
CD-115		3.90E-06	0.	0.	3.90E-06
CE-144		0.	0.	0.	0.
SR-91		0.	0.	0.	0.
Y-91M		0.	0.	0.	0.
RU-103		0.	0.	4.74E-08	4.74E-08
MN-56		0.	1.84E-08	0.	1.84E-08
BA-139		0.	0.	0.	0.
SB-125M		0.	0.	0.	0.
SR-92		0.	0.	0.	0.
CO-57		0.	0.	0.	0.
FE-59		0.	0.	0.	0.
ZR-95		0.	0.	0.	0.
NB-97		0.	0.	4.17E-07	4.17E-07
ZR-97		0.	0.	0.	0.
Y-92		0.	0.	0.	0.
SB-125		0.	0.	0.	0.
ZN-65		0.	0.	0.	0.
MO-97		0.	0.	0.	0.
I-135		0.	0.	0.	0.
NA-22		0.	0.	0.	0.
MO-99		0.	0.	0.	0.
HALOGENS					
I-131		5.44E-03	2.01E-02	3.83E-03	2.94E-02
I-133		4.89E-04	7.84E-05	4.61E-04	1.03E-03
I-135		6.53E-06	0.	3.53E-05	4.09E-05
I-132		0.	3.08E-06	9.15E-06	1.23E-05
I-134		0.	7.73E-07	0.	7.73E-07
I-130		0.	3.61E-04	0.	3.61E-04
NOBLES					
XE-135M		0.	2.32E+01	3.06E+02	3.29E+02
XE-133		4.39E+02	8.26E+02	1.29E+03	2.36E+03
XE-135		3.34E+00	0.	0.	3.34E+00
XE-137		0.	0.	0.	0.
XE-138		0.	0.	0.	0.
AR-41		0.	0.	0.	0.
KR-85M		0.	0.	0.	0.
KR-87		0.	0.	0.	0.
KR-88		0.	0.	0.	0.
XE-133M		1.79E+01	1.70E+02	8.31E+01	1.93E+02
XE-135M		3.20E+00	3.31E+01	0.	3.63E+01
AR-41		2.76E+00	3.31E+00	4.70E+02	3.14E+00
XE-133M		3.24E+00	3.99E+01	1.02E+02	1.57E+02
XE-131M					

RADIOACTIVE EFFLUENT RELEASES

YEAR 1978

II. AIRBORNE RELEASES	UNITS	APRIL	MAY	JU	SUB-TOTAL
1. TOTAL NOBLE GASES	CURIES	6.98E+03	7.50E+02	3.33E+03	1.31E+04
2. TOTAL HALOGENS	CURIES	5.93E-02	6.93E-03	1.18E-02	7.81E-02
3. TOTAL PARTICULATE GROSS BETA-GAMMA	CURIES	6.40E-04	1.05E-03	6.99E-03	8.68E-03
4. TOTAL TRITIUM	CURIES	3.08E+01	4.52E-01	9.13E+01	1.23E+02
5. TOTAL PARTICULATE GROSS ALPHA ACTIVITY	CURIES	0.	0.	0.	0.
6. MAXIMUM NOBLE GAS RELEASE RATE	UCI/SEC	1.60E+03	1.60E+03	1.60E+03	1.60E+03
7. PERCENT OF APPLICABLE LIMIT FOR:					
A. NOBLE GASES	%	1.76E+01	1.47E+00	6.53E+00	2.56E+01
B. HALOGENS	%	1.56E+01	1.82E+00	3.12E+00	2.05E+01
C. PARTICULATES	%	7.63E-02	9.55E-02	6.35E-01	8.07E-01
8. ISOTOPES RELEASED	CURIES				
PARTICULATES					
CS-137		2.33E-05	2.62E-05	7.23E-05	1.22E-04
BA-LA-140		1.09E-05	1.29E-05	2.62E-05	5.00E-05
SR-90		2.16E-07	2.25E-07	2.09E-07	6.50E-07
CS-134		8.78E-06	3.77E-06	3.06E-05	4.32E-05
SR-89		2.92E-06	3.04E-06	2.82E-06	8.78E-06
CO-58		7.84E-07	7.15E-05	4.72E-05	1.19E-04
CS-136		3.95E-06	1.98E-07	2.18E-06	6.34E-06
CS-138		9.17E-06	2.66E-06	5.70E-05	6.89E-05
MN-54		1.11E-07	1.85E-07	1.70E-07	4.67E-07
NB-95		4.82E-11	2.68E-07	2.22E-08	2.91E-07
NB-95		1.27E-08	1.03E-07	1.28E-08	1.29E-07
CO-60		3.04E-06	2.71E-06	7.34E-06	1.36E-05
NA-24		0.	1.07E-07	8.50E-06	8.60E-06
AG-110M		2.08E-05	2.18E-05	5.40E-05	9.66E-05
CR-51		1.01E-04	8.33E-05	1.42E-04	3.26E-04
SN-123M		0.	0.	0.	0.
TC-99M		9.13E-07	4.04E-07	1.45E-06	2.77E-06
AG-110M		1.52E-06	3.38E-07	2.85E-08	1.89E-06
RB-88		3.39E-04	5.25E-04	3.07E-03	3.93E-03
NP-239		6.72E-05	5.23E-05	9.50E-05	2.15E-04
CD-115		2.35E-05	2.40E-05	5.28E-05	1.05E-04
CE-144		7.26E-05	4.92E-05	9.91E-05	2.21E-04
SR-91		1.49E-05	1.56E-05	4.11E-05	7.16E-05
Y-91M		0.	0.	0.	0.
RU-103		6.39E-11	1.22E-07	1.20E-08	1.34E-07
MO-99		9.23E-07	2.32E-07	2.66E-08	1.23E-06
BA-139		2.44E-06	1.68E-05	1.26E-06	2.04E-05
SN-125M		0.	0.	0.	0.
SR-92		0.	1.16E-07	1.33E-05	1.34E-05
CO-57		4.41E-11	4.09E-07	2.45E-08	4.33E-07
FE-59		9.56E-07	1.68E-06	7.00E-06	9.63E-06
ZR-95		1.62E-05	6.47E-06	1.56E-05	3.83E-05
NB-97		6.71E-11	1.21E-07	4.55E-07	5.76E-07
ZR-97		4.81E-11	1.22E-07	2.20E-08	1.44E-07
Y-92		6.50E-05	6.54E-05	3.03E-03	3.16E-03
SB-125		1.71E-05	2.27E-05	4.05E-05	8.03E-05
ZR-95		1.54E-06	5.59E-06	1.56E-05	2.27E-05
MO-87		1.02E-05	1.38E-05	2.38E-05	4.79E-05
IN-115M		6.46E-06	8.16E-06	5.17E-06	1.98E-05
NA-22		0.	1.02E-07	1.32E-09	1.03E-07
NI-65		9.63E-06	1.40E-05	3.02E-05	5.38E-05
PR-144		0.	0.	0.	0.
CD-109		0.	0.	0.	0.
TE-134		0.	0.	0.	0.
RU-106		0.	0.	0.	0.
TE-132		0.	0.	0.	0.
HALOGENS					
I-131		5.54E-02	4.33E-03	9.00E-03	6.87E-02
I-133		3.34E-03	5.92E-05	2.05E-03	5.45E-03
I-135		4.21E-04	2.24E-04	5.91E-04	1.34E-03
I-132		2.94E-05	5.65E-05	5.54E-05	1.41E-04
I-134		4.57E-10	1.59E-05	2.56E-07	1.62E-05
F-18		1.39E-04	2.46E-03	5.14E-05	2.65E-03
GASES					
KR-85		6.29E+01	7.29E+01	1.49E+01	1.51E+02
XE-133		8.76E+03	6.44E+02	3.15E+03	1.25E+04
KR-88		1.83E-01	2.24E+00	5.31E+00	7.74E+00
KR-87		9.83E-02	3.37E-01	3.84E-01	8.19E-01
KR-85M		2.69E-01	5.57E-01	5.86E+00	6.69E+00
XE-133		5.54E-01	4.09E-02	3.40E-02	6.29E-01
XE-135M		1.42E-01	6.46E-02	1.13E-01	3.20E-01
XE-135		4.01E+01	2.81E+00	1.00E+02	1.43E+02
AR-41		4.43E-02	2.38E+00	2.39E+01	2.63E+01
XE-133M		8.27E+01	1.10E+00	2.66E+01	1.08E+02

II. AIRBORNE RELEASES

	UNITS	1st QUARTER	2nd QUARTER	SUB-TOTAL
1. TOTAL NOBLE GASES	CURIES	3.08E+03	1.31E+04	1.61E+04
2. TOTAL HALOGENS	CURIES	3.09E-02	7.81E-02	1.09E-01
3. TOTAL PARTICULATE GROSS BETA-GAMMA	CURIES	4.96E-03	8.88E-03	1.38E-02
4. TOTAL TRITIUM	CURIES	4.19E-01	1.23E+02	1.23E+02
5. TOTAL PARTICULATE GROSS ALPHA ACTIVITY	CURIES	0.	0.	0.
6. MAXIMUM NOBLE GAS RELEASE RATE	UCI/SEC	1.60E+03	1.60E+03	1.60E+03
7. PERCENT OF APPLICABLE LIMIT FOR:				
A. NOBLE GASES	%	6.03E+00	2.56E+01	3.16E+01
B. HALOGENS	%	8.12E+00	2.05E+01	2.87E+01
C. PARTICULATES	%	4.51E-01	8.07E-01	1.26E+00
8. ISOTOPES RELEASED	CURIES			
PARTICULATES				
CS-137		9.24E-06	1.22E-04	1.31E-04
BA-LA-140		1.22E-07	5.00E-05	5.01E-05
SR-90		2.01E-04	6.50E-07	2.01E-04
CS-134		2.14E-05	4.32E-05	6.45E-05
SR-89		9.45E-04	8.78E-06	9.54E-04
CU-64		7.14E-06	1.19E-04	1.27E-04
CS-136		1.56E-06	6.34E-06	7.90E-06
CS-138		3.73E-05	6.89E-05	1.06E-04
MN-54		3.60E-07	4.67E-07	8.27E-07
MO-99		0.	2.91E-07	2.91E-07
NB-95		6.60E-09	1.29E-07	1.35E-07
CO-60		2.57E-05	1.36E-05	3.93E-05
NA-24		0.	8.60E-06	8.60E-06
AG-110M		1.62E-06	9.66E-05	9.82E-05
CR-51		2.85E-07	3.26E-04	3.26E-04
SN-123M		0.	0.	0.
TC-99M		3.83E-08	2.77E-06	2.80E-06
AG-108M		0.	1.89E-06	1.89E-06
RB-88		3.70E-03	3.93E-03	7.64E-03
NP-239		0.	2.15E-04	2.15E-04
CD-115		9.90E-06	1.05E-04	1.14E-04
CE-144		0.	2.21E-04	2.21E-04
SR-91		0.	7.16E-05	7.16E-05
Y-91M		0.	0.	0.
RU-103		4.74E-08	1.34E-07	1.81E-07
MN-56		1.84E-08	1.23E-06	1.25E-06
BA-139		0.	2.04E-05	2.04E-05
SN-125M		0.	0.	0.
SR-92		0.	1.34E-05	1.34E-05
CU-67		0.	4.33E-07	4.33E-07
FE-59		0.	9.63E-06	9.63E-06
ZR-95		0.	3.83E-05	3.83E-05
NB-97		4.17E-07	5.76E-07	9.93E-07
ZR-97		0.	1.44E-07	1.44E-07
Y-92		0.	3.16E-03	3.16E-03
SB-125		0.	8.03E-05	8.03E-05
ZN-65		0.	2.27E-05	2.27E-05
W-187		0.	4.79E-05	4.79E-05
IN-115M		0.	1.98E-05	1.98E-05
NA-22		0.	1.03E-07	1.03E-07
MO-99		0.	5.38E-05	5.38E-05
PR-144		0.	0.	0.
CD-109		0.	0.	0.
TE-134		0.	0.	0.
RU-106		0.	0.	0.
TE-132		0.	0.	0.
HALOGENS				
I-131		2.94E-02	6.87E-02	9.81E-02
I-133		1.03E-03	5.45E-03	6.48E-03
I-135		4.09E-05	1.34E-03	1.38E-03
I-132		9.23E-06	1.41E-04	1.50E-04
I-134		7.73E-07	1.62E-05	1.69E-05
F-18		3.61E-04	2.65E-03	3.01E-03
GASES				
KR-85		3.29E+02	1.51E+02	4.80E+02
XE-133		2.36E+03	1.25E+04	1.49E+04
KR-88		8.34E+00	7.74E+00	1.61E+01
KR-87		0.	8.19E-01	8.19E-01
KR-85M		0.	6.69E+00	6.69E+00
XE-138		0.	6.29E-01	6.29E-01
XE-135M		0.	3.20E-01	3.20E-01
XE-135		1.88E+02	1.43E+02	3.31E+02
AR-41		3.33E+01	2.63E+01	5.96E+01
XE-133M		5.14E+00	1.06E+02	1.13E+02
XE-131M		1.53E+02	7.31E+01	2.26E+02