ATTACHMENT I

SUMMARY OF SOLID, LIQUID, AND GASEOUS
EFFLUENTS RELEASED

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PDR ADOCK 05000413
R PDR

CATAWBA NUCLEAR STATION

SOLID RADIOACTIVE WASTE SHIPPED TO A DISPOSAL FACILITY

REPORT PERIOD 1/1/87 THROUGH 6/30/87

	TYPES OF WASTE SHIPPED	NUMBER OF SHIPMENTS	NUMBER OF CONTAINERS	WASTE CLASS	CONT. TYPE	BURIAL VOLUME (ft^3)	BURIAL VOLUME (m^3)	TOTAL ACT. Ci	EST. TOTAL ERROR %
1	WASTE FROM LIQUID SYSTEMS								
	(A) Dewatered Powdex Resins	0	0	N/A	N/A	0	0	0	N/A
	(B) Dewatered Bead Resins	5	5	2A/ 3B	2STC 3HIC	697	19.74	89.3	10
	(C) Evaporator Concentrates	0	0	N/A	N/A	0	0	0	N/A
	(D) Dewatered Mechanical Filters	2	6	6A	HIC	228.9	6.48	14.7	15
	(E) Dewatered Demineralizers	0	0	N/A	N/A	0	0	0	N/A
	(F) Solidified (Cement) Oils Acids, Sludges	0	0	N/A	N/A	0	0	0	N/A
2	DRY SOLID WASTE								
	(A) Dry Active Waste (compacted)	1	14	14A	STC	1288	36.48	.28	15
	(B) Dry Active Waste (non-compacted)	0	0	N/A	N/A	0	0	0	N/A
	(C) Irradiated Components	0	0	N/A	N/A	0	0	0	N/A
	TOTALS	8	25	22A, 3B	--	2213.9	62.70	104.28	--

Summary of Major Radionuclide Composition

Type of Wastes	Radionuclide	% Abundance*
1. Wastes from Liquid Systems		
(A) Dewatered Powdex Resins	(none shipped this period)	
(B) Dewatered Bead Resins	Mn-54	22.4
	Co-57	0.3
	Co-58	23.5
	Co-60	20.2
	Cs-134	5.4
	Cs-137	12.3
	I-131	0.8
	Sb-125	0.6
	Fe-55	8.3
	Ni-63	4.5
	Ba-140	0.1
	Xe-131m	2.0
(C) Evaporator Concentrates	(none shipped this period)	
(D) Dewatered Mechanical Filters	Cr-51	2.7
	Mn-54	6.1
	Co-58	25.7
	Co-60	21.7
	Zn-65	0.7
	Nb-95	7.7
	Zr-95	3.0
	Fe-55	29.1
	Ni-63	3.2
(E) Dewatered Demineralizers	(none shipped this period)	
(F) Solidified Acids, Oils, Sludges	(none shipped this period)	
2. Dry Solid Waste		
(A) Dry Active Waste (compacted and non-compacted)	Cr-51	3.3
	Mn-54	4.0
	Co-58	20.3
	Fe-59	1.0
	Co-60	35.4
	Nb-95	3.9
	Zr-95	1.5
	Pu-241	0.8
	TRU	0.2
	Fe-55	25.8
	Ni-63	3.7
	C-14	< 0.01
(B) Irradiated Components	(none shipped this period)	

*Average % abundance for all shipments

CATAWBA NUCLEAR STATION
EFFLUENT AND WASTE DISPOSAL SUPPLEMENTAL INFORMATION
REPORT DATE: 08/27/87
PERIOD COVERED: START DAY = 001 STOP DAY = 181

I. REGULATORY LIMITS

A. NOBLE GASES - AIR DOSE
1. CALENDAR QUARTER - GAMMA DOSE = 5 MRAD
2. CALENDAR QUARTER - BETA DOSE = 10 MRAD
3. CALENDAR YEAR - GAMMA DOSE = 10 MRAD
4. CALENDAR YEAR - BETA DOSE = 20 MRAD

B. LIQUID EFFLUENTS - DOSE
1. CALENDAR QUARTER - TOTAL BODY DOSE = 1.5 MREM
2. CALENDAR QUARTER - ORGAN DOSE = 5 MREM
3. CALENDAR YEAR - TOTAL BODY DOSE = 3 MREM
4. CALENDAR YEAR - ORGAN DOSE = 10 MREM

C. IODINE - 131 AND 133, TRITIUM, PARTICULATES W/T 1/2) 8 DAYS - ORGAN DOSE
1. CALENDAR QUARTER = 7.5 MREM
2. CALENDAR YEAR = 15 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. 3.04E+02 = TOTAL NUMBER OF BATCH RELEASES
2. 1.88E+05 = TOTAL TIME(MIN.) FOR BATCH RELEASES
3. 4.46E+04 = MAXIMUM TIME(MIN.) FOR A BATCH RELEASE.
4. 6.19E+02 = AVERAGE TIME(MIN.) FOR A BATCH RELEASE.
5. 3.00E+00 = MINIMUM TIME(MIN.) FOR A BATCH RELEASE.
6. 2.70E+06 = AVERAGE DILUTION WATER FLOW DURING RELEASES(GPM).

B. GASEOUS EFFLUENT
1. 1.54E+02 = TOTAL NUMBER OF BATCH RELEASES.
2. 5.21E+05 = TOTAL TIME(MIN.) FOR BATCH RELEASES.
3. 4.32E+04 = MAXIMUM TIME(MIN.) FOR A BATCH RELEASE.
4. 3.38E+03 = AVERAGE TIME(MIN.) FOR A BATCH RELEASE.
5. 8.00E+01 = MINIMUM TIME(MIN.) FOR A BATCH RELEASE.

VI. ABNORMAL RELEASES

A. LIQUID
1. NUMBER OF RELEASES 0
2. TOTAL ACTIVITY RELEASED(CURIES) N/A

B. GASEOUS
1. NUMBER OF RELEASES 0
2. TOTAL ACTIVITY RELEASED(CURIES) N/A

SUPPLEMENTAL REPORT PAGE 2
CATAWBA 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 CATAWBA COUNTING SYSTEMS. TYPICAL MDA'S FOR THE CATAWBA COUNTING SYSTEM'S ARE LISTED BELOW:

ISOTOPE	ENERGY(Kev)	AVERAGE MDA
XE-133	80	3.50E-08
CE-144	133	9.00E-07
KR-88	196	3.60E-08
XE-135	249	1.15E-08
KR-87	402	3.15E-08
CS-137	661	2.30E-08
MO-99	778	1.45E-07
MN-54	834	2.65E-08
ZN-65	1115	6.85E-08
CO-60	1332	2.95E-08

CATAWBA NUCLEAR STATION

The estimated percentage of error for both Liquid and Gaseous effluent release data at Catawba 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%

JMS/pja.002

CATAWBA NUCLEAR STATION
UNIT 1
RADIOACTIVE EFFLUENT RELEASES
DATE : 08/25/87

I. LIQUID RELEASES — YEAR : 1987

	UNITS	1ST QTR	2ND QTR	SUBTOTAL
1. GROSS RADIOACTIVITY				
A. TOTAL RELEASE	CURIES	1.81E-01	5.20E-02	2.33E-01
B. AVERAGE CONCENTRATION RELEASED	UCI/ML	7.13E-09	2.16E-09	4.72E-09
C. MAXIMUM CONCENTRATION RELEASED	UCI/ML	6.28E-08	1.31E-08	6.28E-08
2. TRITIUM				
A. TOTAL RELEASE	CURIES	9.80E+01	5.16E+01	1.50E+02
B. AVERAGE CONCENTRATION RELEASED	UCI/ML	3.87E-06	2.15E-06	3.03E-06
3. DISSOLVED NOBLE GASES				
A. TOTAL RELEASE	CURIES	2.95E-02	1.64E-02	4.59E-02
B. AVERAGE CONCENTRATION RELEASED	UCI/ML	1.16E-09	6.82E-10	9.30E-10
4. GROSS ALPHA ACTIVITY				
A. TOTAL RELEASE	CURIES	0.00E+00	0.00E+00	0.00E+00
B. AVERAGE CONCENTRATION RELEASED	UCI/ML	0.00E+00	0.00E+00	0.00E+00
5. VOLUME OF LIQUID WASTE TO DISCHARGE CANAL	LITERS	1.01E+08	2.67E+07	1.28E+08
6. VOLUME OF DILUTION WATER	LITERS	2.54E+10	2.40E+10	4.94E+10
7. RADIONUCLIDES RELEASED	CURIES			
BE-7		3.37E-04	1.11E-05	3.48E-04
F-18		1.83E-03	6.96E-05	1.90E-03
NA-24		1.92E-05	3.21E-04	3.40E-04
CR-51		4.45E-03	1.05E-03	5.49E-03
MN-54		6.44E-03	2.15E-03	8.59E-03
FE-55		1.09E-01	7.58E-03	1.17E-01
FE-59		1.07E-03	4.11E-04	1.48E-03
CO-57		2.23E-04	7.76E-05	3.00E-04
CO-58		1.70E-02	2.33E-02	4.03E-02
CO-60		2.32E-02	9.19E-03	3.24E-02
ZN-65		8.35E-04	2.39E-04	1.07E-03
SE-75		4.02E-06	0.00E+00	4.02E-06
BR-82		4.75E-06	1.53E-05	2.01E-05
BR-84		0.00E+00	7.10E-06	7.10E-06
RB-88		0.00E+00	1.67E-05	1.67E-05
SR-92		3.61E-06	0.00E+00	3.61E-06
Y-93		1.44E-05	0.00E+00	1.44E-05
ZR-95		1.07E-03	2.06E-04	1.27E-03
NB-95		1.66E-03	3.58E-04	2.02E-03
NB-97		1.22E-04	1.18E-05	1.34E-04
NB-97M		1.00E-05	0.00E+00	1.00E-05
TC-99M		5.91E-05	1.04E-05	6.95E-05
RU-103		7.87E-07	0.00E+00	7.87E-07
AG-108M		0.00E+00	1.99E-06	1.99E-06
AG-110M		7.87E-06	0.00E+00	7.87E-06
I-131		5.84E-03	1.37E-03	7.21E-03
I-132		2.49E-05	8.59E-07	2.57E-05
I-133		8.15E-04	2.80E-04	1.10E-03
I-135		1.10E-04	0.00E+00	1.10E-04
SB-122		7.79E-06	4.44E-05	5.22E-05
SB-124		3.82E-05	1.14E-03	1.17E-03
SB-125		2.89E-03	1.36E-03	4.25E-03
SN-113		3.09E-04	7.58E-05	3.85E-04
CS-134		7.23E-04	8.36E-04	1.56E-03
CS-137		1.33E-03	1.61E-03	2.93E-03
LA-140		2.83E-04	2.63E-05	3.09E-04
W-187		3.37E-05	4.94E-05	8.31E-05
BI-214		9.83E-06	3.12E-06	1.30E-05
PB-212		3.98E-06	2.89E-06	6.87E-06
PB-214		2.22E-05	1.84E-05	4.06E-05
TL-208		1.43E-06	1.16E-06	2.59E-06
AC-228		8.48E-06	0.00E+00	8.48E-06
TH-228		1.05E-03	8.65E-05	1.13E-03
SC-46		5.39E-06	1.62E-06	7.01E-06
HF-181		7.23E-06	3.43E-06	1.07E-05
SB-126		0.00E+00	1.71E-06	1.71E-06
XR-85M		1.83E-06	1.12E-05	1.30E-05
XE-131M		2.19E-04	0.00E+00	2.19E-04
XE-133		2.34E-02	1.31E-02	3.65E-02
XE-133M		3.12E-04	4.86E-05	3.61E-04
XE-135		5.59E-03	2.87E-03	8.46E-03
XE-135M		2.53E-05	4.69E-06	3.00E-05
XE-138		0.00E+00	3.11E-04	3.11E-04

SKIN MAXIMUM DOSE- 1.11D-02 MREM CRITICAL AGE- TEEN CRITICAL PATHWAY- SHORE

CO 60 91.47 %

BONE MAXIMUM DOSE- 1.01D-01 MREM CRITICAL AGE- CHILD CRITICAL PATHWAY- FISH

FE 55 8.75 %
CS 134 23.27 %
CS 137 59.48 %

LIVER MAXIMUM DOSE- 1.35D-01 MREM CRITICAL AGE- TEEN CRITICAL PATHWAY- FISH

CO 60 6.78 %
CS 134 33.95 %
CS 137 47.06 %

T. BODY MAXIMUM DOSE- 8.78D-02 MREM CRITICAL AGE- ADULT CRITICAL PATHWAY- FISH

CS 134 41.92 %
CS 137 45.27 %

THYROID MAXIMUM DOSE- 4.53D-02 MREM CRITICAL AGE- TEEN CRITICAL PATHWAY- FISH

H 3 6.39 %
CO 60 18.97 %
I 131 71.84 %

KIDNEY MAXIMUM DOSE- 5.30D-02 MREM CRITICAL AGE- TEEN CRITICAL PATHWAY- FISH

H 3 5.47 %
CO 60 16.23 %
ZN 65 6.45 %
CS 134 27.53 %
CS 137 40.98 %

LUNG MAXIMUM DOSE- 2.93D-02 MREM CRITICAL AGE- TEEN CRITICAL PATHWAY- FISH

H 3 9.91 %
FE 55 19.20 %
CO 60 29.39 %
CS 134 19.21 %
CS 137 29.33 %

GI-LLI MAXIMUM DOSE- 2.55D-01 MREM CRITICAL AGE- ADULT CRITICAL PATHWAY- FISH

NB 95 84.77 %

CATAWBA UNIT 1 LIQUID RELEASE 091-181 87 08/25/87

SKIN MAXIMUM DOSE- 5.09D-03 MREM CRITICAL AGE- TEEN CRITICAL PATHWAY- SHORE

CO 60 83.73 %
CS 137 6.97 %

BONE MAXIMUM DOSE- 1.09D-01 MREM CRITICAL AGE- CHILD CRITICAL PATHWAY- FISH

CS 134 26.43 %
CS 137 71.29 %

LIVER MAXIMUM DOSE- 1.47D-01 MREM CRITICAL AGE- TEEN CRITICAL PATHWAY- FISH

CS 134 38.14 %
CS 137 55.77 %

T. BODY MAXIMUM DOSE- 1.01D-01 MREM CRITICAL AGE- ADULT CRITICAL PATHWAY- FISH

CS 134 44.49 %
CS 137 50.69 %

THYROID MAXIMUM DOSE- 1.42D-02 MREM CRITICAL AGE- TEEN CRITICAL PATHWAY- FISH

H 3 11.41 %
CO 60 25.48 %
I 131 56.91 %

KIDNEY MAXIMUM DOSE- 5.29D-02 MREM CRITICAL AGE- TEEN CRITICAL PATHWAY- FISH

CO 60 6.85 %
CS 134 33.80 %
CS 137 53.09 %

LUNG MAXIMUM DOSE- 2.38D-02 MREM CRITICAL AGE- TEEN CRITICAL PATHWAY- FISH

H 3 6.81 %
CO 60 15.22 %
CS 134 28.96 %
CS 137 46.65 %

GI-LLI MAXIMUM DOSE- 6.89D-02 MREM CRITICAL AGE- ADULT CRITICAL PATHWAY- FISH

CO 58 5.88 %
CO 60 7.14 %
NB 95 72.80 %

CATAWBA UNIT 1 LIQUID RELEASE 001-181 87 08/25/87

SKIN MAXIMUM DOSE- 1.62D-02 MREM CRITICAL AGE- TEEN CRITICAL PATHWAY- SHORE

CO 60 89.12 %

BONE MAXIMUM DOSE- 2.08D-01 MREM CRITICAL AGE- CHILD CRITICAL PATHWAY- FISH

CS 134 24.86 %
CS 137 65.42 %

LIVER MAXIMUM DOSE- 2.80D-01 MREM CRITICAL AGE- TEEN CRITICAL PATHWAY- FISH

CS 134 36.68 %
CS 137 51.48 %

T. BODY MAXIMUM DOSE- 1.86D-01 MREM CRITICAL AGE- ADULT CRITICAL PATHWAY- FISH

CS 134 43.26 %
CS 137 46.69 %

THYROID MAXIMUM DOSE- 6.02D-02 MREM CRITICAL AGE- TEEN CRITICAL PATHWAY- FISH

H 3 7.55 %
CO 60 20.45 %
I 131 68.42 %

KIDNEY MAXIMUM DOSE- 1.05D-01 MREM CRITICAL AGE- TEEN CRITICAL PATHWAY- FISH

CO 60 11.67 %
CS 134 30.57 %
CS 137 46.85 %

LUNG MAXIMUM DOSE- 5.30D-02 MREM CRITICAL AGE- TEEN CRITICAL PATHWAY- FISH

H 3 8.57 %
FE 55 6.18 %
CO 60 23.23 %
CS 134 23.45 %
CS 137 36.85 %

GI-LLI MAXIMUM DOSE- 3.26D-01 MREM CRITICAL AGE- ADULT CRITICAL PATHWAY- FISH

CO 60 5.05 %
NB 95 82.35 %

CATAWBA NUCLEAR STATION
UNIT 2
RADIOACTIVE EFFLUENT RELEASES
DATE : 08/25/87

I. LIQUID RELEASES — YEAR : 1987

	UNITS	1ST QTR	2ND QTR	SUBTOTAL
1. GROSS RADIOACTIVITY				
A. TOTAL RELEASE	CURIES	1.81E-01	5.20E-02	2.33E-01
B. AVERAGE CONCENTRATION RELEASED	UCI/ML	7.13E-09	2.16E-09	4.72E-09
C. MAXIMUM CONCENTRATION RELEASED	UCI/ML	6.28E-08	1.31E-08	6.28E-08
2. TRITIUM				
A. TOTAL RELEASE	CURIES	9.80E+01	5.16E+01	1.50E+02
B. AVERAGE CONCENTRATION RELEASED	UCI/ML	3.87E-06	2.15E-06	3.03E-06
3. DISSOLVED NOBLE GASES				
A. TOTAL RELEASE	CURIES	2.95E-02	1.64E-02	4.59E-02
B. AVERAGE CONCENTRATION RELEASED	UCI/ML	1.16E-09	6.82E-10	9.30E-10
4. GROSS ALPHA ACTIVITY				
A. TOTAL RELEASE	CURIES	0.00E+00	0.00E+00	0.00E+00
B. AVERAGE CONCENTRATION RELEASED	UCI/ML	0.00E+00	0.00E+00	0.00E+00
5. VOLUME OF LIQUID WASTE TO DISCHARGE CANAL	LITERS	1.01E+08	2.67E+07	1.28E+08
6. VOLUME OF DILUTION WATER	LITERS	2.54E+10	2.40E+10	4.94E+10
7. RADIONUCLIDES RELEASED	CURIES			
BE-7		3.37E-04	1.11E-05	3.48E-04
F-18		1.83E-03	6.96E-05	1.90E-03
NA-24		1.92E-05	3.21E-04	3.40E-04
CR-51		4.45E-03	1.05E-03	5.49E-03
MN-54		6.44E-03	2.15E-03	8.59E-03
FE-55		1.09E-01	7.58E-03	1.17E-01
FE-59		1.07E-03	4.11E-04	1.48E-03
CO-57		2.23E-04	7.76E-05	3.00E-04
CO-58		1.70E-02	2.33E-02	4.03E-02
CO-60		2.32E-02	9.19E-03	3.24E-02
ZN-65		8.35E-04	2.39E-04	1.07E-03
SE-75		4.02E-06	0.00E+00	4.02E-06
BR-82		4.75E-06	1.53E-05	2.01E-05
BR-84		0.00E+00	7.10E-06	7.10E-06
RB-88		0.00E+00	1.67E-05	1.67E-05
SR-92		3.61E-06	0.00E+00	3.61E-06
Y-93		1.44E-05	0.00E+00	1.44E-05
ZR-95		1.07E-03	2.06E-04	1.27E-03
NB-95		1.66E-03	3.58E-04	2.02E-03
NB-97		1.22E-04	1.18E-05	1.34E-04
NB-97M		1.00E-05	0.00E+00	1.00E-05
TC-99M		5.91E-05	1.04E-05	6.95E-05
RU-103		7.87E-07	0.00E+00	7.87E-07
AG-108M		0.00E+00	1.99E-06	1.99E-06
AG-110M		7.87E-06	0.00E+00	7.87E-06
I-131		5.84E-03	1.37E-03	7.21E-03
I-132		2.49E-05	8.59E-07	2.57E-05
I-133		8.15E-04	2.80E-04	1.10E-03
I-135		1.10E-04	0.00E+00	1.10E-04
SB-122		7.79E-06	4.44E-05	5.22E-05
SB-124		3.82E-05	1.14E-03	1.17E-03
SB-125		2.89E-03	1.36E-03	4.25E-03
SN-113		3.09E-04	7.58E-05	3.85E-04
CS-134		7.23E-04	8.36E-04	1.56E-03
CS-137		1.33E-03	1.61E-03	2.93E-03
LA-140		2.83E-04	2.63E-05	3.09E-04
W-187		3.37E-05	4.94E-05	8.31E-05
BI-214		9.83E-06	3.12E-06	1.30E-05
PB-212		3.98E-06	2.89E-06	6.87E-06
PB-214		2.22E-05	1.84E-05	4.06E-05
TL-208		1.43E-06	1.16E-06	2.59E-06
AC-228		8.48E-06	0.00E+00	8.48E-06
TH-228		1.05E-03	8.65E-05	1.13E-03
SC-46		5.39E-06	1.62E-06	7.01E-06
HF-181		7.23E-06	3.43E-06	1.07E-05
SB-126		0.00E+00	1.71E-06	1.71E-06
XR-85M		1.83E-06	1.12E-05	1.30E-05
XE-131M		2.19E-04	0.00E+00	2.19E-04
XE-133		2.34E-02	1.31E-02	3.65E-02
XE-133M		3.12E-04	4.86E-05	3.61E-04
XE-135		5.59E-03	2.87E-03	8.46E-03
XE-135M		2.53E-05	4.69E-06	3.00E-05
XE-138		0.00E+00	3.11E-04	3.11E-04

SKIN MAXIMUM DOSE- 1.11D-02 MREM CRITICAL AGE- TEEN CRITICAL PATHWAY- SHORE

CO	60	91.47 %

BONE MAXIMUM DOSE- 1.01D-01 MREM CRITICAL AGE- CHILD CRITICAL PATHWAY- FISH

FE	55	8.75 %
CS	134	23.27 %
CS	137	59.48 %

LIVER MAXIMUM DOSE- 1.35D-01 MREM CRITICAL AGE- TEEN CRITICAL PATHWAY- FISH

CO	60	6.78 %
CS	134	33.95 %
CS	137	47.06 %

T. BODY MAXIMUM DOSE- 8.78D-02 MREM CRITICAL AGE- ADULT CRITICAL PATHWAY- FISH

CS	134	41.92 %
CS	137	45.27 %

THYROID MAXIMUM DOSE- 4.53D-02 MREM CRITICAL AGE- TEEN CRITICAL PATHWAY- FISH

H	3	6.39 %
CO	60	18.87 %
I	131	71.84 %

KIDNEY MAXIMUM DOSE- 5.36D-02 MREM CRITICAL AGE- TEEN CRITICAL PATHWAY- FISH

H	3	5.47 %
CO	60	16.23 %
ZN	65	6.45 %
CS	134	27.53 %
CS	137	40.98 %

LUNG MAXIMUM DOSE- 2.93D-02 MREM CRITICAL AGE- TEEN CRITICAL PATHWAY- FISH

H	3	9.91 %
FE	55	10.20 %
CO	60	29.39 %
CS	134	19.21 %
CS	137	29.33 %

GI-LLI MAXIMUM DOSE- 2.55D-01 MREM CRITICAL AGE- ADULT CRITICAL PATHWAY- FISH

NB	95	84.77 %

CATAWBA UNIT 2 LIQUID RELEASE 691-181 87 08/25/87

SKIN MAXIMUM DOSE- 5.09D-03 MREM CRITICAL AGE- TEEN CRITICAL PATHWAY- SHORE

CO 60 83.73 %
CS 137 6.97 %

BONE MAXIMUM DOSE- 1.89D-01 MREM CRITICAL AGE- CHILD CRITICAL PATHWAY- FISH

CS 134 26.43 %
CS 137 71.29 %

LIVER MAXIMUM DOSE- 1.47D-01 MREM CRITICAL AGE- TEEN CRITICAL PATHWAY- FISH

CS 134 38.14 %
CS 137 55.77 %

T. BODY MAXIMUM DOSE- 1.01D-01 MREM CRITICAL AGE- ADULT CRITICAL PATHWAY- FISH

CS 134 44.49 %
CS 137 50.69 %

THYROID MAXIMUM DOSE- 1.42D-02 MREM CRITICAL AGE- TEEN CRITICAL PATHWAY- FISH

H 3 11.41 %
CO 60 25.48 %
I 131 56.91 %

KIDNEY MAXIMUM DOSE- 5.29D-02 MREM CRITICAL AGE- TEEN CRITICAL PATHWAY- FISH

CO 60 6.85 %
CS 134 33.80 %
CS 137 53.09 %

LUNG MAXIMUM DOSE- 2.38D-02 MREM CRITICAL AGE- TEEN CRITICAL PATHWAY- FISH

H 3 6.81 %
CO 60 15.22 %
CS 134 28.96 %
CS 137 46.65 %

GI-LLI MAXIMUM DOSE- 6.80D-02 MREM CRITICAL AGE- ADULT CRITICAL PATHWAY- FISH

CO 58 5.88 %
CO 60 7.14 %
NB 95 72.80 %

SKIN MAXIMUM DOSE- 1.62D-02 MREM CRITICAL AGE- TEEN CRITICAL PATHWAY- SHORE

CO 60 89.12 %

BONE MAXIMUM DOSE- 2.08D-01 MREM CRITICAL AGE- CHILD CRITICAL PATHWAY- FISH

CS 134 24.86 %
CS 137 65.42 %

LIVER MAXIMUM DOSE- 2.80D-01 MREM CRITICAL AGE- TEEN CRITICAL PATHWAY- FISH

CS 134 36.08 %
CS 137 51.48 %

T. BODY MAXIMUM DOSE- 1.88D-01 MREM CRITICAL AGE- ADULT CRITICAL PATHWAY- FISH

CS 134 43.26 %
CS 137 48.89 %

THYROID MAXIMUM DOSE- 6.02D-02 MREM CRITICAL AGE- TEEN CRITICAL PATHWAY- FISH

H 3 7.55 %
CO 60 20.45 %
I 131 68.42 %

KIDNEY MAXIMUM DOSE- 1.05D-01 MREM CRITICAL AGE- TEEN CRITICAL PATHWAY- FISH

CO 60 11.67 %
CS 134 30.57 %
CS 137 46.85 %

LUNG MAXIMUM DOSE- 5.30D-02 MREM CRITICAL AGE- TEEN CRITICAL PATHWAY- FISH

H 3 8.57 %
FE 55 6.18 %
CO 60 23.23 %
CS 134 23.45 %
CS 137 36.85 %

GI-LLI MAXIMUM DOSE- 3.26D-01 MREM CRITICAL AGE- ADULT CRITICAL PATHWAY- FISH

CO 60 5.05 %
NB 95 82.35 %

SET TO NEW PAGE AND PRESS RETURN

CATAWBA NUCLEAR STATION
UNIT 1
RADIOACTIVE EFFLUENT RELEASES
DATE : 08/25/87

II. AIRBORNE RELEASES — YEAR : 1987

	UNITS	1ST QTR	2ND QTR	SUBTOTAL
1. TOTAL NOBLE GASES	CURIES	1.73E+02	1.67E+02	3.41E+02
2. TOTAL HALOGENS	CURIES	1.01E-03	9.58E-05	1.10E-03
3. TOTAL PARTICULATE GROSS BETA-GAMMA	CURIES	5.97E-03	1.33E-05	5.99E-03
4. TOTAL TRITIUM	CURIES	3.86E+00	2.42E+00	6.28E+00
5. TOTAL PARTICULATE GROSS ALPHA ACTIVITY	CURIES	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
7. RADIONUCLIDES RELEASED	CURIES			
PARTICULATES				
F-18		7.37E-05	3.63E-07	7.40E-05
NA-24		7.31E-07	5.07E-07	1.24E-06
MN-56		3.07E-08	4.67E-09	3.54E-08
CO-58		1.88E-04	5.46E-06	1.93E-04
BR-82		1.01E-08	5.27E-07	5.37E-07
RB-88		5.68E-03	6.30E-06	5.68E-03
MO-99		0.00E+00	3.93E-09	3.93E-09
TC-99M		4.30E-09	0.00E+00	4.30E-09
CS-134		2.75E-08	0.00E+00	2.75E-08
CS-137		5.72E-08	1.15E-08	6.87E-08
CS-138		3.36E-05	1.16E-07	3.38E-05
BA-139		7.62E-08	1.05E-08	8.67E-08
W-187		7.79E-08	0.00E+00	7.79E-08
BI-214		7.91E-08	1.06E-08	8.98E-08
PB-212		2.01E-10	0.00E+00	2.01E-10
PB-214		6.96E-08	1.08E-09	7.07E-08
HALOGENS				
I-131		8.70E-04	9.35E-05	9.64E-04
I-132		0.00E+00	3.50E-08	3.50E-08
I-133		1.35E-04	2.22E-06	1.37E-04
I-135		2.93E-07	0.00E+00	2.93E-07
GASES				
AR-41		1.87E-01	2.81E+00	2.99E+00
KR-85		0.00E+00	1.38E-01	1.38E-01
KR-85M		1.07E-01	3.53E-01	4.60E-01
KR-87		5.82E-03	2.22E-02	2.80E-02
KR-88		1.04E-01	3.41E-01	4.45E-01
XE-131M		1.67E+00	9.66E-01	2.64E+00
XE-133		1.67E+02	1.55E+02	3.22E+02
XE-133M		2.14E+00	2.43E+00	4.57E+00
XE-135		2.20E+00	4.83E+00	7.03E+00

CATAWBA UNIT 1 GAS DOSE 001-090 87 RELEASE WEIGHTED MET REPORT SUMMARY 08/25/87
SPECIAL LOCATION
AT 0.50 MILES S

NOBLE GAS EXPOSURE:

BETA AIR DOSE = 3.62E-01 MILLIRADS
GAMMA AIR DOSE = 1.32E-01 MILLIRADS

TOTAL BODY DOSE = 7.85E-02 MILLIREM
XE133 84.71%
XE135 7.19%

TOTAL SKIN DOSE = 2.18E-01 MILLIREM
XE133 85.89%
XE135 6.86%

CATAWBA UNIT 1 GAS DOSE 001-090 87 RELEASE WEIGHTED MET REPORT SUMMARY 08/25/87
SPECIAL LOCATION
AT 0.50 MILES S

IODINE, PARTICULATE, AND TRITIUM EXPOSURE SUMMARY:

MAXIMUM ORGAN - THYROID
CRITICAL AGE - CHILD
CRITICAL PATHWAY - VEGET @ 80.64%

MAXIMUM ORGAN DOSE = 2.54E-01 MILLIREM
H 3 14.01%
I 131 85.12%

CATAWBA UNIT 1 GAS DOSE 091-181 87 RELEASE WEIGHTED MET REPORT SUMMARY 08/25/87
SPECIAL LOCATION
AT 0.50 MILES NE

NOBLE GAS EXPOSURE:

BETA AIR DOSE = 2.28E-01 MILLIRADS
GAMMA AIR DOSE = 1.21E-01 MILLIRADS

TOTAL BODY DOSE = 7.53E-02 MILLIREM		TOTAL SKIN DOSE = 1.78E-01 MILLIREM	
KR 88	6.24%	KR 88	3.69%
XE133	49.98%	XE133	59.55%
XE135	10.41%	XE135	11.62%
AR 41	31.92%	AR 41	21.60%

CATAWBA UNIT 1 GAS DOSE 091-181 87 RELEASE WEIGHTED MET REPORT SUMMARY 08/25/87
SPECIAL LOCATION
AT 0.50 MILES ENE

IODINE, PARTICULATE, AND TRITIUM EXPOSURE SUMMARY:

MAXIMUM ORGAN - THYROID
CRITICAL AGE - CHILD
CRITICAL PATHWAY - VEGET @ 78.46%

MAXIMUM ORGAN DOSE = 9.42E-03 MILLIREM
H 3 62.96%
I 131 37.04%

CATAWBA UNIT 1 GAS DOSE 001-181 87 RELEASE WEIGHTED MET REPORT SUMMARY 08/25/87
SPECIAL LOCATION
AT 0.50 MILES S

NOBLE GAS EXPOSURE:

BETA AIR DOSE = 4.33E-01 MILLIRADS
GAMMA AIR DOSE = 1.67E-01 MILLIRADS

TOTAL BODY DOSE = 9.97E-02 MILLIREM
XE133 78.71%
XE135 7.72%
AR 41 8.22%

TOTAL SKIN DOSE = 2.76E-01 MILLIREM
XE133 81.94%
XE135 7.56%
AR 41 4.85%

CATAWBA UNIT 1 GAS DOSE 001-181 87 RELEASE WEIGHTED MET REPORT SUMMARY 08/25/87
SPECIAL LOCATION
AT 0.50 MILES S

IODINE, PARTICULATE, AND TRITIUM EXPOSURE SUMMARY:

MAXIMUM ORGAN - THYROID
CRITICAL AGE - CHILD
CRITICAL PATHWAY - VEGET @ 80.64%

MAXIMUM ORGAN DOSE = 2.63E-01 MILLIREM
H 3 15.47%
I 131 83.69%

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CATAWBA NUCLEAR STATION
UNIT 2
RADIOACTIVE EFFLUENT RELEASES
DATE : 08/25/87

II. AIRBORNE RELEASES

YEAR : 1987

	UNITS	1ST QTR	2ND QTR	SUBTOTAL
1. TOTAL NOBLE GASES	CURIES	1.73E+02	1.67E+02	3.41E+02
2. TOTAL HALOGENS	CURIES	1.01E-03	9.58E-05	1.10E-03
3. TOTAL PARTICULATE GROSS BETA-GAMMA	CURIES	5.97E-03	1.33E-05	5.99E-03
4. TOTAL TRITIUM	CURIES	3.86E+00	2.42E+00	6.28E+00
5. TOTAL PARTICULATE GROSS ALPHA ACTIVITY	CURIES	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
7. RADIONUCLIDES RELEASED	CURIES			
PARTICULATES				
F-18		7.37E-05	3.63E-07	7.40E-05
NA-24		7.31E-07	5.07E-07	1.24E-06
MN-56		3.07E-08	4.67E-09	3.54E-08
CO-58		1.88E-04	5.46E-06	1.93E-04
BR-82		1.01E-08	5.27E-07	5.37E-07
RB-88		5.68E-03	6.30E-06	5.68E-03
MO-99		0.00E+00	3.93E-09	3.93E-09
TC-99M		4.30E-09	0.00E+00	4.30E-09
CS-134		2.75E-08	0.00E+00	2.75E-08
CS-137		5.72E-08	1.15E-08	6.87E-08
CS-138		3.36E-05	1.16E-07	3.38E-05
BA-139		7.62E-08	1.05E-08	8.67E-08
W-187		7.79E-08	0.00E+00	7.79E-08
BI-214		7.91E-08	1.06E-08	8.98E-08
PB-212		2.01E-10	0.00E+00	2.01E-10
PB-214		6.96E-08	1.08E-09	7.07E-08
HALOGENS				
I-131		8.70E-04	9.35E-05	9.64E-04
I-132		0.00E+00	3.50E-08	3.50E-08
I-133		1.35E-04	2.22E-06	1.37E-04
I-135		2.93E-07	0.00E+00	2.93E-07
GASES				
AR-41		1.87E-01	2.81E+00	2.99E+00
KR-85		0.00E+00	1.38E-01	1.38E-01
KR-85M		1.07E-01	3.53E-01	4.60E-01
KR-87		5.82E-03	2.22E-02	2.80E-02
KR-88		1.04E-01	3.41E-01	4.45E-01
XE-131M		1.67E+00	9.66E-01	2.64E+00
XE-133		1.67E+02	1.55E+02	3.22E+02
XE-133M		2.14E+00	2.43E+00	4.57E+00
XE-135		2.20E+00	4.83E+00	7.03E+00

CATAWBA UNIT 2 GAS DOSE 001-090 87 RELEASE WEIGHTED MET REPORT SUMMARY 08/25/87
SPECIAL LOCATION
AT 0.50 MILES S

NOBLE GAS EXPOSURE:

BETA AIR DOSE = 3.62E-01 MILLIRADS
GAMMA AIR DOSE = 1.32E-01 MILLIRADS

TOTAL BODY DOSE = 7.85E-02 MILLIREM		TOTAL SKIN DOSE = 2.18E-01 MILLIREM	
XE133	84.71%	XE133	85.89%
XE135	7.19%	XE135	6.86%

CATAWBA UNIT 2 GAS DOSE 001-090 87 RELEASE WEIGHTED MET REPORT SUMMARY 08/25/87
SPECIAL LOCATION
AT 0.50 MILES S

IODINE, PARTICULATE, AND TRITIUM EXPOSURE SUMMARY:

MAXIMUM ORGAN - THYROID
CRITICAL AGE - CHILD
CRITICAL PATHWAY - VEGET @ 80.64%

MAXIMUM ORGAN DOSE = 2.54E-01 MILLIREM
H 3 14.01%
I 131 85.12%

CATAWBA UNIT 2 GAS DOSE 091-181 87 RELEASE WEIGHTED MET REPORT SUMMARY 08/25/87
SPECIAL LOCATION
AT 0.50 MILES NE

NOBLE GAS EXPOSURE:

BETA AIR DOSE = 2.28E-01 MILLIRADS
GAMMA AIR DOSE = 1.21E-01 MILLIRADS

TOTAL BODY DOSE = 7.53E-02 MILLIREM

KR 88	6.24%
XE133	49.98%
XE135	10.41%
AR 41	31.98%

TOTAL SKIN DOSE = 1.78E-01 MILLIREM

KR 88	3.65%
XE133	59.55%
XE135	11.68%
AR 41	21.68%

CATAWBA UNIT 2 GAS DOSE 091-181 87 RELEASE WEIGHTED MET REPORT SUMMARY 08/25/87
SPECIAL LOCATION
AT 0.50 MILES ENE

IODINE, PARTICULATE, AND TRITIUM EXPOSURE SUMMARY:

MAXIMUM ORGAN - THYROID
CRITICAL AGE - CHILD
CRITICAL PATHWAY - VEGET @ 78.46%

MAXIMUM ORGAN DOSE = 9.42E-03 MILLIREM
H 3 62.90%
I 131 37.00%

CATAWBA UNIT 2 GAS DOSE 001-181 87 RELEASE WEIGHTED MET REPORT SUMMARY 08/25/87
SPECIAL LOCATION
AT 0.50 MILES S

NOBLE GAS EXPOSURE:

BETA AIR DOSE = 4.33E-01 MILLIRADS
GAMMA AIR DOSE = 1.67E-01 MILLIRADS

TOTAL BODY DOSE = 9.97E-02 MILLIREM

XE133	78.71%
XE135	7.72%
AR 41	8.22%

TOTAL SKIN DOSE = 2.70E-01 MILLIREM

XE133	81.94%
XE135	7.56%
AR 41	4.85%

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CATAWBA NUCLEAR STATION
UNIT 1
RADIOACTIVE EFFLUENT RELEASES
DATE : 07/06/87

II. AIRBORNE RELEASES — YEAR : 1986

	UNITS	1ST QTR	2ND QTR	3RD QTR	4TH QTR	TOTAL
1. TOTAL NOBLE GASES	CURIES	1.33E+02	3.60E+02	1.12E+03	4.67E+01	1.66E+03
2. TOTAL HALOGENS	CURIES	5.18E-04	1.75E-03	7.40E-04	2.30E-04	3.24E-03
3. TOTAL PARTICULATE GROSS BETA-GAMMA	CURIES	4.12E-03	1.35E-05	1.88E-05	1.43E-05	4.16E-03
4. TOTAL TRITIUM	CURIES	4.23E+00	3.62E-01	1.31E+00	8.31E-01	6.73E+00
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	8.00E+02
7. RADIONUCLIDES RELEASED	CURIES					
PARTICULATES						
BE-7		0.00E+00	0.00E+00	0.00E+00	1.42E-09	1.42E-09
F-18		5.71E-10	5.94E-09	5.14E-09	8.63E-08	9.80E-08
NA-24		3.42E-03	0.00E+00	4.16E-06	4.39E-07	3.43E-03
K-40		1.80E-08	0.00E+00	0.00E+00	0.00E+00	1.80E-08
CO-58		0.00E+00	5.19E-08	9.10E-06	0.00E+00	9.15E-06
CO-60		0.00E+00	5.31E-10	0.00E+00	0.00E+00	5.31E-10
BR-82		0.00E+00	0.00E+00	1.63E-08	4.33E-09	2.07E-08
RB-88		4.46E-04	1.32E-05	3.71E-06	7.99E-06	4.71E-04
CS-137		0.00E+00	0.00E+00	0.00E+00	1.88E-08	1.88E-08
CS-138		0.00E+00	0.00E+00	0.00E+00	2.21E-07	2.21E-07
BA-139		0.00E+00	3.60E-09	0.00E+00	1.55E-09	5.15E-09
W-187		0.00E+00	0.00E+00	0.00E+00	4.16E-08	4.16E-08
BI-214		1.04E-04	1.45E-07	6.12E-07	2.64E-06	1.07E-04
PB-212		4.20E-05	0.00E+00	0.00E+00	0.00E+00	4.20E-05
PB-214		8.63E-05	6.98E-08	1.13E-06	2.88E-06	9.04E-05
TL-208		1.28E-05	0.00E+00	7.26E-10	9.09E-09	1.28E-05
TH-228		2.29E-08	0.00E+00	2.84E-08	0.00E+00	5.13E-08
NP-239		0.00E+00	0.00E+00	0.00E+00	2.19E-10	2.19E-10
HALOGENS						
I-131		4.82E-04	1.52E-03	4.52E-04	1.15E-04	2.57E-03
I-133		3.57E-05	2.27E-04	2.87E-04	1.14E-04	6.65E-04
GASES						
AR-41		6.03E-02	1.01E+00	6.02E+00	3.57E-01	7.45E+00
KR-85		3.31E-02	9.26E-02	1.52E+01	0.00E+00	1.53E+01
KR-85M		1.26E-01	3.36E-01	1.79E-01	7.90E-02	7.20E-01
KR-87		4.71E-03	3.56E-02	3.23E-04	4.18E-03	4.48E-02
KR-88		1.11E-01	3.07E-01	2.24E-01	5.77E-02	6.99E-01
XE-131M		1.37E+00	3.27E+00	1.31E+01	4.67E-02	1.78E+01
XE-133		1.27E+02	3.42E+02	1.06E+03	4.43E+01	1.58E+03
XE-133M		1.82E+00	3.92E+00	1.53E+01	7.62E-01	2.18E+01
XE-135		2.53E+00	8.88E+00	1.18E+01	1.13E+00	1.44E+01

CATAWBA UNIT 1 GAS DOSE 001-090 86 RELEASE WEIGHTED MET REPORT SUMMARY 07/06/87
SPECIAL LOCATION
AT 0.50 MILES NNE

NOBLE GAS EXPOSURE:

BETA AIR DOSE = 2.03E-01 MILLIRADS
GAMMA AIR DOSE = 7.41E-02 MILLIRADS

TOTAL BODY DOSE = 4.39E-02 MILLIREM		TOTAL SKIN DOSE = 1.23E-01 MILLIREM	
XE133	83.60%	XE133	84.12%
XE135	10.11%	XE135	9.55%

CATAWBA UNIT 1 GAS DOSE 001-090 86 RELEASE WEIGHTED MET REPORT SUMMARY 07/06/87
SPECIAL LOCATION
AT 0.50 MILES NNE

IODINE, PARTICULATE, AND TRITIUM EXPOSURE SUMMARY:

MAXIMUM ORGAN - THYROID
CRITICAL AGE - CHILD
CRITICAL PATHWAY - VEGET @ 77.44%

MAXIMUM ORGAN DOSE = 8.99E-02 MILLIREM
H 3 42.81%
I 131 57.19%

CATAWBA UNIT 1 GAS DOSE 091-181 86 RELEASE WEIGHTED MET REPORT SUMMARY 07/06/87
SPECIAL LOCATION
AT 0.50 MILES NNE

NOBLE GAS EXPOSURE:

BETA AIR DOSE = 3.77E-01 MILLIRADS
GAMMA AIR DOSE = 1.46E-01 MILLIRADS

TOTAL BODY DOSE = 8.79E-02 MILLIREM

XE133	76.24%
XE135	13.02%
AR 41	5.97%

TOTAL SKIN DOSE = 2.39E-01 MILLIREM

XE133	78.81%
XE135	12.66%
AR 41	3.53%

CATAWBA UNIT 1 GAS DOSE 091-181 86 RELEASE WEIGHTED MET REPORT SUMMARY 07/06/87
SPECIAL LOCATION
AT 0.50 MILES NE

IODINE, PARTICULATE, AND TRITIUM EXPOSURE SUMMARY:

MAXIMUM ORGAN - THYROID
CRITICAL AGE - CHILD
CRITICAL PATHWAY - VEGET @ 84.75%

MAXIMUM ORGAN DOSE = 1.45E-01 MILLIREM
I 131 98.23%

CATAWBA UNIT 1 GAS DOSE 182-273 86 RELEASE WEIGHTED MET REPORT SUMMARY 07/06/87
SPECIAL LOCATION
AT 0.56 MILES SW

NOBLE GAS EXPOSURE:

BETA AIR DOSE = 1.15E+00 MILLIRADS
GAMMA AIR DOSE = 4.09E-01 MILLIRADS

TOTAL BODY DOSE = 2.41E-01 MILLIREM
XE133 87.34%
XE135 5.95%

TOTAL SKIN DOSE = 6.86E-01 MILLIREM
XE133 86.72%
XE135 5.53%

CATAWBA UNIT 1 GAS DOSE 182-273 86 RELEASE WEIGHTED MET REPORT SUMMARY 07/06/87
SPECIAL LOCATION
AT 6.50 MILES NE

IODINE, PARTICULATE, AND TRITIUM EXPOSURE SUMMARY:

MAXIMUM ORGAN - THYROID
CRITICAL AGE - CHILD
CRITICAL PATHWAY - VEGET @ 80.57%

MAXIMUM ORGAN DOSE = 4.77E-02 MILLIREM
H 3 17.67%
I 131 79.47%

CATAWBA UNIT 1 GAS DOSE 274-365 86 RELEASE WEIGHTED MET REPORT SUMMARY 07/06/87
SPECIAL LOCATION
AT 0.50 MILES S

NOBLE GAS EXPOSURE:

BETA AIR DOSE = 5.34E-02 MILLIRADS
GAMMA AIR DOSE = 2.24E-02 MILLIRADS

TOTAL BODY DOSE = 1.35E-02 MILLIREM		TOTAL SKIN DOSE = 3.54E-02 MILLIREM	
XE133	69.38%	XE133	74.93%
XE135	10.26%	XE135	10.38%
AR 41	14.46%	AR 41	8.86%

CATAWBA UNIT 1 GAS DOSE 274-365 86 RELEASE WEIGHTED MET REPORT SUMMARY 07/06/87
SPECIAL LOCATION
AT 0.50 MILES S

IODINE, PARTICULATE, AND TRITIUM EXPOSURE SUMMARY:

MAXIMUM ORGAN - THYROID
CRITICAL AGE - CHILD
CRITICAL PATHWAY - VEGET @ 77.93%

MAXIMUM ORGAN DOSE = 1.90E-02 MILLIREM
H 3 31.21%
I 131 65.56%

CATAWBA UNIT 1 GAS DOSE 001-365 86 RELEASE WEIGHTED MET REPORT SUMMARY 07/14/87
SPECIAL LOCATION
AT 0.50 MILES NNE

NOBLE GAS EXPOSURE:

BETA AIR DOSE = 1.38E+00 MILLIRADS
GAMMA AIR DOSE = 5.35E-01 MILLIRADS

TOTAL BODY DOSE = 3.21E-01 MILLIREM		TOTAL SKIN DOSE = 8.76E-01 MILLIREM	
XE133	75.59%	XE133	77.66%
XE135	9.87%	XE135	8.62%
AR 41	12.05%	AR 41	7.08%

CATAWBA UNIT 1 GAS DOSE 001-365 86 RELEASE WEIGHTED MET REPORT SUMMARY 07/14/87
SPECIAL LOCATION
AT 0.50 MILES NNE

IODINE, PARTICULATE, AND TRITIUM EXPOSURE SUMMARY:

MAXIMUM ORGAN - THYROID
CRITICAL AGE - CHILD
CRITICAL PATHWAY - VEGET @ 80.55%

MAXIMUM ORGAN DOSE = 2.80E-01 MILLIREM
H 3 19.12%
I 131 80.64%

SET TO NEW PAGE AND PRESS RETURN

CATAWBA NUCLEAR STATION
UNIT 2
RADIOACTIVE EFFLUENT RELEASES
DATE : 07/06/87

II. AIRBORNE RELEASES — YEAR : 1986

	UNITS	1ST QTR	2ND QTR	3RD QTR	4TH QTR	TOTAL
1. TOTAL NOBLE GASES	CURIES	1.33E+02	3.60E+02	1.12E+03	4.67E+01	1.66E+03
2. TOTAL HALOGENS	CURIES	5.18E-04	1.75E-03	7.40E-04	2.30E-04	3.24E-03
3. TOTAL PARTICULATE GROSS BETA-GAMMA	CURIES	4.12E-03	1.35E-05	1.88E-05	1.43E-05	4.16E-03
4. TOTAL TRITIUM	CURIES	4.23E+00	3.62E-01	1.31E+00	8.31E-01	6.73E+00
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	8.00E+02
7. RADIONUCLIDES RELEASED	CURIES					
PARTICULATES						
BE-7		0.00E+00	0.00E+00	0.00E+00	1.42E-09	1.42E-09
F-18		5.71E-10	5.94E-09	5.14E-09	8.63E-08	9.80E-08
NA-24		3.42E-03	0.00E+00	4.16E-06	4.39E-07	3.43E-03
K-40		1.80E-08	0.00E+00	0.00E+00	0.00E+00	1.80E-08
CO-58		0.00E+00	5.19E-08	9.10E-06	0.00E+00	9.15E-06
CO-60		0.00E+00	5.31E-10	0.00E+00	0.00E+00	5.31E-10
BR-82		0.00E+00	0.00E+00	1.63E-08	4.33E-09	2.07E-08
RB-88		4.46E-04	1.32E-05	3.71E-06	7.99E-06	4.71E-04
CS-137		0.00E+00	0.00E+00	0.00E+00	1.88E-08	1.88E-08
CS-138		0.00E+00	0.00E+00	0.00E+00	2.21E-07	2.21E-07
BA-139		0.00E+00	3.60E-09	0.00E+00	1.55E-09	5.15E-09
W-187		0.00E+00	0.00E+00	0.00E+00	4.16E-08	4.16E-08
BI-214		1.04E-04	1.45E-07	6.12E-07	2.64E-06	1.07E-04
PB-212		4.20E-05	0.00E+00	0.00E+00	0.00E+00	4.20E-05
PB-214		8.63E-05	6.98E-08	1.13E-06	2.88E-06	9.04E-05
TL-208		1.28E-05	0.00E+00	7.26E-10	9.09E-09	1.28E-05
TH-228		2.29E-08	0.00E+00	2.84E-08	0.00E+00	5.13E-08
NP-239		0.00E+00	0.00E+00	0.00E+00	2.19E-10	2.19E-10
HALOGENS						
I-131		4.82E-04	1.52E-03	4.52E-04	1.15E-04	2.57E-03
I-133		3.57E-05	2.27E-04	2.87E-04	1.14E-04	6.65E-04
GASES						
AR-41		6.03E-02	1.01E+00	6.02E+00	3.57E-01	7.45E+00
KR-85		3.31E-02	9.26E-02	1.52E+01	0.00E+00	1.53E+01
KR-85M		1.26E-01	3.36E-01	1.79E-01	7.90E-02	7.20E-01
KR-87		4.71E-03	3.56E-02	3.23E-04	4.18E-03	4.48E-02
KR-88		1.11E-01	3.07E-01	2.24E-01	5.77E-02	6.99E-01
XE-131M		1.37E+00	3.27E+00	1.31E+01	4.67E-02	1.78E+01
XE-133		1.27E+02	3.42E+02	1.06E+03	4.43E+01	1.58E+03
XE-133M		1.82E+00	3.92E+00	1.53E+01	7.62E-01	2.18E+01
XE-135		2.53E+00	8.88E+00	1.18E+01	1.13E+00	2.44E+01

CATAWBA UNIT 2 GAS DOSE 001-090 86 RELEASE WEIGHTED MET REPORT SUMMARY 07/06/87
SPECIAL LOCATION
AT 0.50 MILES NNE

NOBLE GAS EXPOSURE:

BETA AIR DOSE = 2.03E-01 MILLIRADS
GAMMA AIR DOSE = 7.41E-02 MILLIRADS

TOTAL BODY DOSE = 4.39E-02 MILLIREM
XE133 83.60%
XE135 10.11%

TOTAL SKIN DOSE = 1.23E-01 MILLIREM
XE133 84.12%
XE135 9.55%

CATAWBA UNIT 2 GAS DOSE 001-099 86 RELEASE WEIGHTED MET REPORT SUMMARY 07/06/87
SPECIAL LOCATION
AT 0.50 MILES NNE

IODINE, PARTICULATE, AND TRITIUM EXPOSURE SUMMARY:

MAXIMUM ORGAN - THYROID
CRITICAL AGE - CHILD
CRITICAL PATHWAY - VEGET @ 77.44%

MAXIMUM ORGAN DOSE = 8.99E-02 MILLIREM
H 3 42.61%
I 131 57.16%

CATAWBA UNIT 2 GAS DOSE 091-181 86 RELEASE WEIGHTED MET REPORT SUMMARY 07/06/87
SPECIAL LOCATION
AT 0.50 MILES NNE

NOBLE GAS EXPOSURE:

BETA AIR DOSE = 3.77E-01 MILLIRADS
GAMMA AIR DOSE = 1.46E-01 MILLIRADS

TOTAL BODY DOSE = 8.79E-02 MILLIREM

XE133	76.24%
XE135	13.02%
AR 41	5.97%

TOTAL SKIN DOSE = 2.39E-01 MILLIREM

XE133	78.81%
XE135	12.66%
AR 41	3.53%

CATAWBA UNIT 2 GAS DOSE 091-181 86 RELEASE WEIGHTED MET REPORT SUMMARY 07/06/87
SPECIAL LOCATION
AT 0.50 MILES NE

IODINE, PARTICULATE, AND TRITIUM EXPOSURE SUMMARY:

MAXIMUM ORGAN - THYROID
CRITICAL AGE - CHILD
CRITICAL PATHWAY - VEGET @ 84.75%

MAXIMUM ORGAN DOSE = 1.45E-01 MILLIREM
I 131 98.23%

CATAWBA UNIT 2 GAS DOSE 182-273 86 RELEASE WEIGHTED MET REPORT SUMMARY 07/06/87
SPECIAL LOCATION
AT 0.59 MILES SW

NOBLE GAS EXPOSURE:

BETA AIR DOSE = 1.15E+00 MILLIRADS
GAMMA AIR DOSE = 4.09E-01 MILLIRADS

TOTAL BODY DOSE = 2.41E-01 MILLIREM
XE133 87.34%
XE135 5.95%

TOTAL SKIN DOSE = 6.86E-01 MILLIREM
XE133 86.72%
XE135 5.53%

CATAWBA UNIT 2 GAS DOSE 182-273 86 RELEASE WEIGHTED MET REPORT SUMMARY 07/06/87
SPECIAL LOCATION
AT 0.53 MILES NE

IODINE, PARTICULATE, AND TRITIUM EXPOSURE SUMMARY:

MAXIMUM ORGAN - THYROID
CRITICAL AGE - CHILD
CRITICAL PATHWAY - VEGET @ 80.57%

MAXIMUM ORGAN DOSE = 4.77E-02 MILLIREM
H 3 17.67%
I 131 79.47%

CATAWBA UNIT 2 GAS DOSE 274-365 86 RELEASE WEIGHTED MET REPORT SUMMARY 07/06/87
SPECIAL LOCATION
AT 0.50 MILES S

NOBLE GAS EXPOSURE:

BETA AIR DOSE = 5.34E-02 MILLIRADS
GAMMA AIR DOSE = 2.24E-02 MILLIRADS

TOTAL BODY DOSE = 1.35E-02 MILLIREM

XE133	69.38%
XE135	10.26%
AR 41	14.46%

TOTAL SKIN DOSE = 3.54E-02 MILLIREM

XE133	74.93%
XE135	10.38%
AR 41	8.86%

CATAWBA UNIT 2 GAS DOSE 274-365 86 RELEASE WEIGHTED MET REPORT SUMMARY 07/06/87
SPECIAL LOCATION
AT 0.50 MILES S

IODINE, PARTICULATE, AND TRITIUM EXPOSURE SUMMARY:

MAXIMUM ORGAN - THYROID
CRITICAL AGE - CHILD
CRITICAL PATHWAY - VEGET @ 77.93%

MAXIMUM ORGAN DOSE = 1.90E-02 MILLIREM
H 3 31.21%
I 131 65.58%

CATAWBA UNIT 2 GAS DOSE 001-365 86 RELEASE WEIGHTED NET REPORT SUMMARY 07/14/87
SPECIAL LOCATION
AT 0.50 MILES NNE

NOBLE GAS EXPOSURE:

BETA AIR DOSE = 1.38E+00 MILLIRADS
GAMMA AIR DOSE = 5.35E-01 MILLIRADS

TOTAL BODY DOSE = 3.21E-01 MILLIREM

XE133	75.50%
XE135	8.87%
AR 41	12.05%

TOTAL SKIN DOSE = 8.76E-01 MILLIREM

XE133	77.66%
XE135	8.62%
AR 41	7.08%

CATAWBA UNIT 2 GAS DOSE 001-365 86 RELEASE WEIGHTED MET REPORT SUMMARY 07/14/87
SPECIAL LOCATION
AT 0.50 MILES NNE

IODINE, PARTICULATE, AND TRITIUM EXPOSURE SUMMARY:

MAXIMUM ORGAN - THYROID
CRITICAL AGE - CHILD
CRITICAL PATHWAY - VEGET @ 80.55%

MAXIMUM ORGAN DOSE = 2.86E-01 MILLIREM
H 3 19.12%
I 131 80.84%

ATTACHMENT II

INOPERABLE EQUIPMENT

Equipment: 1EMF34, Unit 1 Steam Generator Blowdown Monitor

Out of Service for more than 30 days:

- January 31, 1986 to Present

Why inoperability was not corrected within the time specified:

The EMF was taken out of service due to flow problems. Parts have not been readily available. Required samples have been taken during this period of inoperability.

Equipment: 1EMF31, Unit 1 Turbine Building Sump Monitor

Out of Service for more than 30 days:

- June 1, 1986 to March 18, 1987

Why inoperability was not corrected within the time specified:

The EMF was taken out of service because of sample pump problems. Due to administrative problems, the EMF has not been returned to service. Required samples have been taken during this period of inoperability.

Equipment: 1EMF 35, 36, 37, Unit 1 Vent System Noble Gas Activity Monitor, Iodine Sampler, and Particulate Sampler.

Out of Service for more than 30 days:

- February 16, 1987 to April 27, 1987

Why inoperability was not corrected within the time specified.

Parts were not readily available for these EMFs. Required samples were taken during this period of inoperability.

Equipment 2EMF 34, Unit 2 Steam Generator Blowdown Monitor

Out of Service for more than 30 days:

- May 14, 1987 to June 16, 1987

Why inoperability was not corrected within the time specified:

The EMF was removed form service for maintenance and several components had to be replaced. Parts were not readily available. Required samples were taken during this period of inoperability.

Equipment: EMF 50, Noble Gas Activity Monitor

Out of Service for more than 30 days.

. July 10, 1986 to July 30, 1987

Why inoperability was not corrected within the time specified:

The EMF was determined to have a design problem and a plant modification was required. Required samples were taken during this period of inoperability.