ATTACHMENT I

Summary of Liquid and Gaseous Effluents Report

This attachment includes a summary of the quantities of radioactive liquid and gaseous effluents as outlined in Regulatory Guide 1.21, Appendix B.

TABLE 1A

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT
PERIOD 1/1/03 TO 1/1/04
GASEOUS EFFLUENTS - SUMMATION OF ALL RELEASES

Catawba Nuclear Station Units 1 & 2

REPORT FOR 2003	Unit	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
A. Fission and Activation Gases						
1. Total Release	Ci	6.12E-01	6.38E-01	1.44E+00	6.49E+00	9.18E+00
2. Avg. Release Rate	µCi/sec	7.89E-02	8.11E-02	1.80E-01	8.16E-01	2.91E-01
B. Iodine-131						
1. Total Release	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2. Avg. Release Rate	µCi/sec	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
C. Particulates Half Life >= 8 days						
1. Total Release	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2. Avg. Release Rate	µCi/sec	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
D. Tritium						
1. Total Release	Ci	6.07E+01	5.36E+01	3.40E+01	6.14E+01	2.10E+02
2. Avg. Release Rate	µCi/sec	7.81E+00	6.82E+00	4.28E+00	7.72E+00	6.65E+00

TABLE 1B

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT
PERIOD 1/1/03 TO 1/1/04
GASEOUS EFFLUENTS - ELEVATED RELEASES - CONTINUOUS MODE

Catawba Nuclear Station Units 1 & 2

REPORT FOR 2003	Unit	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
1. Fission and Activation Gases						
** No Nuclide Activities **		.....	.....	.....	.....	.....
2. Iodines						
** No Nuclide Activities **		.....	.....	.....	.....	.....
3. Particulates Half Life >= 8 days						
** No Nuclide Activities **		.....	.....	.....	.....	.....
4. Tritium						
** No Nuclide Activities **		.....	.....	.....	.....	.....

TABLE 1B

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT
PERIOD 1/1/03 TO 1/1/04
GASEOUS EFFLUENTS - ELEVATED RELEASES - BATCH MODE

Catawba Nuclear Station Units 1 & 2

REPORT FOR 2003	Unit	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
1. Fission and Activation Gases						
** No Nuclide Activities **		.....	.....	.....	.....	.....
2. Iodines						
** No Nuclide Activities **		.....	.....	.....	.....	.....
3. Particulates Half Life >= 8 days						
** No Nuclide Activities **		.....	.....	.....	.....	.....
4. Tritium						
** No Nuclide Activities **		.....	.....	.....	.....	.....

TABLE 1C

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT
PERIOD 1/1/03 TO 1/1/04
GASEOUS EFFLUENTS - GROUND RELEASES - CONTINUOUS MODE

Catawba Nuclear Station Units 1 & 2

REPORT FOR 2003	Unit	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
1. Fission and Activation Gases						
** No Nuclide Activities **		.....	.....	.....	.....	.....
2. Iodines						
** No Nuclide Activities **		.....	.....	.....	.....	.....
3. Particulates Half Life >= 8 days						
** No Nuclide Activities **		.....	.....	.....	.....	.....
4. Tritium						
H-3	Ci	5.45E+01	5.30E+01	3.32E+01	5.22E+01	1.93E+02
Totals for Period...	Ci	5.45E+01	5.30E+01	3.32E+01	5.22E+01	1.93E+02

TABLE 1C

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT
PERIOD 1/1/03 TO 1/1/04
GASEOUS EFFLUENTS - GROUND RELEASES - BATCH MODE

Catawba Nuclear Station Units 1 & 2

REPORT FOR 2003	Unit	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
1. Fission and Activation Gases						
AR-41	Ci	4.50E-01	3.77E-01	5.36E-01	4.45E-01	1.81E+00
KR-85	Ci	0.00E+00	2.91E-02	2.06E-01	4.30E-01	6.64E-01
KR-85M	Ci	0.00E+00	0.00E+00	0.00E+00	7.60E-04	7.60E-04
XE-131M	Ci	0.00E+00	0.00E+00	1.83E-02	7.39E-03	2.57E-02
XE-133	Ci	1.51E-01	2.31E-01	6.67E-01	5.53E+00	6.58E+00
XE-133M	Ci	0.00E+00	0.00E+00	2.39E-04	3.25E-02	3.28E-02
XE-135	Ci	1.14E-02	8.66E-04	8.08E-03	4.49E-02	6.52E-02
Totals for Period...	Ci	6.12E-01	6.38E-01	1.44E+00	6.49E+00	9.18E+00
2. Iodines						
** No Nuclide Activities **		.....	.....	.....	.....	.....
3. Particulates Half Life >= 8 days						
** No Nuclide Activities **		.....	.....	.....	.....	.....
4. Tritium						
H-3	Ci	6.25E+00	5.58E-01	8.33E-01	9.15E+00	1.68E+01
Totals for Period...	Ci	6.25E+00	5.58E-01	8.33E-01	9.15E+00	1.68E+01

TABLE 2A

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT
PERIOD 1/1/03 TO 1/1/04
LIQUID EFFLUENTS - SUMMATION OF ALL RELEASES

Catawba Nuclear Station Units 1 & 2

REPORT FOR 2003	Unit	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
A. Fission and Activation Products						
1. Total Release	Ci	1.86E-02	2.14E-02	2.15E-02	1.45E-02	7.61E-02
2. Average Diluted Concentration						
a. Continuous Releases	µCi/ml	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
b. Batch Releases	µCi/ml	7.84E-10	9.66E-10	7.74E-10	6.87E-10	8.02E-10
B. Tritium						
1. Total Release	Ci	4.62E+02	2.80E+02	4.50E+02	2.66E+02	1.46E+03
2. Average Diluted Concentration						
a. Continuous Releases	µCi/ml	2.30E-06	9.47E-07	4.23E-07	3.31E-07	1.03E-06
b. Batch Releases	µCi/ml	1.92E-05	1.25E-05	1.62E-05	1.26E-05	1.53E-05
C. Dissolved and Entrained Gases						
1. Total Release	Ci	0.00E+00	1.33E-08	9.01E-05	2.74E-05	1.17E-04
2. Average Diluted Concentration						
a. Continuous Releases	µCi/ml	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
b. Batch Releases	µCi/ml	0.00E+00	5.98E-16	3.24E-12	1.30E-12	1.24E-12
D. Gross Alpha Radioactivity						
1. Total Release	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2. Average Diluted Concentration						
a. Continuous Releases	µCi/ml	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
b. Batch Releases	µCi/ml	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
E. Volume of Liquid Waste						
1. Continuous Releases	liters	2.97E+08	6.68E+07	3.67E+07	6.93E+07	4.70E+08
2. Batch Releases	liters	1.82E+06	8.74E+05	1.04E+06	1.20E+06	4.93E+06
F. Volume of Dilution Water						
1. Continuous Releases	liters	2.37E+09	2.22E+09	2.78E+09	2.11E+09	9.48E+09
2. Batch Releases	liters	2.37E+10	2.22E+10	2.78E+10	2.11E+10	9.48E+10

TABLE 2B

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT
PERIOD 1/1/03 TO 1/1/04
LIQUID EFFLUENTS - CONTINUOUS MODE

Catawba Nuclear Station Units 1 & 2

REPORT FOR 2003	Unit	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
1. Fission and Activation Products						
** No Nuclide Activities **		.....	.....	.....	.....	.....
2. Tritium						
H-3	Ci	6.14E+00	2.17E+00	1.19E+00	7.21E-01	1.02E+01
Totals for Period...	Ci	6.14E+00	2.17E+00	1.19E+00	7.21E-01	1.02E+01
3. Dissolved and Entrained Gases						
** No Nuclide Activities **		.....	.....	.....	.....	.....
4. Gross Alpha Radioactivity						
** No Nuclide Activities **		.....	.....	.....	.....	.....

TABLE 2B

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT
PERIOD 1/1/03 TO 1/1/04
LIQUID EFFLUENTS - BATCH MODE

Catawba Nuclear Station Units 1 & 2

REPORT FOR 2003	Unit	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
1. Fission and Activation Products						
AG-108M	Ci	0.00E+00	0.00E+00	0.00E+00	1.76E-05	1.76E-05
AG-110M	Ci	2.14E-05	1.17E-04	2.67E-05	0.00E+00	1.65E-04
BE-7	Ci	1.24E-03	1.11E-04	2.63E-03	2.77E-04	4.26E-03
CE-144	Ci	0.00E+00	0.00E+00	0.00E+00	3.40E-06	3.40E-06
CO-57	Ci	6.35E-05	8.33E-05	7.52E-05	8.92E-05	3.11E-04
CO-58	Ci	6.86E-03	1.28E-02	9.31E-03	7.29E-03	3.63E-02
CO-60	Ci	4.55E-03	2.10E-03	6.52E-03	4.36E-03	1.75E-02
CR-51	Ci	1.31E-03	1.15E-03	2.62E-04	1.40E-04	2.87E-03
CS-134	Ci	0.00E+00	0.00E+00	5.47E-07	0.00E+00	5.47E-07
CS-137	Ci	1.35E-04	3.94E-05	9.96E-05	8.35E-05	3.58E-04
CS-138	Ci	0.00E+00	9.51E-06	0.00E+00	0.00E+00	9.51E-06
F-18	Ci	0.00E+00	1.95E-06	0.00E+00	0.00E+00	1.95E-06
FE-59	Ci	9.71E-05	1.13E-04	1.81E-04	6.18E-04	1.01E-03
I-131	Ci	1.59E-05	0.00E+00	0.00E+00	0.00E+00	1.59E-05
I-132	Ci	0.00E+00	0.00E+00	0.00E+00	8.66E-07	8.66E-07
MN-54	Ci	3.16E-04	4.02E-04	6.15E-04	6.47E-04	1.98E-03
NA-24	Ci	0.00E+00	2.47E-06	0.00E+00	0.00E+00	2.47E-06
NB-95	Ci	3.35E-05	1.59E-05	1.02E-06	1.96E-05	7.00E-05
NB-97	Ci	1.22E-04	1.04E-04	9.90E-05	6.86E-05	3.94E-04
SB-122	Ci	0.00E+00	0.00E+00	0.00E+00	1.85E-06	1.85E-06
SB-124	Ci	2.22E-04	1.15E-03	8.24E-05	4.80E-05	1.50E-03
SB-125	Ci	3.55E-03	3.17E-03	1.37E-03	7.93E-04	8.89E-03
SE-75	Ci	0.00E+00	0.00E+00	0.00E+00	5.08E-07	5.08E-07
SN-113	Ci	0.00E+00	0.00E+00	9.84E-06	0.00E+00	9.84E-06
SR-92	Ci	1.23E-05	1.69E-05	2.26E-04	2.86E-05	2.84E-04
W-187	Ci	0.00E+00	0.00E+00	1.98E-05	0.00E+00	1.98E-05
ZN-65	Ci	1.57E-05	0.00E+00	0.00E+00	0.00E+00	1.57E-05
ZR-95	Ci	2.72E-05	3.77E-06	0.00E+00	1.10E-05	4.20E-05
		---	---	---	---	---
Totals for Period...	Ci	1.86E-02	2.14E-02	2.15E-02	1.45E-02	7.60E-02
2. Tritium						
H-3	Ci	4.55E+02	2.78E+02	4.49E+02	2.65E+02	1.45E+03
		---	---	---	---	---
Totals for Period...	Ci	4.55E+02	2.78E+02	4.49E+02	2.65E+02	1.45E+03
3. Dissolved and Entrained Gases						
AR-41	Ci	0.00E+00	1.33E-08	0.00E+00	0.00E+00	1.33E-08
KR-85M	Ci	0.00E+00	0.00E+00	0.00E+00	7.20E-07	7.20E-07
XE-131M	Ci	0.00E+00	0.00E+00	0.00E+00	2.67E-05	2.67E-05
XE-133	Ci	0.00E+00	0.00E+00	3.42E-05	0.00E+00	3.42E-05
XE-133M	Ci	0.00E+00	0.00E+00	5.59E-05	0.00E+00	5.59E-05
		---	---	---	---	---
Totals for Period...	Ci	0.00E+00	1.33E-08	9.01E-05	2.74E-05	1.18E-04
4. Gross Alpha Radioactivity						
** No Nuclide Activities **		.....	.....	.....	.....	.....

ATTACHMENT II

Supplemental Information

to the

Liquid and Gaseous Effluents Report

CATAWBA NUCLEAR STATION

2003 EFFLUENT AND WASTE DISPOSAL SUPPLEMENTAL INFORMATION

I. REGULATORY LIMITS - PER UNIT

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 WITH HALF-LIVES > 8 DAYS - ORGAN DOSE

1. CALENDAR QUARTER = 7.5 MREM
2. CALENDAR YEAR = 15 MREM

II. MAXIMUM PERMISSIBLE EFFLUENT CONCENTRATIONS

A. GASEOUS EFFLUENTS - INFORMATION FOUND IN OFFSITE DOSE CALCULATION MANUAL
B. LIQUID EFFLUENTS - INFORMATION FOUND IN 10CFR20, APPENDIX B, TABLE 2, 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. 1.66E+02 = TOTAL NUMBER OF BATCH RELEASES
2. 9.39E+03 = TOTAL TIME (MIN.) FOR BATCH RELEASES.
3. 1.25E+02 = MAXIMUM TIME (MIN.) FOR A BATCH RELEASE.
4. 5.66E+01 = AVERAGE TIME (MIN.) FOR A BATCH RELEASE.
5. 5.00E+00 = MINIMUM TIME (MIN.) FOR A BATCH RELEASE.
6. 4.76E+04 = AVERAGE DILUTION WATER FLOW DURING RELEASES (GPM).

B. GASEOUS EFFLUENT

1. 8.70E+01 = TOTAL NUMBER OF BATCH RELEASES.
2. 1.01E+06 = TOTAL TIME (MIN.) FOR BATCH RELEASES.
3. 4.42E+04 = MAXIMUM TIME (MIN.) FOR A BATCH RELEASE.
4. 1.16E+04 = AVERAGE TIME (MIN.) FOR A BATCH RELEASE.
5. 9.50E+01 = MINIMUM TIME (MIN.) FOR A BATCH RELEASE.

VI. ABNORMAL RELEASES

A. LIQUID

1. NUMBER OF RELEASES = 0
2. TOTAL ACTIVITY RELEASED (CURIES) = 0

B. GASEOUS

1. NUMBER OF RELEASES = 0
2. TOTAL ACTIVITY RELEASED (CURIES) = 0

SUPPLEMENTAL REPORT PAGE 2

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 ± 25.2%. This value was derived by taking the square root of the sum of the squares of the following discrete individual estimates of error:

(1) Flow rate determining devices = ± 20%

(2) Counting error = ± 15%

(3) Sample preparation error = ± 3%

ATTACHMENT III

Solid Waste Disposal Report

CATAWBA NUCLEAR STATION - SOLID RADIOACTIVE WASTE SHIPPED TO A DISPOSAL FACILITY

REPORT PERIOD 1/1/2003 TO 12/31/2003

Type of Waste Shipped	Number of Shipments *	Number of Containers *	Waste Class *	Container Type *	Burial Volume (ft^3)	Burial Volume (m^3)	Total Activity (Curies)
1. Waste from Liquid Systems							
(A) Dewatered Secondary Resins	0	0	NA	NA	0.0	0.00	0.000
(B) Dewatered Primary Resins	1	1	1 B	1 HIC	120.3	3.41	146.490
(C) Evaporator Concentrates	0	0	NA	NA	0.0	0.00	0.000
(D) Dewatered Mechanical Filters	1	1	1 C	1 HIC	120.3	3.41	92.300
(E) Dewatered Demineralizers	0	0	NA	NA	0.0	0.00	0.000
(F) Solidified (Cement) Acids, Oils, Sludges	0	0	NA	NA	0.0	0.00	0.000
2. Dry Solid Waste							
(A) Dry Active Waste (compacted)	0	0	NA	NA	0.0	0.00	0.000
(B) Dry Active Waste (non-compacted)	0	0	NA	NA	0.0	0.00	0.000
(C) Dry Active Waste (brokered)	NA	NA	NA	NA	565.9	16.03	0.863
(D) Irradiated Components	0	0	NA	NA	0.0	0.00	0.000
3. All Solid Waste	2 *	2 *	NA *	NA *	806.5	22.84	239.653

* Does not included brokered Dry Active Waste totals.

CATAWBA NUCLEAR STATION - SOLID RADIOACTIVE WASTE

SUMMARY OF PRINCIPAL RADIONUCLIDE COMPOSITION

REPORT PERIOD 1/1/2003 TO 12/31/2003

Type of Waste Shipped	Radionuclide	% Abundance *
1. Waste from Liquid Systems		
(A) Dewatered Secondary Resins	(None shipped this period)	
(B) Dewatered Primary Resins	Cr-51	0.7%
	Mn-54	3.9%
	Co-57	0.8%
	Co-58	6.1%
	Fe-59	0.1%
	Co-60	11.6%
	Sn-113	0.1%
	Sb-125	0.1%
	Cs-134	0.3%
	Cs-137	0.7%
	C-14	0.2%
	Fe-55	36.1%
	Ni-59	0.2%
	Ni-63	39.0%
(C) Evaporator Concentrates	(None shipped this period)	
(D) Dewatered Mechanical Filters	Mn-54	1.4%
	Co-57	0.1%
	Co-58	0.2%
	Co-60	15.4%
	Zn-65	0.3%
	Ag-110m	0.1%
	Sb-125	0.6%
	Fe-55	65.7%
	Ni-63	16.3%
(E) Dewatered Demineralizers	(None shipped this period)	
(F) Solidified (Cement) Acids, Oils, Sludges	(None shipped this period)	

* Average percent abundance for all shipments during period.

CATAWBA NUCLEAR STATION - SOLID RADIOACTIVE WASTE

SUMMARY OF PRINCIPAL RADIONUCLIDE COMPOSITION

REPORT PERIOD 1/1/2003 TO 12/31/2003

Type of Waste Shipped	Radionuclide	% Abundance *
2. Dry Solid Waste		
(A) Dry Active Waste (compacted)	(None shipped this period)	
(B) Dry Active Waste (non-compacted)	(None shipped this period)	
(C) Dry Active Waste (brokered)	H-3	1.5%
	Cr-51	1.5%
	Mn-54	1.9%
	Co-57	0.1%
	Co-58	11.9%
	Co-60	14.0%
	Nb-95	0.4%
	Zr-95	0.2%
	Ag-110m	0.2%
	Sb-124	0.1%
	Sb-125	0.5%
	Cs-134	0.1%
	Cs-137	0.1%
	Ba/La-140	0.2%
	Ce-144	0.1%
	Fe-55	57.9%
	Ni-63	9.2%
(D) Irradiated Components	(None shipped this period)	

* Average percent abundance for all shipments during period.

CATAWBA NUCLEAR STATION - SOLID RADIOACTIVE WASTE

SUMMARY OF PRINCIPAL RADIONUCLIDE COMPOSITION

REPORT PERIOD 1/1/2003 TO 12/31/2003

Type of Waste Shipped	Radionuclide	% Abundance *
3. All Solid Waste	Cr-51	0.4%
	Mn-54	2.9%
	Co-57	0.5%
	Co-58	3.9%
	Co-60	13.1%
	Zn-65	0.1%
	Sb-125	0.3%
	Cs-134	0.2%
	Cs-137	0.5%
	C-14	0.1%
	Fe-55	47.5%
	Ni-59	0.2%
	Ni-63	30.2%

* Average percent abundance for all shipments during period.

ATTACHMENT IV

Meteorological Data

Meteorological Joint Frequency Distributions

Of Wind Speed, Wind Direction, and Atmospheric Stability

Using winds at the 10 M Level

(Hours of Occurrence)

CATAWBA NUCLEAR STN. METEOROLOGY (2003) PROG=XOQFREQ 14:36 Thursday, February 12, 2004 1
10M WIND SPEED/DIRECTION/DELTA-T STABILITY
STABILITY CLASSES BASED ON DELTA-T BETWEEN UPPER-LOWER LEVELS

PASQUILL STABILITY A

	WIND SPEED CLASS								
	1.00-1.24	1.25-1.49	1.50-1.99	2.00-2.99	3.00-3.99	4.00-4.99	5.00-5.99	6.00-7.99	TOTAL
	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.
SECTOR									
-N-	.	.	.	3	.	23	4	2	32
-NNE-	.	.	.	1	3	17	14	3	38
-NE-	.	.	.	.	.	1	1	.	2
-E-	.	.	.	1	.	.	.	.	1
-ESE-	.	.	1	1	.	.	.	.	2
-SE-	.	.	1	1	1	.	.	.	3
-SSE-	.	.	1	7	6	1	.	.	15
-S-	.	.	1	7	2	1	.	.	11
-SSW-	.	1	2	20	39	10	6	.	78
-SW-	.	.	2	28	27	16	2	.	75
-WSW-	.	.	.	21	8	2	.	.	31
-W-	1	1	1	8	9	6	1	.	27
-WNW-	.	.	.	4	3	3	3	.	13
-NW-	.	.	1	1	3	6	4	.	15
-NNW-	.	.	.	2	3	4	10	6	25
TOTAL	1	2	10	105	104	90	45	11	368

CATAWBA NUCLEAR STN. METEOROLOGY (2003) PROG=XOQFREQ 14:36 Thursday, February 12, 2004 2
10M WIND SPEED/DIRECTION/DELTA-T STABILITY
STABILITY CLASSES BASED ON DELTA-T BETWEEN UPPER-LOWER LEVELS

PASQUILL STABILITY B

	WIND SPEED CLASS							
	1.25-1.49	1.50-1.99	2.00-2.99	3.00-3.99	4.00-4.99	5.00-5.99	6.00-7.99	TOTAL
	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.
SECTOR								
-N-	.	.	1	10	8	1	.	20
-NNE-	.	.	.	7	24	6	.	37
-NE-	.	.	1	2	5	.	.	8
-ENE-	.	.	3	.	.	.	.	3
-E-	.	.	1	.	.	.	.	1
-ESE-	.	1	1	.	.	.	.	2
-SE-	.	.	2	.	1	.	.	3
-SSE-	.	6	12	5	.	.	.	23
-S-	.	4	18	4	7	.	.	33
-SSW-	.	2	39	46	15	1	.	103
-SW-	1	5	40	15	7	4	.	72
-WSW-	1	2	13	4	1	.	.	21
-W-	.	3	8	5	2	.	.	18
-WNW-	.	.	1	4	8	1	2	16
-NW-	.	.	5	5	8	3	1	22
-NNW-	.	.	.	3	4	4	1	12
TOTAL	2	23	145	110	90	20	4	394

CATAWBA NUCLEAR STN. METEOROLOGY (2003) PROG=XOQFREQ 14:36 Thursday, February 12, 2004 3
10M WIND SPEED/DIRECTION/DELTA-T STABILITY
STABILITY CLASSES BASED ON DELTA-T BETWEEN UPPER-LOWER LEVELS

PASQUILL STABILITY C

	WIND SPEED CLASS								
	1.00-1.24	1.25-1.49	1.50-1.99	2.00-2.99	3.00-3.99	4.00-4.99	5.00-5.99	6.00-7.99	TOTAL
	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.
SECTOR									
-N-	.	.	4	8	26	21	2	1	62
-NNE-	.	.	1	2	22	56	18	2	101
-NE-	.	.	2	1	7	15	3	1	29
-ENE-	.	.	2	1	1	.	.	.	4
-E-	.	2	1	3	2	.	.	.	8
-ESE-	.	.	2	2	1	.	.	.	5
-SE-	.	1	4	3	4	.	.	.	12
-SSE-	1	.	11	20	7	1	.	.	40
-S-	.	1	5	31	13	1	.	.	51
-SSW-	.	.	16	54	32	13	1	.	116
-SW-	.	.	16	31	11	2	1	1	62
-WSW-	1	1	8	18	5	.	.	.	33
-W-	.	.	8	13	4	.	.	.	25
-WNW-	.	1	3	12	9	6	1	.	32
-NW-	.	.	3	8	8	3	2	.	24
-NNW-	.	1	.	11	12	3	1	3	31
TOTAL	2	7	86	218	164	121	29	8	635

CATAWBA NUCLEAR STN. METEOROLOGY (2003) PROG=XOQFREQ 14:36 Thursday, February 12, 2004 4
10M WIND SPEED/DIRECTION/DELTA-T STABILITY
STABILITY CLASSES BASED ON DELTA-T BETWEEN UPPER-LOWER LEVELS

PASQUILL STABILITY D

	WIND SPEED CLASS											
	0.45-0.74	0.75-0.99	1.00-1.24	1.25-1.49	1.50-1.99	2.00-2.99	3.00-3.99	4.00-4.99	5.00-5.99	6.00-7.99	8.00-9.99	TOTAL
	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.
SECTOR												
-N-	.	.	8	8	23	112	169	95	30	7	.	452
-NNE-	.	.	1	3	14	35	155	170	35	6	1	420
-NE-	.	1	.	1	7	20	68	73	18	.	.	188
-ENE-	.	1	.	.	5	20	14	14	13	4	.	71
-E-	.	1	1	1	5	13	12	1	.	.	.	34
-ESE-	.	1	.	6	9	7	2	2	.	.	.	27
-SE-	.	.	1	11	20	32	21	6	1	.	.	92
-SSE-	.	4	9	22	40	79	27	13	6	.	.	200
-S-	1	1	8	18	91	149	37	11	3	.	.	319
-SSW-	1	4	14	37	96	210	96	33	10	4	.	505
-SW-	.	2	21	32	64	83	34	9	2	3	.	250
-WSW-	.	4	15	25	34	38	8	4	.	.	.	128
-W-	.	2	11	18	27	25	9	1	1	1	.	95
-WNW-	.	5	7	18	24	23	19	13	5	3	.	117
-NW-	.	3	5	15	26	32	21	12	4	2	.	120
-NNW-	.	1	3	12	28	75	39	16	7	.	.	181
TOTAL	2	30	104	227	513	953	731	473	135	30	1	3199

10M WIND SPEED/DIRECTION/DELTA-T STABILITY
STABILITY CLASSES BASED ON DELTA-T BETWEEN UPPER-LOWER LEVELS

PASQUILL STABILITY E

	WIND SPEED CLASS										
	0.45-0.74	0.75-0.99	1.00-1.24	1.25-1.49	1.50-1.99	2.00-2.99	3.00-3.99	4.00-4.99	5.00-5.99	6.00-7.99	TOTAL
	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.
SECTOR											
-N-	.	1	1	4	8	51	45	28	3	5	146
-NNE-	.	.	1	2	5	7	9	30	16	6	76
-NE-	.	1	1	.	1	5	11	10	6	2	37
-ENE-	.	1	1	2	.	2	4	3	5	.	18
-E-	.	.	2	1	3	7	4	1	.	.	18
-ESE-	.	.	4	1	4	10	1	2	1	.	23
-SE-	1	2	4	4	12	20	13	7	4	.	67
-SSE-	.	3	16	24	42	44	17	2	1	.	149
-S-	1	3	19	62	112	92	10	3	1	1	304
-SSW-	1	9	25	72	139	123	51	9	3	2	434
-SW-	.	11	33	49	60	52	24	4	1	.	234
-WSW-	.	11	19	26	26	17	3	.	.	.	102
-W-	1	8	23	15	27	17	1	.	.	.	92
-WNW-	1	7	8	23	34	37	20	4	.	.	134
-NW-	.	3	9	17	38	73	26	8	3	.	177
-NNW-	.	2	5	5	36	87	54	16	2	3	210
TOTAL	5	62	171	307	547	644	293	127	46	19	2221

CATAWBA NUCLEAR STN. METEOROLOGY (2003) PROG=XOQFREQ 14:36 Thursday, February 12, 2004 6
10M WIND SPEED/DIRECTION/DELTA-T STABILITY
STABILITY CLASSES BASED ON DELTA-T BETWEEN UPPER-LOWER LEVELS

PASQUILL STABILITY F

	WIND SPEED CLASS									
	0.45-0.74	0.75-0.99	1.00-1.24	1.25-1.49	1.50-1.99	2.00-2.99	3.00-3.99	4.00-4.99	5.00-5.99	TOTAL
	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.
SECTOR										
-N-	.	1	.	5	6	20	8	.	.	40
-NNE-	.	.	1	.	.	1	1	.	.	3
-NE-	.	1	.	.	.	.	.	.	1	2
-ESE-	.	1	.	.	.	.	.	.	.	1
-SE-	.	1	.	2	1	1	3	4	.	12
-SSE-	1	4	5	8	11	5	1	1	.	36
-S-	1	3	18	37	48	6	.	.	.	113
-SSW-	.	6	22	31	34	6	1	.	.	100
-SW-	2	9	21	15	16	6	.	.	.	69
-WSW-	.	2	13	12	20	1	.	.	.	48
-W-	.	7	6	9	22	16	.	.	.	60
-WNW-	.	9	7	14	12	26	2	.	.	70
-NW-	.	9	14	16	17	14	1	1	.	72
-NNW-	3	3	9	13	36	40	9	1	.	114
TOTAL	7	56	116	162	223	142	26	7	1	740

10M WIND SPEED/DIRECTION/DELTA-T STABILITY

STABILITY CLASSES BASED ON DELTA-T BETWEEN UPPER-LOWER LEVELS

PASQUILL STABILITY G

	WIND SPEED CLASS							
	0.45-0.74	0.75-0.99	1.00-1.24	1.25-1.49	1.50-1.99	2.00-2.99	3.00-3.99	TOTAL
	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.
SECTOR								
-N-	1	2	.	3	14	17	2	39
-SE-	.	1	.	.	.	.	.	1
-SSE-	.	1	2	9	6	2	.	20
-S-	1	19	22	35	23	.	.	100
-SSW-	3	24	35	18	21	3	.	104
-SW-	6	15	26	22	13	4	.	86
-WSW-	4	19	14	16	11	3	.	67
-W-	5	17	15	10	10	10	.	67
-WNW-	3	21	7	13	9	1	1	55
-NW-	5	16	19	21	8	4	.	73
-NNW-	.	7	13	30	46	22	2	120
-CALM-	2	.	.	.	.	.	.	2
TOTAL	30	142	153	177	161	66	5	734

CATAWBA NUCLEAR STN. METEOROLOGY (2003) PROG=XOQFREQ 14:36 Thursday, February 12, 2004 8
10M WIND SPEED/DIRECTION/DELTA-T STABILITY
STABILITY CLASSES BASED ON DELTA-T BETWEEN UPPER-LOWER LEVELS

ALL STABILITY CLASSES

	WIND SPEED CLASS											
	0.45-0.74	0.75-0.99	1.00-1.24	1.25-1.49	1.50-1.99	2.00-2.99	3.00-3.99	4.00-4.99	5.00-5.99	6.00-7.99	8.00-9.99	TOTAL
	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.
SECTOR												
-N-	1	4	9	20	55	212	260	175	40	15	.	791
-NNE-	.	.	3	5	20	46	197	297	89	17	1	675
-NE-	.	3	1	1	10	27	88	104	29	3	.	266
-ENE-	.	2	1	2	7	26	19	17	18	4	.	96
-E-	.	1	3	4	9	25	18	2	.	.	.	62
-ESE-	.	2	4	7	17	21	4	4	1	.	.	60
-SE-	1	4	5	18	38	59	42	18	5	.	.	190
-SSE-	1	12	33	63	117	169	63	18	7	.	.	483
-S-	4	26	67	153	284	303	66	23	4	1	.	931
-SSW-	5	43	96	159	310	455	265	80	21	6	.	1440
-SW-	8	37	101	119	176	244	111	38	10	4	.	848
-WSW-	4	36	62	81	101	111	28	7	.	.	.	430
-W-	6	34	56	53	98	97	28	9	2	1	.	384
-WNW-	4	42	29	69	82	104	58	34	10	5	.	437
-NW-	5	31	47	69	93	137	64	38	16	3	.	503
-NNW-	3	13	30	61	146	237	122	44	24	13	.	693
-CALM-	2	.	.	.	.	.	.	.	.	.	.	2
TOTAL	44	290	547	884	1563	2273	1433	908	276	72	1	8291

ATTACHMENT V

Unplanned Offsite Releases

CATAWBA NUCLEAR STATION

UNPLANNED RELEASES

(January 1, 2003 through December 31, 2003)

There were no unplanned liquid or gaseous radioactive effluent releases to the environment in 2003.

ATTACHMENT VI

Assessment of Radiation Dose from

Radioactive Effluents to

Members of the Public

(includes fuel cycle dose calculation results)

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT
PERIOD 1/1/03 TO 1/1/04
GASEOUS ANNUAL DOSE SUMMARY REPORT

Catawba Nuclear Station Units 1 & 2

1st Quarter 2003

=== IODINE, H3, AND PARTICULATE DOSE LIMIT ANALYSIS======= Quarter 1 2003 ====

Period-Limit	Critical Group	Critical Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Q1 - Maximum Organ Dose	CHILD	LIVER	2.92E-01	1.50E+01	1.95E+00

Maximum Organ Dose Receptor Location: 0.5 Mile N
Critical Pathway: Vegetation

Major Isotopic Contributors (5% or greater to total)

Nuclide	Percentage
H-3	1.00E+02

=== NOBLE GAS DOSE LIMIT ANALYSIS========== Quarter 1 2003 ====

Period-Limit	Dose (mrad)	Limit (mrad)	% of Limit
Q1 - Maximum Gamma Air Dose	4.75E-03	1.00E+01	4.75E-02

Maximum Gamma Air Dose Receptor Location: 0.5 Mile NNE

Major Isotopic Contributors (5% or greater to total)

Nuclide	Percentage
AR-41	9.82E+01

Q1 - Maximum Beta Air Dose	1.85E-03	2.00E+01	9.26E-03

Maximum Beta Air Dose Receptor Location: 0.5 Mile NNE

Major Isotopic Contributors (5% or greater to total)

Nuclide	Percentage
AR-41	8.88E+01
XE-133	9.55E+00

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT
PERIOD 1/1/03 TO 1/1/04
GASEOUS ANNUAL DOSE SUMMARY REPORT

Catawba Nuclear Station Units 1 & 2

2nd Quarter 2003

=== IODINE, H3, AND PARTICULATE DOSE LIMIT ANALYSIS======= Quarter 2 2003 ====

Period-Limit	Critical Group	Critical Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Q2 - Maximum Organ Dose	CHILD	LIVER	2.58E-01	1.50E+01	1.72E+00

Maximum Organ Dose Receptor Location: 0.5 Mile N
Critical Pathway: Vegetation

Major Isotopic Contributors (5% or greater to total)

Nuclide	Percentage
H-3	1.00E+02

=== NOBLE GAS DOSE LIMIT ANALYSIS========== Quarter 2 2003 ====

Period-Limit	Dose (mrad)	Limit (mrad)	% of Limit
Q2 - Maximum Gamma Air Dose	3.99E-03	1.00E+01	3.99E-02

Maximum Gamma Air Dose Receptor Location: 0.5 Mile NNE

Major Isotopic Contributors (5% or greater to total)

Nuclide	Percentage
AR-41	9.77E+01

Q2 - Maximum Beta Air Dose	1.71E-03	2.00E+01	8.55E-03

Maximum Beta Air Dose Receptor Location: 0.5 Mile NNE

Major Isotopic Contributors (5% or greater to total)

Nuclide	Percentage
AR-41	8.04E+01
XE-133	1.58E+01

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT
PERIOD 1/1/03 TO 1/1/04
GASEOUS ANNUAL DOSE SUMMARY REPORT

Catawba Nuclear Station Units 1 & 2

3rd Quarter 2003

=== IODINE, H3, AND PARTICULATE DOSE LIMIT ANALYSIS======= Quarter 3 2003 ====

Period-Limit	Critical Group	Critical Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Q3 - Maximum Organ Dose	CHILD	LIVER	1.64E-01	1.50E+01	1.09E+00

Maximum Organ Dose Receptor Location: 0.5 Mile N
Critical Pathway: Vegetation

Major Isotopic Contributors (5% or greater to total)

Nuclide	Percentage
H-3	1.00E+02

=== NOBLE GAS DOSE LIMIT ANALYSIS========== Quarter 3 2003 ====

Period-Limit	Dose (mrad)	Limit (mrad)	% of Limit
Q3 - Maximum Gamma Air Dose	5.83E-03	1.00E+01	5.83E-02

Maximum Gamma Air Dose Receptor Location: 0.5 Mile NNE

Major Isotopic Contributors (5% or greater to total)

Nuclide	Percentage
AR-41	9.51E+01

Q3 - Maximum Beta Air Dose	3.23E-03	2.00E+01	1.61E-02

Maximum Beta Air Dose Receptor Location: 0.5 Mile NNE

Major Isotopic Contributors (5% or greater to total)

Nuclide	Percentage
AR-41	6.06E+01
XE-133	2.42E+01
KR-85	1.38E+01

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT
PERIOD 1/1/03 TO 1/1/04
GASEOUS ANNUAL DOSE SUMMARY REPORT

Catawba Nuclear Station Units 1 & 2

4th Quarter 2003

=== IODINE, H3, AND PARTICULATE DOSE LIMIT ANALYSIS======= Quarter 4 2003 ====

Period-Limit	Critical Group	Critical Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Q4 - Maximum Organ Dose	CHILD	LIVER	2.95E-01	1.50E+01	1.97E+00

Maximum Organ Dose Receptor Location: 0.5 Mile N
Critical Pathway: Vegetation

Major Isotopic Contributors (5% or greater to total)

Nuclide	Percentage
H-3	1.00E+02

=== NOBLE GAS DOSE LIMIT ANALYSIS========== Quarter 4 2003 ====

Period-Limit	Dose (mrad)	Limit (mrad)	% of Limit
Q4 - Maximum Gamma Air Dose	6.89E-03	1.00E+01	6.89E-02

Maximum Gamma Air Dose Receptor Location: 0.5 Mile NNE

Major Isotopic Contributors (5% or greater to total)

Nuclide	Percentage
AR-41	6.68E+01
XE-133	3.15E+01

Q4 - Maximum Beta Air Dose	9.20E-03	2.00E+01	4.60E-02

Maximum Beta Air Dose Receptor Location: 0.5 Mile NNE

Major Isotopic Contributors (5% or greater to total)

Nuclide	Percentage
XE-133	7.02E+01
AR-41	1.76E+01
KR-85	1.01E+01

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT
PERIOD 1/1/03 TO 1/1/04
GASEOUS ANNUAL DOSE SUMMARY REPORT

Catawba Nuclear Station Units 1 & 2

ANNUAL 2003

=== IODINE, H3, AND PARTICULATE DOSE LIMIT ANALYSIS======= Annual 2003 ========

Period-Limit	Critical Group	Critical Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Yr - Maximum Organ Dose	CHILD	LIVER	1.01E+00	3.00E+01	3.36E+00

Maximum Organ Dose Receptor Location: 0.5 Mile N
Critical Pathway: Vegetation

Major Isotopic Contributors (5% or greater to total)

Nuclide	Percentage
H-3	1.00E+02

=== NOBLE GAS DOSE LIMIT ANALYSIS========== Annual 2003 ========

Period-Limit	Dose (mrad)	Limit (mrad)	% of Limit
Yr - Maximum Gamma Air Dose	2.15E-02	2.00E+01	1.07E-01

Maximum Gamma Air Dose Receptor Location: 0.5 Mile NNE

Major Isotopic Contributors (5% or greater to total)

Nuclide	Percentage
AR-41	8.72E+01
XE-133	1.20E+01

Yr - Maximum Beta Air Dose	1.60E-02	4.00E+01	4.00E-02

Maximum Beta Air Dose Receptor Location: 0.5 Mile NNE

Major Isotopic Contributors (5% or greater to total)

Nuclide	Percentage
XE-133	4.81E+01
AR-41	4.13E+01
KR-85	9.01E+00

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT
PERIOD 1/1/03 TO 1/1/04
LIQUID ANNUAL DOSE SUMMARY REPORT

Catawba Nuclear Station Units 1 & 2

1st Quarter 2003

=== BATCH LIQUID RELEASES ========== Quarter 1 2003 ======

Period-Limit	Critical Age	Critical Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Q1 - Maximum Organ Dose	CHILD	LIVER	3.55E-02	1.00E+01	3.55E-01
Q1 - Total Body Dose	ADULT		3.13E-02	3.00E+00	1.04E+00

Maximum Organ
Critical Pathway: Potable Water
Major Isotopic Contributors (5% or greater to total)

Nuclide	Percentage
H-3	8.03E+01
CS-137	1.71E+01

Total Body
Critical Pathway: Potable Water
Major Isotopic Contributors (5% or greater to total)

Nuclide	Percentage
H-3	8.35E+01
CS-137	1.35E+01

=== CONTINUOUS LIQUID RELEASES (WC) ========== Quarter 1 2003 ======

Period-Limit	Critical Age	Critical Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Q1 - Maximum Organ Dose	CHILD	LIVER	3.42E-03	1.00E+01	3.42E-02
Q1 - Total Body Dose	CHILD		3.42E-03	3.00E+00	1.14E-01

Maximum Organ
Critical Pathway: Potable Water
Major Isotopic Contributors (5% or greater to total)

Nuclide	Percentage
H-3	1.00E+02

Total Body
Critical Pathway: Potable Water
Major Isotopic Contributors (5% or greater to total)

Nuclide	Percentage
H-3	1.00E+02

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT
PERIOD 1/1/03 TO 1/1/04
LIQUID ANNUAL DOSE SUMMARY REPORT

Catawba Nuclear Station Units 1 & 2

2nd Quarter 2003

=== BATCH LIQUID RELEASES ========== Quarter 2 2003 ======

Period-Limit	Critical Age	Critical Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Q2 - Maximum Organ Dose	ADULT	GI-LLI	2.39E-02	1.00E+01	2.39E-01
Q2 - Total Body Dose	CHILD		1.99E-02	3.00E+00	6.63E-01

Maximum Organ
Critical Pathway: Fresh Water Fish
Major Isotopic Contributors (5% or greater to total)

Nuclide	Percentage
H-3	7.21E+01
CO-58	9.90E+00
NB-95	9.72E+00
CO-60	5.29E+00

Total Body
Critical Pathway: Potable Water
Major Isotopic Contributors (5% or greater to total)

Nuclide	Percentage
H-3	9.46E+01

=== CONTINUOUS LIQUID RELEASES (WC) ========== Quarter 2 2003 ======

Period-Limit	Critical Age	Critical Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Q2 - Maximum Organ Dose	CHILD	LIVER	1.42E-03	1.00E+01	1.42E-02
Q2 - Total Body Dose	CHILD		1.42E-03	3.00E+00	4.74E-02

Maximum Organ
Critical Pathway: Potable Water
Major Isotopic Contributors (5% or greater to total)

Nuclide	Percentage
H-3	1.00E+02

Total Body
Critical Pathway: Potable Water
Major Isotopic Contributors (5% or greater to total)

Nuclide	Percentage
H-3	1.00E+02

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT
PERIOD 1/1/03 TO 1/1/04
LIQUID ANNUAL DOSE SUMMARY REPORT

Catawba Nuclear Station Units 1 & 2

3rd Quarter 2003

=== BATCH LIQUID RELEASES ========== Quarter 3 2003 ======

Period-Limit	Critical Age	Critical Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Q3 - Maximum Organ Dose	CHILD	LIVER	2.96E-02	1.00E+01	2.96E-01
Q3 - Total Body Dose	CHILD		2.64E-02	3.00E+00	8.80E-01

Maximum Organ
Critical Pathway: Potable Water
Major Isotopic Contributors (5% or greater to total)

Nuclide	Percentage
H-3	8.30E+01
CS-137	1.32E+01

Total Body
Critical Pathway: Potable Water
Major Isotopic Contributors (5% or greater to total)

Nuclide	Percentage
H-3	9.29E+01

=== CONTINUOUS LIQUID RELEASES (WC) ========== Quarter 3 2003 ======

Period-Limit	Critical Age	Critical Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Q3 - Maximum Organ Dose	CHILD	LIVER	6.43E-04	1.00E+01	6.43E-03
Q3 - Total Body Dose	CHILD		6.43E-04	3.00E+00	2.14E-02

Maximum Organ
Critical Pathway: Potable Water
Major Isotopic Contributors (5% or greater to total)

Nuclide	Percentage
H-3	1.00E+02

Total Body
Critical Pathway: Potable Water
Major Isotopic Contributors (5% or greater to total)

Nuclide	Percentage
H-3	1.00E+02

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT
PERIOD 1/1/03 TO 1/1/04
LIQUID ANNUAL DOSE SUMMARY REPORT

Catawba Nuclear Station Units 1 & 2

4th Quarter 2003

=== BATCH LIQUID RELEASES ========== Quarter 4 2003 ======

Period-Limit	Critical Age	Critical Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Q4 - Maximum Organ Dose	ADULT	GI-LLI	2.62E-02	1.00E+01	2.62E-01
Q4 - Total Body Dose	ADULT		2.15E-02	3.00E+00	7.17E-01

Maximum Organ
Critical Pathway: Fresh Water Fish
Major Isotopic Contributors (5% or greater to total)

Nuclide	Percentage
H-3	6.65E+01
NB-95	1.16E+01
CO-60	1.06E+01
CO-58	5.44E+00

Total Body
Critical Pathway: Potable Water
Major Isotopic Contributors (5% or greater to total)

Nuclide	Percentage
H-3	8.10E+01
CS-137	1.39E+01

=== CONTINUOUS LIQUID RELEASES (WC) ========== Quarter 4 2003 ======

Period-Limit	Critical Age	Critical Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Q4 - Maximum Organ Dose	CHILD	LIVER	5.02E-04	1.00E+01	5.02E-03
Q4 - Total Body Dose	CHILD		5.02E-04	3.00E+00	1.67E-02

Maximum Organ
Critical Pathway: Potable Water
Major Isotopic Contributors (5% or greater to total)

Nuclide	Percentage
H-3	1.00E+02

Total Body
Critical Pathway: Potable Water
Major Isotopic Contributors (5% or greater to total)

Nuclide	Percentage
H-3	1.00E+02

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT
PERIOD 1/1/03 TO 1/1/04
LIQUID ANNUAL DOSE SUMMARY REPORT

Catawba Nuclear Station Units 1 & 2

ANNUAL 2003

=== BATCH LIQUID RELEASES ========== Annual 2003 =========

Period-Limit	Critical Age	Critical Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Yr - Maximum Organ Dose	ADULT	GI-LLI	1.14E-01	2.00E+01	5.68E-01
Yr - Total Body Dose	ADULT		9.93E-02	6.00E+00	1.66E+00

Maximum Organ
Critical Pathway: Fresh Water Fish
Major Isotopic Contributors (5% or greater to total)

Nuclide	Percentage
H-3	7.40E+01
CO-60	8.71E+00
NB-95	8.42E+00
CO-58	5.51E+00

Total Body
Critical Pathway: Potable Water
Major Isotopic Contributors (5% or greater to total)

Nuclide	Percentage
H-3	8.47E+01
CS-137	1.14E+01

=== CONTINUOUS LIQUID RELEASES (WC) ========== Annual 2003 =========

Period-Limit	Critical Age	Critical Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Yr - Maximum Organ Dose	CHILD	LIVER	6.19E-03	2.00E+01	3.09E-02
Yr - Total Body Dose	CHILD		6.19E-03	6.00E+00	1.03E-01

Maximum Organ
Critical Pathway: Potable Water
Major Isotopic Contributors (5% or greater to total)

Nuclide	Percentage
H-3	1.00E+02

Total Body
Critical Pathway: Potable Water
Major Isotopic Contributors (5% or greater to total)

Nuclide	Percentage
H-3	1.00E+02

Catawba Nuclear Station
2003 Radioactive Effluent Releases
40CFR190 Uranium Fuel Cycle Dose* Calculation Results

Maximum Total Body Dose = 1.11E+00 mrem

Maximum Location: 0.5 Mile, North Sector
Critical Age = Child

Liquid and Gas Effluent Contribution to Maximum Total Body Dose

Liquid Effluent Dose = 9.89E-02 mrem = 9% of total

Critical Path = Potable Water
Major Contributors = H-3 (93.1%)

Gas Effluent Dose = 1.01E+00 mrem = 91% of total

Critical Path = Vegetation
Major Contributor = H-3 (100%)

Maximum Organ Dose = 1.12E+00 mrem

Maximum Location: 0.5 Mile, North Sector
Critical Age = Child
Critical Organ = Liver

Liquid and Gas Effluent Contribution to Maximum Organ Dose

Liquid Effluent Dose = 1.12E-01 mrem = 10% of total

Critical Path = Potable Water
Major Contributors = H-3 (82.0%)
Cs-137 (14.5%)

Gas Effluent Dose = 1.01E+00 mrem = 90% of total

Critical Path = Vegetation
Major Contributor = H-3 (100%)

* Annual dose limits from 40CFR190.10(a) of 25 mrem whole body, 75 mrem to the thyroid, and 25 mrem to any other organ.