Duke Energy®
Carolinas

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April 30, 2008

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

Subject: Duke Energy Carolinas, LLC
Catawba Nuclear Station, Units 1 and 2
Docket Nos. 50-413 and 50-414
2007 Annual Radioactive Effluent Release Report

Pursuant to Catawba Nuclear Station Technical Specification (TS) 5.6.3 and Selected Licensee Commitment 16.11-16, please find attached the Catawba Annual Radioactive Effluent Release Report for the period of January 1, 2007 through December 31, 2007. In accordance with Catawba TS 5.5.1, the Offsite Dose Calculation Manual (ODCM) is included in this submittal.

Attachment I	Radioactive Effluent Releases
Attachment II	Supplemental Information
Attachment III	Solid Waste Disposal Report
Attachment IV	Meteorological Data
Attachment V	Unplanned Offsite Releases
Attachment VI	Assessment of Radiation Dose from Radioactive Effluents to Members of the Public (includes fuel cycle dose calculation results)
Attachment VII	Revisions to UFSAR Section 16.11 Radiological Effluent Controls
Attachment VIII	Revisions to the Radioactive Waste Process Control Program Manual [CD-ROM]
Attachment IX	Information to Support the NEI Groundwater Protection Initiative
Enclosure	2008 Offsite Dose Calculation Manual (changes described in Chapter 7) [CD-ROM]

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A009
NRR

Any questions concerning this report should be directed to Marc Sawicki at 803 701-5191.

Sincerely,

James R. Morris

Attachments and Enclosures (Process Control Program (PCP) Revision Compact Disc (CD) and Offsite Dose Calculation Manual (ODCM))

xc (with attachment and enclosure):

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U.S. Nuclear Regulatory Commission-Region II
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ATTACHMENT I

Summary of Gaseous and Liquid 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 1/1/07 TO 1/1/08
GASEOUS EFFLUENTS - SUMMATION OF ALL RELEASES

Catawba Nuclear Station Units 1 & 2

REPORT FOR 2007	Unit	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
A. Fission and Activation Gases						
1. Total Release	Ci	1.07E+00	1.07E+00	1.77E+00	7.28E-01	4.65E+00
2. Avg. Release Rate	µCi/sec	1.38E-01	1.37E-01	2.23E-01	9.16E-02	1.47E-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	3.08E+01	4.39E+01	5.17E+01	6.15E+01	1.88E+02
2. Avg. Release Rate	µCi/sec	3.96E+00	5.59E+00	6.51E+00	7.74E+00	5.96E+00
E. Gross Alpha Radioactivity						
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

TABLE 1B

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT
PERIOD 1/1/07 TO 1/1/08
GASEOUS EFFLUENTS - ELEVATED RELEASES - BATCH MODE

Catawba Nuclear Station Units 1 & 2

REPORT FOR 2007	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 **		.....	.....	.....	.....	.....
5. Gross Alpha Radioactivity						
** No Nuclide Activities **		.....	.....	.....	.....	.....

TABLE 1B

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT
PERIOD 1/1/07 TO 1/1/08
GASEOUS EFFLUENTS - ELEVATED RELEASES - CONTINUOUS MODE

Catawba Nuclear Station Units 1 & 2

REPORT FOR 2007	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 **		.....	.....	.....	.....	.....
5. Gross Alpha Radioactivity						
** No Nuclide Activities **		.....	.....	.....	.....	.....

TABLE 1C

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT
PERIOD 1/1/07 TO 1/1/08
GASEOUS EFFLUENTS - GROUND RELEASES - CONTINUOUS MODE

Catawba Nuclear Station Units 1 & 2

REPORT FOR 2007	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	3.04E+01	4.37E+01	4.82E+01	5.81E+01	1.80E+02
Totals for Period...	Ci	3.04E+01	4.37E+01	4.82E+01	5.81E+01	1.80E+02
5. Gross Alpha Radioactivity						
** No Nuclide Activities **		.....	.....	.....	.....	.....

TABLE 1C

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT
PERIOD 1/1/07 TO 1/1/08
GASEOUS EFFLUENTS - GROUND RELEASES - BATCH MODE

Catawba Nuclear Station Units 1 & 2

REPORT FOR 2007	Unit	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
1. Fission and Activation Gases						
AR-41	Ci	6.99E-01	7.65E-01	7.65E-01	5.06E-01	2.73E+00
KR-85	Ci	0.00E+00	1.40E-02	0.00E+00	0.00E+00	1.40E-02
KR-85M	Ci	0.00E+00	1.35E-03	0.00E+00	0.00E+00	1.35E-03
KR-88	Ci	0.00E+00	2.87E-03	0.00E+00	0.00E+00	2.87E-03
XE-133	Ci	3.55E-01	2.73E-01	9.17E-01	2.14E-01	1.76E+00
XE-135	Ci	1.92E-02	1.87E-02	9.27E-02	7.88E-03	1.38E-01
Totals for Period...	Ci	1.07E+00	1.07E+00	1.77E+00	7.28E-01	4.65E+00
2. Iodines						
** No Nuclide Activities **		.....	.....	.....	.....	.....
3. Particulates Half Life >= 8 days						
** No Nuclide Activities **		.....	.....	.....	.....	.....
4. Tritium						
H-3	Ci	3.18E-01	2.17E-01	3.54E+00	3.40E+00	7.48E+00
Totals for Period...	Ci	3.18E-01	2.17E-01	3.54E+00	3.40E+00	7.48E+00
5. Gross Alpha Radioactivity						
** No Nuclide Activities **		.....	.....	.....	.....	.....

TABLE 2A

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT
PERIOD 1/1/07 TO 1/1/08
LIQUID EFFLUENTS - SUMMATION OF ALL RELEASES

Catawba Nuclear Station Units 1 & 2

REPORT FOR 2007	Unit	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
A. Fission and Activation Products						
1. Total Release	Ci	1.33E-02	1.35E-02	1.89E-02	8.64E-03	5.43E-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	5.34E-10	4.26E-10	4.47E-10	3.54E-10	4.41E-10
B. Tritium						
1. Total Release	Ci	4.11E+02	4.74E+02	3.06E+02	1.97E+02	1.39E+03
2. Average Diluted Concentration						
a. Continuous Releases	µCi/ml	3.60E-07	1.71E-07	1.18E-07	2.94E-07	2.16E-07
b. Batch Releases	µCi/ml	1.65E-05	1.49E-05	7.23E-06	8.03E-06	1.12E-05
C. Dissolved and Entrained Gases						
1. Total Release	Ci	0.00E+00	7.31E-06	3.02E-06	0.00E+00	1.03E-05
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	2.31E-13	7.14E-14	0.00E+00	8.38E-14
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	1.49E+08	9.25E+07	1.13E+08	8.24E+07	4.37E+08
2. Batch Releases	liters	1.28E+06	1.53E+06	2.21E+06	1.28E+06	6.31E+06
F. Volume of Dilution Water						
1. Continuous Releases	liters	2.49E+09	3.17E+09	4.23E+09	2.44E+09	1.23E+10
2. Batch Releases	liters	2.49E+10	3.17E+10	4.23E+10	2.44E+10	1.23E+11

TABLE 2B

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT
PERIOD 1/1/07 TO 1/1/08
LIQUID EFFLUENTS - CONTINUOUS MODE

Catawba Nuclear Station Units 1 & 2

REPORT FOR 2007	Unit	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
1. Fission and Activation Products						
** No Nuclide Activities **		.....	.....	.....	.....	.....
2. Tritium						
H-3	Ci	9.51E-01	5.59E-01	5.12E-01	7.42E-01	2.76E+00
Totals for Period...	Ci	9.51E-01	5.59E-01	5.12E-01	7.42E-01	2.76E+00
3. Dissolved and Entrained Gases						
** No Nuclide Activities **		.....	.....	.....	.....	.....
4. Gross Alpha Radioactivity						
** No Nuclide Activities **		.....	.....	.....	.....	.....

TABLE 2B

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT
PERIOD 1/1/07 TO 1/1/08
LIQUID EFFLUENTS - BATCH MODE

Catawba Nuclear Station Units 1 & 2

REPORT FOR 2007	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	7.34E-06	7.34E-06
AG-110M	Ci	0.00E+00	2.31E-05	0.00E+00	2.88E-05	5.19E-05
BE-7	Ci	2.39E-04	2.51E-04	0.00E+00	0.00E+00	4.90E-04
CO-57	Ci	0.00E+00	5.67E-06	8.88E-06	0.00E+00	1.45E-05
CO-58	Ci	7.05E-03	3.32E-03	4.40E-03	2.77E-03	1.75E-02
CO-60	Ci	7.68E-04	2.44E-03	5.73E-03	1.69E-03	1.06E-02
CR-51	Ci	7.97E-04	1.29E-04	8.96E-04	3.37E-03	5.20E-03
CS-134	Ci	0.00E+00	0.00E+00	8.03E-07	0.00E+00	8.03E-07
CS-137	Ci	1.27E-05	1.14E-05	1.08E-04	3.90E-05	1.71E-04
F-18	Ci	0.00E+00	0.00E+00	2.66E-06	7.25E-06	9.90E-06
FE-59	Ci	1.32E-04	0.00E+00	5.73E-04	4.06E-04	1.11E-03
K-40	Ci	0.00E+00	0.00E+00	0.00E+00	4.98E-05	4.98E-05
MN-54	Ci	3.18E-05	1.48E-04	5.04E-04	9.52E-05	7.79E-04
NB-95	Ci	3.28E-05	0.00E+00	9.51E-05	2.19E-05	1.50E-04
NB-97	Ci	0.00E+00	4.40E-05	0.00E+00	5.65E-05	1.01E-04
RB-86	Ci	0.00E+00	0.00E+00	3.81E-05	0.00E+00	3.81E-05
SB-124	Ci	7.66E-04	7.73E-04	2.26E-04	0.00E+00	1.76E-03
SB-125	Ci	3.41E-03	6.35E-03	6.28E-03	8.28E-05	1.61E-02
SN-113	Ci	0.00E+00	0.00E+00	2.85E-05	3.96E-06	3.24E-05
ZR-95	Ci	5.29E-05	0.00E+00	1.85E-05	0.00E+00	7.14E-05
Totals for Period...	Ci	1.33E-02	1.35E-02	1.89E-02	8.64E-03	5.43E-02
2. Tritium						
H-3	Ci	4.10E+02	4.73E+02	3.06E+02	1.96E+02	1.38E+03
Totals for Period...	Ci	4.10E+02	4.73E+02	3.06E+02	1.96E+02	1.38E+03
3. Dissolved and Entrained Gases						
XE-133M	Ci	0.00E+00	0.00E+00	3.02E-06	0.00E+00	3.02E-06
XE-135	Ci	0.00E+00	7.31E-06	0.00E+00	0.00E+00	7.31E-06
Totals for Period...	Ci	0.00E+00	7.31E-06	3.02E-06	0.00E+00	1.03E-05
4. Gross Alpha Radioactivity						
** No Nuclide Activities **		.....	.....	.....	.....	.....

ATTACHMENT II

Supplemental Information

To the

Gaseous and Liquid Effluents Report

CATAWBA NUCLEAR STATION

2007 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. GASEOUS EFFLUENTS - 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

ANALYSES OF SPECIFIC RADIONUCLIDES IN SELECTED OR COMPOSITED SAMPLES AS DESCRIBED IN THE SELECTED LICENSEE COMMITMENTS ARE USED TO DETERMINE THE RADIONUCLIDE COMPOSITION OF THE EFFLUENT. SUPPLEMENTAL REPORT, PAGE 2, PROVIDES A SUMMARY DESCRIPTION OF THE METHOD USED FOR ESTIMATING OVERALL ERRORS ASSOCIATED WITH RADIOACTIVITY MEASUREMENTS.

V. BATCH RELEASES

A. LIQUID EFFLUENT

1. 1.15E+02 = TOTAL NUMBER OF BATCH RELEASES
2. 8.39E+03 = TOTAL TIME (MIN.) FOR BATCH RELEASES.
3. 1.01E+02 = MAXIMUM TIME (MIN.) FOR A BATCH RELEASE.
4. 7.29E+01 = AVERAGE TIME (MIN.) FOR A BATCH RELEASE.
5. 3.60E+01 = MINIMUM TIME (MIN.) FOR A BATCH RELEASE.
6. 6.18E+04 = AVERAGE DILUTION WATER FLOW DURING RELEASES (GPM).

B. GASEOUS EFFLUENT

1. 6.60E+01 = TOTAL NUMBER OF BATCH RELEASES.
2. 9.87E+05 = TOTAL TIME (MIN.) FOR BATCH RELEASES.
3. 4.44E+04 = MAXIMUM TIME (MIN.) FOR A BATCH RELEASE.
4. 1.50E+04 = AVERAGE TIME (MIN.) FOR A BATCH RELEASE.
5. 1.10E+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 Radioactive Waste Disposal Report

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

REPORT PERIOD 1/1/2007 TO 12/31/2007

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	5	5	3 A S 2 B	5 HIC	858.0	24.30	242.150
(C) Evaporator Concentrates	0	0	NA	NA	0.0	0.00	0.000
(D) Dewatered Mechanical Filters	2	2	2 C	2 HIC	240.6	6.81	47.100
(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)	1	1	1 A S	1 HIC	120.3	3.41	0.957
(C) Dry Active Waste (brokered)	NA	NA	NA	NA	21,510.8	609.19	2.808
(D) Irradiated Components	0	0	NA	NA	0.0	0.00	0.000
3. All Solid Waste	8 *	8 *	NA *	NA *	22,729.7	643.70	293.015

* Does not included brokered Dry Active Waste totals.

CATAWBA NUCLEAR STATION - SOLID RADIOACTIVE WASTE

SUMMARY OF PRINCIPAL RADIONUCLIDE COMPOSITION

REPORT PERIOD 1/1/2007 TO 12/31/2007

Type of Waste Shipped	Radionuclide	% Abundance *
1. Waste from Liquid Systems		
(A) Dewatered Secondary Resins	(None shipped this period)	
(B) Dewatered Primary Resins	H-3	0.5%
	Cr-51	0.0%
	Mn-54	0.7%
	Co-57	0.2%
	Co-58	0.5%
	Fe-59	0.0%
	Co-60	5.7%
	Zn-65	0.0%
	Nb-94	0.0%
	Nb-95	0.0%
	Zr-95	0.0%
	Ag-108m	0.0%
	Ag-110m	0.0%
	Sn-113	0.0%
	Sb-122	0.0%
	Sb-124	0.0%
	Sb-125	0.1%
	Te-125m	0.0%
	I-131	0.0%
	Ba-133	0.0%
	Cs-134	0.2%
	Cs-137	0.7%
	Np-237	0.0%
	Ba/La-140	0.0%
	Ce-141	0.0%
	Ce-144	0.0%
	Pu-238	0.0%
	Pu-239	0.0%
	C-14	0.1%
	Fe-55	16.9%
	Ni-59	0.6%
	Ni-63	73.9%
	Sr-89	0.0%
	Sr-90	0.0%
	Tc-99	0.0%
	I-129	0.0%
	Am-241	0.0%
	Pu-241	0.0%
	Cm-242	0.0%
	Cm-243	0.0%
(C) Evaporator Concentrates	(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 1/1/2007 TO 12/31/2007

Type of Waste Shipped	Radionuclide	% Abundance *
(D) Dewatered Mechanical Filters	H-3	0.0%
	Cr-51	3.4%
	Mn-54	3.2%
	Co-57	0.2%
	Co-58	36.7%
	Fe-59	0.1%
	Co-60	17.8%
	Zn-65	0.2%
	Nb-94	0.0%
	Nb-95	0.7%
	Zr-95	1.3%
	Ag-108m	0.0%
	Ag-110m	0.0%
	Sn-113	0.0%
	Sb-122	0.0%
	Sb-124	0.0%
	Sb-125	0.7%
	Te-125m	0.0%
	I-131	0.0%
	Ba-133	0.0%
	Cs-134	0.0%
	Cs-137	0.3%
	Np-237	0.0%
	Ba/La-140	0.0%
	Ce-141	0.0%
	Ce-144	0.2%
	Pu-238	0.0%
	Pu-239	0.0%
	C-14	0.3%
	Fe-55	24.1%
	Ni-59	0.0%
	Ni-63	10.2%
	Sr-89	0.0%
	Sr-90	0.0%
	Tc-99	0.0%
	I-129	0.0%
	Am-241	0.0%
	Pu-241	0.7%
	Cm-242	0.0%
	Cm-243	0.0%
(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 1/1/2007 TO 12/31/2007

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)	H-3	0.0%
	Cr-51	0.0%
	Mn-54	2.1%
	Co-57	0.3%
	Co-58	27.8%
	Fe-59	0.0%
	Co-60	9.1%
	Zn-65	0.0%
	Nb-94	0.0%
	Nb-95	1.7%
	Zr-95	0.8%
	Ag-108m	0.0%
	Ag-110m	0.0%
	Sn-113	0.0%
	Sb-122	0.0%
	Sb-124	0.0%
	Sb-125	0.0%
	Te-125m	0.0%
	I-131	0.0%
	Ba-133	0.0%
	Cs-134	0.1%
	Cs-137	0.1%
	Np-237	0.0%
	Ba/La-140	0.0%
	Ce-141	0.0%
	Ce-144	0.8%
	Pu-238	0.0%
	Pu-239	0.0%
	C-14	0.0%
	Fe-55	41.2%
	Ni-59	0.0%
	Ni-63	15.7%
	Sr-89	0.0%
	Sr-90	0.2%
	Tc-99	0.0%
	I-129	0.0%
	Am-241	0.0%
	Pu-241	0.0%
	Cm-242	0.0%
	Cm-243	0.0%

* Average percent abundance for all shipments during period.

CATAWBA NUCLEAR STATION - SOLID RADIOACTIVE WASTE

SUMMARY OF PRINCIPAL RADIONUCLIDE COMPOSITION

REPORT PERIOD 1/1/2007 TO 12/31/2007

Type of Waste Shipped	Radionuclide	% Abundance *
(C) Dry Active Waste (brokered)	H-3	0.0%
	Cr-51	0.0%
	Mn-54	2.1%
	Co-57	0.3%
	Co-58	25.8%
	Fe-59	0.0%
	Co-60	9.4%
	Zn-65	0.0%
	Nb-94	0.0%
	Nb-95	1.5%
	Zr-95	0.8%
	Ag-108m	0.0%
	Ag-110m	0.0%
	Sn-113	0.0%
	Sb-122	0.0%
	Sb-124	0.0%
	Sb-125	0.0%
	Te-125m	0.0%
	I-131	0.0%
	Ba-133	0.0%
	Cs-134	0.1%
	Cs-137	0.1%
	Np-237	0.0%
	Ba/La-140	0.0%
	Ce-141	0.0%
	Ce-144	0.8%
	Pu-238	0.0%
	Pu-239	0.0%
	C-14	0.0%
	Fe-55	42.5%
	Ni-59	0.0%
	Ni-63	16.4%
	Sr-89	0.0%
	Sr-90	0.2%
	Tc-99	0.0%
	I-129	0.0%
	Am-241	0.0%
	Pu-241	0.0%
	Cm-242	0.0%
	Cm-243	0.0%
(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 1/1/2007 TO 12/31/2007

Type of Waste Shipped	Radionuclide	% Abundance *
3. All Solid Waste	H-3	0.5%
	Cr-51	0.5%
	Mn-54	1.1%
	Co-57	0.2%
	Co-58	6.6%
	Fe-59	0.0%
	Co-60	7.7%
	Zn-65	0.0%
	Nb-94	0.0%
	Nb-95	0.1%
	Zr-95	0.2%
	Ag-108m	0.0%
	Ag-110m	0.0%
	Sn-113	0.0%
	Sb-122	0.0%
	Sb-124	0.0%
	Sb-125	0.2%
	Te-125m	0.0%
	I-131	0.0%
	Ba-133	0.0%
	Cs-134	0.1%
	Cs-137	0.6%
	Np-237	0.0%
	Ba/La-140	0.0%
	Ce-141	0.0%
	Ce-144	0.0%
	Pu-238	0.0%
	Pu-239	0.0%
	C-14	0.1%
	Fe-55	18.3%
	Ni-59	0.5%
	Ni-63	63.0%
	Sr-89	0.0%
	Sr-90	0.0%
	Tc-99	0.0%
	I-129	0.0%
	Am-241	0.0%
	Pu-241	0.1%
	Cm-242	0.0%
	Cm-243	0.0%

* 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 (2007) PROG=XOQFREQ

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

PASQUILL STABILITY A

	WIND SPEED CLASS									
	0.45-0.74	1.00-1.24	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.
SECTOR										
-N-	.	.	.	6	6	32	17	1	.	62
-NNE-	.	.	1	.	4	37	12	16	.	70
-NE-	.	.	.	2	2	3	6	3	.	16
-ENE-	.	.	.	1	1	.	.	.	.	2
-E-	.	.	.	.	1	.	.	.	.	1
-ESE-	.	.	.	.	2	.	.	.	.	2
-SE-	.	.	3	4	4	.	.	.	.	11
-SSE-	1	.	1	38	12	.	.	.	.	52
-S-	.	.	1	28	7	2	.	.	.	38
-SSW-	.	.	6	72	52	12	1	.	.	143
-SW-	.	.	5	97	53	29	6	1	.	191
-WSW-	.	1	6	37	27	7	3	.	.	81
-W-	.	.	1	19	11	2	.	.	.	33
-WNW-	.	.	1	7	8	7	5	.	.	28
-NW-	.	.	.	3	7	7	3	4	5	29
-NNW-	.	.	.	7	6	8	5	5	.	31
TOTAL	1	1	25	321	203	146	58	30	5	790

CATAWBA NUCLEAR STN. METEOROLOGY (2007) PROG=XOQFREQ

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	8.00-9.99	TOTAL
	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.
SECTOR									
-N-	.	3	8	33	16	6	.	.	66
-NNE-	.	.	2	19	22	11	3	.	57
-NE-	.	1	3	5	8	4	.	.	21
-ENE-	.	3	1	1	1	.	.	.	6
-E-	.	1	6	1	.	.	.	.	8
-ESE-	.	3	1	.	.	.	.	.	4
-SE-	.	4	1	2	.	.	.	.	7
-SSE-	.	11	35	1	.	.	.	.	47
-S-	.	10	34	2	.	.	.	.	46
-SSW-	.	6	60	21	6	3	.	.	96
-SW-	.	12	35	8	4	2	1	.	62
-WSW-	1	5	21	4	.	1	.	.	32
-W-	.	3	12	2	1	.	.	.	18
-WNW-	.	1	10	7	3	2	.	.	23
-NW-	.	.	4	8	1	5	6	1	25
-NNW-	.	2	5	11	9	2	1	1	31
TOTAL	1	65	238	125	71	36	11	2	549

CATAWBA NUCLEAR STN. METEOROLOGY (2007) PROG=XOQFREQ

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

PASQUILL STABILITY C

	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	8.00-9.99	TOTAL
	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.
SECTOR									
-N-	.	2	26	38	10	3	.	.	79
-NNE-	.	3	22	25	34	13	1	.	98
-NE-	1	1	6	9	21	4	1	.	43
-ENE-	.	.	5	6	3	.	.	.	14
-E-	1	.	1	.	.	.	.	.	2
-ESE-	.	4	5	.	.	.	.	.	9
-SE-	.	4	8	2	.	.	.	.	14
-SSE-	.	16	35	4	.	.	.	.	55
-S-	1	18	26	1	.	.	.	.	46
-SSW-	4	26	44	11	10	2	.	.	97
-SW-	4	20	27	9	4	1	.	.	65
-WSW-	4	16	10	2	.	.	.	.	32
-W-	.	8	12	1	.	.	.	.	21
-WNW-	.	4	6	3	1	3	2	.	19
-NW-	.	2	7	5	4	4	1	2	25
-NNW-	1	2	9	9	4	2	2	.	29
TOTAL	16	126	249	125	91	32	7	2	648

CATAWBA NUCLEAR STN. METEOROLOGY (2007) PROG=XOQFREQ

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	TOTAL
	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.
SECTOR											
-N-	.	.	3	10	29	140	124	50	18	16	390
-NNE-	.	.	.	5	10	61	199	121	49	12	457
-NE-	.	1	1	1	9	22	80	44	11	3	172
-ENE-	.	.	.	4	3	4	29	16	6	2	64
-E-	.	1	3	2	2	8	4	.	.	.	20
-ESE-	.	1	2	4	6	10	3	1	.	.	27
-SE-	.	1	3	6	13	38	10	2	.	.	73
-SSE-	.	3	5	12	56	88	24	1	.	.	189
-S-	.	8	22	30	54	80	18	7	.	.	219
-SSW-	.	5	20	32	90	112	49	23	4	1	336
-SW-	.	7	17	34	63	70	28	12	2	.	233
-WSW-	.	4	10	24	36	29	11	2	2	.	118
-W-	1	4	15	22	18	13	2	.	.	.	75
-WNW-	.	.	9	18	16	19	4	8	6	4	84
-NW-	.	2	3	4	15	27	11	19	7	9	97
-NNW-	.	3	2	8	42	61	25	15	17	6	179
TOTAL	1	40	115	216	462	782	621	321	122	53	2733

CATAWBA NUCLEAR STN. METEOROLOGY (2007) PROG=XOQFREQ

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	8.00-9.99	TOTAL
	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.
SECTOR												
-N-	.	.	4	4	23	71	50	9	2	4	.	167
-NNE-	.	.	3	2	.	11	10	9	1	1	.	37
-NE-	1	.	.	1	5	1	12	9	6	3	.	38
-ENE-	2	.	.	.	1	6	3	1	.	.	.	13
-E-	.	1	.	3	3	3	.	2	.	.	.	12
-ESE-	.	3	2	1	2	6	4	2	.	.	.	20
-SE-	.	.	4	3	9	24	13	3	.	.	.	56
-SSE-	.	6	8	28	58	60	25	6	3	1	.	195
-S-	.	8	23	69	111	105	8	3	1	.	.	328
-SSW-	2	16	59	91	136	126	27	4	1	.	.	462
-SW-	1	25	40	46	44	33	15	5	.	.	.	209
-WSW-	3	20	25	35	31	10	1	.	.	.	1	126
-W-	3	18	16	22	21	16	2	.	.	.	.	98
-WNW-	1	12	17	20	37	31	7	.	.	.	.	125
-NW-	.	4	10	22	41	52	19	8	1	2	.	159
-NNW-	.	2	9	15	48	93	51	8	.	.	.	226
-CALM-	1	.	.	.	.	.	.	.	.	.	.	1
TOTAL	14	115	220	362	570	648	247	69	15	11	1	2272

CATAWBA NUCLEAR STN. METEOROLOGY (2007) PROG=XOQFREQ

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	>9.99 M/S	TOTAL
	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.
SECTOR										
-N-	.	3	.	3	7	30	8	.	.	51
-NNE-	.	.	.	1	.	2	2	.	.	5
-NE-	.	1	.	.	.	.	.	1	.	2
-ENE-	.	.	.	.	.	.	.	1	.	1
-E-	.	.	.	1	.	.	.	.	.	1
-ESE-	.	.	.	.	.	1	1	.	.	2
-SE-	1	1	1	2	1	4	2	1	.	13
-SSE-	.	2	2	6	23	7	1	1	.	42
-S-	1	11	39	45	27	1	.	.	.	124
-SSW-	2	18	52	59	34	1	1	.	.	167
-SW-	5	31	25	26	5	2	.	.	1	95
-WSW-	2	20	13	20	16	6	.	.	.	77
-W-	2	12	14	15	13	10	.	.	.	66
-WNW-	3	14	17	19	19	10	.	.	.	82
-NW-	1	8	19	18	26	8	1	.	.	81
-NNW-	.	4	16	23	42	33	3	.	.	121
TOTAL	17	125	198	238	213	115	19	4	1	930

CATAWBA NUCLEAR STN. METEOROLOGY (2007) PROG=XOQFREQ

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	>9.99 M/S	TOTAL
	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.
SECTOR									
-N-	.	1	.	.	9	18	3	.	31
-NNE-	.	.	.	.	.	.	.	1	1
-NE-	1	.	.	.	.	.	.	.	1
-ESE-	.	.	.	.	.	.	1	.	1
-SE-	.	1	.	.	.	.	.	.	1
-SSE-	1	.	.	.	6	.	.	.	7
-S-	5	18	31	25	11	.	.	.	90
-SSW-	5	27	30	45	18	.	.	.	125
-SW-	2	24	25	21	10	.	.	.	82
-WSW-	7	26	19	9	7	.	.	.	68
-W-	11	20	10	11	8	8	.	.	68
-WNW-	2	10	18	9	6	3	.	.	48
-NW-	5	16	24	22	11	1	.	.	79
-NNW-	.	4	8	22	37	20	.	.	91
-CALM-	1	.	.	.	.	.	.	.	1
TOTAL	40	147	165	164	123	50	4	1	694

CATAWBA NUCLEAR STN. METEOROLOGY (2007) PROG=XOQFREQ

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	>9.99 M/S	TOTAL
	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.
SECTOR													
-N-	.	4	7	17	73	299	262	117	46	21	.	.	846
-NNE-	.	.	3	8	14	98	259	223	86	33	.	1	725
-NE-	2	2	1	3	16	34	108	86	31	10	.	.	293
-ENE-	2	.	.	4	7	17	40	22	6	2	.	.	100
-E-	.	2	3	7	6	18	6	2	.	.	.	.	44
-ESE-	.	4	4	5	15	23	11	3	.	.	.	.	65
-SE-	1	3	8	11	34	79	33	6	.	.	.	.	175
-SSE-	2	11	15	46	171	263	67	8	3	1	.	.	587
-S-	6	45	115	170	232	274	36	12	1	.	.	.	891
-SSW-	9	66	161	231	316	415	161	55	11	1	.	.	1426
-SW-	8	87	107	131	159	264	113	54	11	2	.	1	937
-WSW-	12	70	68	93	117	113	45	9	6	.	1	.	534
-W-	17	54	55	70	72	90	18	3	.	.	.	.	379
-WNW-	6	36	61	66	84	86	29	19	16	6	.	.	409
-NW-	6	30	56	66	95	102	51	39	20	22	8	.	495
-NNW-	.	13	35	69	173	228	105	44	26	14	1	.	708
-CALM-	2	.	.	.	.	.	.	.	.	.	.	.	2
TOTAL	73	427	699	997	1584	2403	1344	702	263	112	10	2	8616

ATTACHMENT V

Unplanned Offsite Releases

A sample obtained from groundwater monitoring well 213 contained tritium levels that triggered the communication protocol of the NEI initiative on groundwater protection on October 8, 2007. Attached is the 30 day report to the NRC made on November 7, 2007.

Duke Energy®

JAMES R MORRIS
Vice President

Catawba Nuclear Station
4800 Concord Road / CN01VP
York, SC 29745-9635

803 831 4251
803 831 3221 fax

November 7, 2007

U. S. Nuclear Regulatory Commission
ATTENTION: Document Control Desk
Washington, DC 20555-0001

Subject: Duke Power Company LLC d/b/a Duke Energy Carolinas, LLC
Catawba Nuclear Station, Units 1 and 2
Docket Nos. 50-413, 50-414

30-Day Report Pursuant to the
Groundwater Protection Initiative
Concerning Catawba Nuclear Station
Groundwater Monitoring Well 213

Duke Power Company, LLC (Duke) is submitting the attached 30-day Report pursuant to NEI 07-07 (Industry Groundwater Protection Initiative). A sample obtained from groundwater monitoring well 213 contained tritium levels that triggered the communication protocol of the NEI initiative on groundwater protection on October 8, 2007.

There are no regulatory commitments contained in this letter. Any questions concerning this report may be directed to Anthony Jackson at 803-831-3742.

Very truly yours,

James R. Morris

Attachment

xc: w/attachments

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bxc (with attachments):

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NCMPA-1
NCEMC
PMPA
SREC
Catawba Document Control File: 801.01 – CN04DM
Catawba RGC Date File
ELL-EC05O

ATTACHMENT

30-DAY REPORT PER NEI 07-07,
INDUSTRY GROUNDWATER PROTECTION INITIATIVE,
CATAWBA NUCLEAR STATION, UNITS 1 AND 2

i. This report is being submitted in support of the NEI 07-07 Groundwater Protection Initiative.

This report was generated as a result of the groundwater monitoring results for well 213. These results triggered the communication protocol of the NEI initiative on groundwater protection on October 8, 2007.

ii. A sample obtained from groundwater monitoring well 213 contained tritium in a concentration of 42,335 pico curies per liter (pCi/l).

iii. On October 8, 2007 Duke analyzed a sample obtained from groundwater monitoring well 213. The sample contained tritium levels that triggered the communication protocol of the NEI initiative on groundwater protection on October 8, 2007. On Tuesday October 9, 2007, Duke verbally advised the NRC and appropriate agencies of an on-site environmental monitoring well sample result of 42,335 Pico curies per liter of tritium.

Since October 9, 2007 for plant structures, systems, and components in proximity of well 213, Duke has (1) performed a visual inspection of nearby plant trenches and in-trench piping; (2) performed hydrostatic testing of piping that could not be visually verified; and (3) implemented design reviews of sump pumping systems and drainage systems. In each of these instances, no active or intermittent source of leakage was detected.

Existing hydro-geologic model indicates that the flow of the groundwater at and around well 213 is in the direction of the plant turbine building. CNS has procured an independent expert opinion which arrived at the same conclusion. Duke has contracted with a vendor to develop a 3-dimensional hydrology model with a time variable to better quantify the underground transport times.

Four additional groundwater monitoring wells have been drilled. Two additional wells are planned. These wells are located in strategic proximity to the 213 well and were located to obtain more detailed information regarding the potential migration of the groundwater in question. Results

from samples that will be obtained from these well locations are expected by mid-November.

iv. The well displaying activity is a groundwater monitoring well and not a drinking water well. Other groundwater monitoring wells which bound this well do not indicate that the groundwater from this location has migrated to the site boundary. Rather the migration path is in the direction of the plant turbine building. Therefore there is no public exposure pathway and Duke determined that there is no estimated annual dose to any member of the public associated with this event.

v. Since there is no estimated annual dose to a member of the public from this event, no corrective actions are necessary to reduce the projected annual dose to a member of the public to less than the limits of 10 CFR 50 Appendix I.

ATTACHMENT VI

Assessment of Radiation Dose from Radioactive Effluents to Members of the Public

(includes fuel cycle dose calculation results)

This attachment includes an assessment of radiation doses to the maximum exposed member of the public due to radioactive liquid and gaseous effluents released from the site for each calendar quarter for the calendar year of the report as well as the total dose for the calendar year.

This attachment also includes an assessment of radiation doses to the maximum exposed member of the public from all uranium fuel cycle sources within ten miles of Catawba for the calendar year of this report to show conformance with 40 CFR 190.

Methods for calculating the dose contribution from liquid and gaseous effluents are given in the Offsite Dose Calculation Manual (ODCM).

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT
PERIOD 1/1/07 TO 1/1/08
GASEOUS ANNUAL DOSE SUMMARY REPORT

Catawba Nuclear Station Units 1 & 2

1st Quarter 2007

=== IODINE, H3, AND PARTICULATE DOSE LIMIT ANALYSIS======= Quarter 1 2007 ====

Period-Limit	Critical Group	Critical Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Q1 - Maximum Organ Dose	CHILD	LIVER	1.46E-01	1.50E+01	9.76E-01

Maximum Organ Dose Receptor Location: 0.5 Mile NE
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 2007 ====

Period-Limit	Dose (mrad)	Limit (mrad)	% of Limit
Q1 - Maximum Gamma Air Dose	7.41E-03	1.00E+01	7.41E-02

Maximum Gamma Air Dose Receptor Location: 0.5 Mile NNE

Major Isotopic Contributors (5% or greater to total)

Nuclide	Percentage
AR-41	9.76E+01

Q1 - Maximum Beta Air Dose	3.02E-03	2.00E+01	1.51E-02

Maximum Beta Air Dose Receptor Location: 0.5 Mile NNE

Major Isotopic Contributors (5% or greater to total)

Nuclide	Percentage
AR-41	8.45E+01
XE-133	1.37E+01

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT
PERIOD 1/1/07 TO 1/1/08
GASEOUS ANNUAL DOSE SUMMARY REPORT

Catawba Nuclear Station Units 1 & 2

2nd Quarter 2007

=== IODINE, H3, AND PARTICULATE DOSE LIMIT ANALYSIS======= Quarter 2 2007 ====

Period-Limit	Critical Group	Critical Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Q2 - Maximum Organ Dose	CHILD	LIVER	2.09E-01	1.50E+01	1.39E+00

Maximum Organ Dose Receptor Location: 0.5 Mile NE
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 2007 ====

Period-Limit	Dose (mrad)	Limit (mrad)	% of Limit
Q2 - Maximum Gamma Air Dose	8.11E-03	1.00E+01	8.11E-02

Maximum Gamma Air Dose Receptor Location: 0.5 Mile NNE

Major Isotopic Contributors (5% or greater to total)

Nuclide	Percentage
AR-41	9.76E+01

Q2 - Maximum Beta Air Dose	3.20E-03	2.00E+01	1.60E-02

Maximum Beta Air Dose Receptor Location: 0.5 Mile NNE

Major Isotopic Contributors (5% or greater to total)

Nuclide	Percentage
AR-41	8.71E+01
XE-133	9.95E+00

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT
PERIOD 1/1/07 TO 1/1/08
GASEOUS ANNUAL DOSE SUMMARY REPORT

Catawba Nuclear Station Units 1 & 2

3rd Quarter 2007

=== IODINE, H3, AND PARTICULATE DOSE LIMIT ANALYSIS======= Quarter 3 2007 ====

Period-Limit	Critical Group	Critical Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Q3 - Maximum Organ Dose	CHILD	LIVER	2.46E-01	1.50E+01	1.64E+00

Maximum Organ Dose Receptor Location: 0.5 Mile NE
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 2007 ====

Period-Limit	Dose (mrad)	Limit (mrad)	% of Limit
Q3 - Maximum Gamma Air Dose	8.47E-03	1.00E+01	8.47E-02

Maximum Gamma Air Dose Receptor Location: 0.5 Mile NNE

Major Isotopic Contributors (5% or greater to total)

Nuclide	Percentage
AR-41	9.34E+01

Q3 - Maximum Beta Air Dose	4.12E-03	2.00E+01	2.06E-02

Maximum Beta Air Dose Receptor Location: 0.5 Mile NNE

Major Isotopic Contributors (5% or greater to total)

Nuclide	Percentage
AR-41	6.78E+01
XE-133	2.60E+01
XE-135	6.16E+00

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT
PERIOD 1/1/07 TO 1/1/08
GASEOUS ANNUAL DOSE SUMMARY REPORT

Catawba Nuclear Station Units 1 & 2

4th Quarter 2007

=== IODINE, H3, AND PARTICULATE DOSE LIMIT ANALYSIS======= Quarter 4 2007 ====

Period-Limit	Critical Group	Critical Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Q4 - Maximum Organ Dose	CHILD	LIVER	2.93E-01	1.50E+01	1.95E+00

Maximum Organ Dose Receptor Location: 0.5 Mile NE
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 2007 ====

Period-Limit	Dose (mrad)	Limit (mrad)	% of Limit
Q4 - Maximum Gamma Air Dose	5.34E-03	1.00E+01	5.34E-02

Maximum Gamma Air Dose Receptor Location: 0.5 Mile NNE

Major Isotopic Contributors (5% or greater to total)

Nuclide	Percentage
AR-41	9.81E+01

Q4 - Maximum Beta Air Dose	2.12E-03	2.00E+01	1.06E-02

Maximum Beta 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	1.18E+01

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT
PERIOD 1/1/07 TO 1/1/08
GASEOUS ANNUAL DOSE SUMMARY REPORT

Catawba Nuclear Station Units 1 & 2

ANNUAL 2007

=== IODINE, H3, AND PARTICULATE DOSE LIMIT ANALYSIS======= Annual 2007 ========

Period-Limit	Critical Group	Critical Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Yr - Maximum Organ Dose	CHILD	LIVER	8.95E-01	3.00E+01	2.98E+00

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

Major Isotopic Contributors (5% or greater to total)

Nuclide	Percentage
H-3	1.00E+02

=== NOBLE GAS DOSE LIMIT ANALYSIS========== Annual 2007 ========

Period-Limit	Dose (mrad)	Limit (mrad)	% of Limit
Yr - Maximum Gamma Air Dose	2.93E-02	2.00E+01	1.47E-01

Maximum Gamma Air Dose Receptor Location: 0.5 Mile NNE

Major Isotopic Contributors (5% or greater to total)

Nuclide	Percentage
AR-41	9.65E+01

Yr - Maximum Beta Air Dose	1.25E-02	4.00E+01	3.11E-02

Maximum Beta Air Dose Receptor Location: 0.5 Mile NNE

Major Isotopic Contributors (5% or greater to total)

Nuclide	Percentage
AR-41	8.01E+01
XE-133	1.65E+01

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT
PERIOD 1/1/07 TO 1/1/08
LIQUID ANNUAL DOSE SUMMARY REPORT

Catawba Nuclear Station Units 1 & 2

1st Quarter 2007

=== BATCH LIQUID RELEASES ========== Quarter 1 2007 ======

Period-Limit	Critical Age	Critical Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Q1 - Maximum Organ Dose	ADULT	GI-LLI	2.83E-02	1.00E+01	2.83E-01
Q1 - Total Body Dose	CHILD		2.48E-02	3.00E+00	8.27E-01

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

Nuclide	Percentage
H-3	7.90E+01
NB-95	1.49E+01

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

Nuclide	Percentage
H-3	9.84E+01

=== CONTINUOUS LIQUID RELEASES (WC) ========== Quarter 1 2007 ======

Period-Limit	Critical Age	Critical Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Q1 - Maximum Organ Dose	CHILD	LIVER	5.35E-04	1.00E+01	5.35E-03
Q1 - Total Body Dose	CHILD		5.35E-04	3.00E+00	1.78E-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 1/1/07 TO 1/1/08
LIQUID ANNUAL DOSE SUMMARY REPORT

Catawba Nuclear Station Units 1 & 2

2nd Quarter 2007

=== BATCH LIQUID RELEASES ================================ Quarter 2 2007 ======

Period-Limit	Critical Age	Critical Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Q2 - Maximum Organ Dose	CHILD	LIVER	2.31E-02	1.00E+01	2.31E-01
Q2 - Total Body Dose	CHILD		2.29E-02	3.00E+00	7.63E-01

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

Nuclide	Percentage
H-3	9.69E+01

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

Nuclide	Percentage
H-3	9.80E+01

=== CONTINUOUS LIQUID RELEASES (WC) ====================== Quarter 2 2007 ======

Period-Limit	Critical Age	Critical Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Q2 - Maximum Organ Dose	CHILD	LIVER	2.57E-04	1.00E+01	2.57E-03
Q2 - Total Body Dose	CHILD		2.57E-04	3.00E+00	8.57E-03

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 1/1/07 TO 1/1/08
LIQUID ANNUAL DOSE SUMMARY REPORT

Catawba Nuclear Station Units 1 & 2

3rd Quarter 2007

=== BATCH LIQUID RELEASES ========== Quarter 3 2007 ======

Period-Limit	Critical Age	Critical Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Q3 - Maximum Organ Dose	ADULT	GI-LLI	2.04E-02	1.00E+01	2.04E-01
Q3 - Total Body Dose	ADULT		1.27E-02	3.00E+00	4.23E-01

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

Nuclide	Percentage
H-3	4.93E+01
NB-95	3.61E+01
CO-60	8.98E+00

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

Nuclide	Percentage
H-3	7.90E+01
CS-137	1.52E+01

=== CONTINUOUS LIQUID RELEASES (WC) ========== Quarter 3 2007 ======

Period-Limit	Critical Age	Critical Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Q3 - Maximum Organ Dose	CHILD	LIVER	1.79E-04	1.00E+01	1.79E-03
Q3 - Total Body Dose	CHILD		1.79E-04	3.00E+00	5.97E-03

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 1/1/07 TO 1/1/08
LIQUID ANNUAL DOSE SUMMARY REPORT

Catawba Nuclear Station Units 1 & 2

4th Quarter 2007

=== BATCH LIQUID RELEASES ========== Quarter 4 2007 ======

Period-Limit	Critical Age	Critical Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Q4 - Maximum Organ Dose	ADULT	GI-LLI	1.60E-02	1.00E+01	1.60E-01
Q4 - Total Body Dose	CHILD		1.29E-02	3.00E+00	4.29E-01

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

Nuclide	Percentage
H-3	6.95E+01
NB-95	1.83E+01
CO-60	5.83E+00

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

Nuclide	Percentage
H-3	9.47E+01

=== CONTINUOUS LIQUID RELEASES (WC) ========== Quarter 4 2007 ======

Period-Limit	Critical Age	Critical Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Q4 - Maximum Organ Dose	CHILD	LIVER	4.46E-04	1.00E+01	4.46E-03
Q4 - Total Body Dose	CHILD		4.46E-04	3.00E+00	1.49E-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 1/1/07 TO 1/1/08
LIQUID ANNUAL DOSE SUMMARY REPORT

Catawba Nuclear Station Units 1 & 2

ANNUAL 2007

=== BATCH LIQUID RELEASES ========== Annual 2007 =========

Period-Limit	Critical Age	Critical Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Yr - Maximum Organ Dose	ADULT	GI-LLI	8.62E-02	2.00E+01	4.31E-01
Yr - Total Body Dose	CHILD		7.07E-02	6.00E+00	1.18E+00

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

Nuclide	Percentage
H-3	7.17E+01
NB-95	1.83E+01
CO-60	5.35E+00

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

Nuclide	Percentage
H-3	9.57E+01

=== CONTINUOUS LIQUID RELEASES (WC) ========== Annual 2007 =========

Period-Limit	Critical Age	Critical Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Yr - Maximum Organ Dose	CHILD	LIVER	1.30E-03	2.00E+01	6.52E-03
Yr - Total Body Dose	CHILD		1.30E-03	6.00E+00	2.17E-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

Catawba Nuclear Station
2007 Radioactive Effluent Releases
40CFR190 Uranium Fuel Cycle Dose Calculation Results

In accordance with the requirements of 40CFR190, the annual dose commitment to any member of the general public shall be calculated to assure that doses are limited to 25 millirems to the total body or any organ with the exception of the thyroid which is limited to 75 millirems. The fuel cycle dose assessment for Catawba Nuclear Station only includes liquid and gaseous effluent dose contributions from Catawba and direct and air-scatter dose from Catawba's Independent Spent Fuel Storage Installation (ISFSI) since no other uranium fuel cycle facility contributes significantly to Catawba's maximum exposed individual. The dose to a maximum exposed individual from Catawba's effluent releases is well below 40CFR190 limits as shown by the following summary:

I. 2007 Catawba 40CFR190 Effluent Dose Summary

The 40CFR190 effluent dose analysis to the maximum exposed individual from liquid and gas releases includes the dose from noble gases (i.e., total body and skin).

Maximum Total Body Dose = 9.89E-01 mrem

Maximum Location: 0.5 Mile, Northeast Sector
Critical Age: Child
Gas non-NG Contribution: 91%
Gas NG Contribution: 2%
Liquid Contribution: 7%

Maximum Organ (other than TB) Dose = 9.71E-01 mrem

Maximum Location: 0.5 Mile, Northeast Sector
Critical Age: Child
Critical Organ: Liver
Gas Contribution: 92%
Liquid Contribution: 8%

II. 2007 Catawba 40CFR190 ISFSI Dose Summary

Direct and air-scatter radiation dose contributions from the onsite Independent Spent Fuel Storage Installation (ISFSI) at Catawba have been calculated and documented in the "Catawba Nuclear Station 10CFR72.212 Written Evaluation" report. The estimated ISFSI cask loading schedule is given in three phases. For Phase I initial ISFSI cask loading began in July 2007 and is scheduled to be completed in October 2009. Estimated dose rates at 50 specific locations including the Exclusion Area Boundary (EAB) are provided in the 10CFR72.212 evaluation report. The maximum dose rate at the EAB for Phase I from the Catawba ISFSI is calculated to be less than 0.1 mrem/yr. The following excerpt, "C. 10CFR72.212(b)(2)(i)(C)- Requirements of 72.104", from the "Catawba Nuclear Station 10CFR72.212 Written Evaluation" report is provided to document the method used to estimate the Catawba ISFSI dose to the nearest "real individual".

The following four pages are taken from the Catawba Nuclear Site, "Independent Spent Fuel Storage Installation", 10CFR72.212 Evaluation report.

7.3 10CFR72.212(b)(2)(i)(C) - Requirements of §72.104

"(C) the requirements of §72.104 have been met. A copy of this record shall be retained until spent fuel is no longer stored under the general license issued under §72.210."

The requirements of §72.104 are as follows:

(a) During normal operations and anticipated occurrences, the annual dose equivalent to any real individual who is located beyond the controlled area must not exceed 0.25 mSv (25 mrem) to the whole body, 0.75 mSv (75 mrem) to the thyroid and 0.25 mSv (25 mrem) to any other critical organ as a result of exposure to:

(1) Planned discharges of radioactive materials, radon and its decay products excepted, to the general environment,

(2) Direct radiation from ISFSI or MRS operations, and

(3) Any other radiation from uranium fuel cycle operations within the region.

Doses from storage casks located at the ISFSI have been calculated at the end of each of three storage phases at a number of locations. The three storage phases are (Reference 7.3-3):

Phase I	1 Pad	24 Casks	Filled 2009
Phase II	7 Pads	168 Casks	Filled 2042
Phase III	11 Pads	264 Casks	Filled 2047

The best estimate loading schedule by cask is shown below (Reference 7.3-3, as supplemented by revised cask loading schedule prepared by Catawba Reactor Engineering). This loading schedule may change as plant needs dictate.

Storage Phase	Year	Month	Unit 1	Unit 2
Phase I	2007	April		
	2007	May		
	2007	June		
	2007	July	2	
	2007	August	1	
	2007	September		
	2007	October		
	2007	November	1	
	2007	December	2	
	2008	January	1	
	2008	February	2	
	2008	March		
	2008	April		
	2008	May		
	2008	June		
	2008	July		
	2008	August		
	2008	September		
	2008	October		
	2008	November		2
	2008	December		1
	2009	January		2
	2009	February		1
	2009	March		
	2009	April	1	
	2009	May	2	
	2009	June		
	2009	July		
	2009	August		2
	2009	September		2
	2009	October		2

Storage Phase	Year	Unit 1	Unit 2
Phase II	2011	5	4
	2012	4	5
	2013		
	2014		
	2015	5	4
	2016	4	5
	2017		
	2018		
	2019	5	4
	2020	4	5
	2021		
	2022		
	2023	5	4
	2024	4	5
	2025		
	2026		
	2027	5	4
	2028	4	5
	2029		
	2030		
	2031	5	4
	2032	4	5
	2033		
	2034		
	2035	5	4
	2036	4	5
	2037		
	2038		
	2039	5	4
	2040	4	5
	2041		
	2042		
Phase III	2043	20	
	2044	20	
	2045	8	12
	2046		20
	2047		16

The methodology and results of the dose calculations are discussed in detail in References 7.3-3 – 7.3.6. A summary of the methodolgy and results is presented below.

There are four calculations that are used to estimate the doses. The first calculation (Reference 7.3-3) determines the source term for the base canister. The results of this calculation include the fractional probability energy spectra for photons and neutrons, the photon and neutron release rates per canister as a function of burnup and decay, and the release rates for each filled canister at the end of Phase I, II and III as a fraction of the base canister release rate. This calculation uses the representative design basis PWR fuel assembly characteristics for a Westinghouse 17x17 assembly as described in the NAC-UMS FSAR.

The next calculation (Reference 7.3-4) uses the results from Reference 7.3-1 to generate the photon surface source and neutron-to-photon ratios as a function of distance for a base canister to be used to generate dose contours for the various phases of the CNS ISFSI Project.

A detailed MCNP model of the NAC UMS with the Duke specified loading scheme is developed to collect a photon and neutron surface source for use in radiological analysis for the various phases of the ISFSI project. The representative PWR fuel assembly dimensions (standard WE 17x17) based on UMS FSAR are used to calculate photon and neutron energy spectra, release rates and fractional release rates for use as source term inputs for MCNP5. The zone specific photon and neutron energy spectra are used in the detailed cask model to assimilate the zone loading scheme. The surface source is generated on the surface of an ellipsoid that can be overlaid onto each cask position on the ISFSI pad.

The third calculation (Reference 7.3-5) uses the photon surface source generated in Reference 7.3-4. Each cask is modeled in MCNP as a simple solid concrete cylinder with the same dimension of an actual NAC-UMS cask with an ellipsoid over the cylinder for the placement of the surface source. The origin of the problem (X = 0, Y = 0) is located at the lower left corner of ISFSI pad 1. Therefore all dimensions in the model are relative to that point. For Phase I, detectors of various sizes are placed out from -1000 ft to 1800 ft in the X and -1200 ft to 1200 ft in the Y direction to collect dose tally in the units of mrem/hr.

A photon case is run and the dose tally is calculated for each detector of interest. A cask specific neutron-to-photon ratio is then applied to the photon dose tally to account for the neutron contribution to the total dose. It is important to note that fractional release rates are used only for the casks analyzed for that phase. Therefore, the Phase II dose is a summation of the Phase II dose tallies and Phase I dose tallies adjusted with a time decay factor. Phase III dose is a summation of dose tallies of all three phases at each detector location along with the appropriate decay factors for Phases I and II.

Phases II and III are modeled using the same detector layout so the dose from each phase can be added to determine the total dose at a specific location. The tallies are collected in the same manner for the dose contour maps. The resulting dose contours are shown on FANP drawings 5055506E-00, 5055507E-00, and 5055508E-00 (Reference 7.3-7 through 7.3-9).

The final calculation (Reference 7.3-6) provides dose rates at 50 specific locations, including the Exclusion Area Boundary (EAB). Doses are calculated at 3 locations on the EAB for each phase:

2500' Exclusion Area Boundary	Occupancy (hrs/yr)	Point	X Coord.	Y Coord.
*Entrance Road	8766	RP12	26+50	44+00
*Crepe Myrtle Road	8766	RP13	75+00	48+00
*Security Practice Range	144	RP14	25+00	89+00

The dose rates at these locations are:

Description of data point location	**Phase 1* [mrem/yr]**	**Phase 2* [mrem/yr]**	**Phase 3* [mrem/yr]**
2500' Exclusion Area Boundary			
*Entrance Road	0.06	0.29	0.85
*Crepe Myrtle Road	0.08	0.32	0.79
*Security Practice Range	0.01	0.03	0.03

*Maximum values from Table 2 or 3, Reference 7.3-6

The above information will be added to the plant generated dose to prove compliance with 72.104. General Office Radiological Protection has responsibility for this function.

ATTACHMENT VII

Revisions to the Updated Final Safety Analysis Report

Radiological Effluent Controls Section 16.11

There were no revisions to the Catawba Nuclear Station Updated Final Safety Analysis Report, Section 16.11, Radiological Controls, in 2007.

ATTACHMENT VIII

Revisions to the Radioactive Waste Process Control Program Manual

The following letter dated April 16, 2008 from David L. Vaught, Senior Engineer, Nuclear Chemistry, summarizes how the Process Control Program (PCP) manual has been revised. The updated version of the manual contains all the changes implemented during 2007 and is designated as the "2007 Update" on the enclosed Compact Disc.

April 16 2008

RD Hart
Regulatory Compliance Manager
Catawba Regulatory Compliance

ATTENTION: MJ Sawicki

SUBJECT: Catawba Nuclear Station
2007 Annual Radioactive Effluent Release Report
Process Control Program Changes
File: GS-764.25, CN-215.06

Enclosed are 7 CD copies of the Radioactive Waste Process Control Program Manual to be included in the Annual Radioactive Effluent Release Report for Catawba Nuclear Station for the period of January 1, 2007 through December 31, 2007. This version of the Manual contains all the changes implemented during 2007 and is designated as the "2007 Update".

The PCP Manual is revised using the review and approval process in APPENDIX F of the Manual, "Administration of the PCP and Support Documents" prior to publication on the NEDL Portal.

The attachment summarizes the scope of the changes during 2007.

The PDF files on the CDs were reviewed and verified against the control copies of the PCP Manual published on the NEDL Portal. Because of the NRC electronic record screening process, the PDF file for the NRC was revised to remove all graphics. The graphics were non technical images that did not meet the resolution requirements, e.g., the Duke Logo, NGD image and site pictures, etc.

Three CD copies containing graphics are for internal distribution and 4 CDs without graphics are for the NRC as follows:
NRC File NRC_ 2008 Duke Energy Radioactive Waste PCP Manual.pdf
1. NRC Document Control Desk
2. Catawba NRC Project Manager
3. Catawba Senior Resident Inspector
4. NRC Regional Administrator

Duke File: AEERR CD_DPCo-2008-PCP-Manual.pdf
5. ELL - CD
6. Master File - CD
7. Regulatory Compliance Files - CD

If you have any questions, please call David Vaught @ 980-373-5302.

Dewey P Rochester
Technical Manager II
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ATTACHMENT

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ATTACHMENT
Duke Energy Radioactive Waste Process Control Program Manual
Summary of 2007 Changes

A brief summary of the 2007 changes to the Duke Energy Radioactive Waste PCP Manual is found below. These are described in more detail in APPENDIX H "Revision Summary - Licensee Initiated Changes"

REVISED SECTIONS

- Rev15 Corporate PCP
- Rev13 APPENDIX A "Oconee Nuclear Station Process Control Program"
- Rev18 APPENDIX B "McGuire Nuclear Station Process Control Program"
- Rev 12 APPENDIX C "Catawba Nuclear Station Process Control Program"
- Rev 2 APPENDIX D "Approved Suppliers of PCP Services"
- Rev 1 APPENDIX F "Administration of the PCP Manual and Associated Documents"

The Duke Energy Radioactive Waste PCP Manual was revised to address the issues described below:

- PIP G06-00560: Summarized findings and Areas For Improvement (AFI) from the 2006 Annual Chemistry Functional Area Evaluation. The Duke Energy Process Control Program Manual and associated documents were audited during this assessment and the administrative changes were implemented.
- PIP G-7-00244: Revised ADDENDIX D to reflect the vendor name change from Duratek to Energy Solutions per PIP G-07-00244 that documents the Vendor Technical Impact evaluation of Energy Solutions procedure FO-OP-023 rev 23.
- Non-technical editorial changes were also made to each revised section as appropriate to improve wording clarity, grammatical and punctuation errors. Some administrative process flow changes were made in APPENDIX F to reflect updated Duke administrative processes
- PIP G-07-0841: Documents the only technical change to the Corporate PCP Section: Deleted section 11.3.3.6 that required initial liner unwatering upon completion of final waste transfer to liner (e.g., dewater to loss of vacuum in bottom dewatering laterals to establish capillary dewatering conditions). This change was based on reevaluation of the original basis for this requirement updated with industry OE and communications with the manufacturer.

More details of the changes are described in Appendix H by section.

ATTACHMENT IX

Information to Support the Nuclear Energy Institute (NEI)

Groundwater Protection Initiative

ARERR Groundwater Well Data Section Rev. 1

Duke Energy has implemented the Nuclear Energy Institute (NEI) Groundwater Protection Initiative (June 2007), a voluntary groundwater investigation project adopted by the United States commercial nuclear power industry. This initiative was developed to ensure timely and effective management of situations involving inadvertent releases of licensed material to ground water. As part of this program, the Catawba Nuclear Station installed thirty-seven ground water monitoring wells. With the existing nine wells there are now a total of forty-six ground water monitoring wells in place at Catawba. These wells are currently being sampled quarterly (with the exception of the five LMW wells which are semi-annually). All samples are being analyzed for tritium and gamma emitters, with selected wells being analyzed for Strontium 89 and 90. No gamma activity (other than naturally occurring radionuclides) or Strontium was identified in any of the well samples.

Results from sampling during 2007 identified ground water contamination at location C-213. This contamination was identified as coming from backflow from the Monitor Tank Building (MTB) truck bay sump into the WL trench entering the MTB from the east side. Additional wells were installed near C-213 to identify the extent of the contamination and determine the direction of ground water flow in the affected area. Ground water, and therefore the contamination, appears to be moving toward the turbine building drain system where it is collected. Monitoring of this area is on-going. The contamination and resulting investigation activities were reported to the NRC and to state and local officials.

Results from sampling during 2007 are shown in the table below.

Well Name	Well Location	Annual Average Tritium Concentration in pCi/l
C100R	U-1 SFP	No sample available.
C100DR	U-1 SFP	<MDA
C101R	U-1 SFP	736
C101DR	U-1 SFP	541
C102	E of U1 SFP O/S protected area	343
C103	E of U1 SFP @ Cooling Towers	244
C104	U-1 RMWST	536
C105	Engr. Bldg.	2,020
C105R	Engr. Bldg.	1,466
C106	W Parking Lot	<MDA
C106R	W Parking Lot	514
C107	MET Tower Hill	841
C200R	U-2 SFP	1,145
C200DR	U-2 SFP	469
C201R	U-2 SFP	2,245
C201DR	U-2 SFP	1,420

C202	S of RMC Tent	779
C203	E of RMC tent @ Cooling Towers	1,585
C204	S of RMC Tent	498
C205	Adm. Parking	<MDA
C205R	Adm Parking	464
C206	W Parking Lot	<MDA
C207R	Mon. Tank B	393
C207	Mon. Tank B	347
C208	N of MTB	188
C209	MTUville S of light pole 23A	558
C210	N of U2 Mech Equip Bldg	799
C211	W of RL intake O/S protected area	459
C212	Behind Aquatic Center	<MDA
C213	Mon. Tank B	25,867
C213R	Mon. Tank B	199
C214	N of U2 TB	696
C215	N of U2 TB	12,510
C217	N of U2 TB	677
C218	N of U2 TB	10,990
C220	N of U2 TB	44,600
C221	N of U2 TB	217
WCMW-2	WC Ponds	3,560
WCMW-3	WC Ponds	531
WCMW-4	WC Ponds	450
WCMW-5	WC Ponds	228
LMW 2A	Landfill	<MDA
LMW 3A	Landfill	<MDA
LMW 4	Landfill	<MDA
LMW 5S	Landfill	<MDA
LMW 5D	Landfill	<MDA

pCi/l - pico curies per liter

MDA - Minimum detectable activity

20,000 pCi/l - the Environmental Protection Agency drinking water standard for tritium. This standard applies only to water that is used for drinking.

1,000,000 pCi/l - the 10CFR20, Appendix B, Table 2, Column 2, Effluent Concentration limit for tritium.