DUKE ENERGY®

Kelvin Henderson
Vice President
Catawba Nuclear Station

Duke Energy
CNO1VP | 4800 Concord Road
York, SC 29745

o: 803.701.4251
f: 803.701.3221

CNS-14-063

May 14, 2014

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D.C. 20555-0001

Subject: Duke Energy Carolinas, LLC
Catawba Nuclear Station, Units 1 and 2
Docket Nos. 50-413 and 50-414
2013 Annual Radiological Environmental Operating Report

Pursuant to Catawba Nuclear Station Technical Specification 5.6.2 and Selected Licensee Commitment 16.11-16, please find attached the 2013 Annual Radiological Environmental Operating Report. This report covers operation of Catawba Units 1 and 2 during the 2013 calendar year.

Any questions concerning this report should be directed to Randy Hart at (803) 701-3622.

Sincerely,

Kelvin Henderson
Vice President, Catawba Nuclear Station

Attachment

IE25
NRR

xc (with attachment):

V. M. McCree
Regional Administrator
U.S. Nuclear Regulatory Commission - Region II
Marquis One Tower
245 Peachtree Center Ave., NE Suite 1200
Atlanta, GA 30303-1257

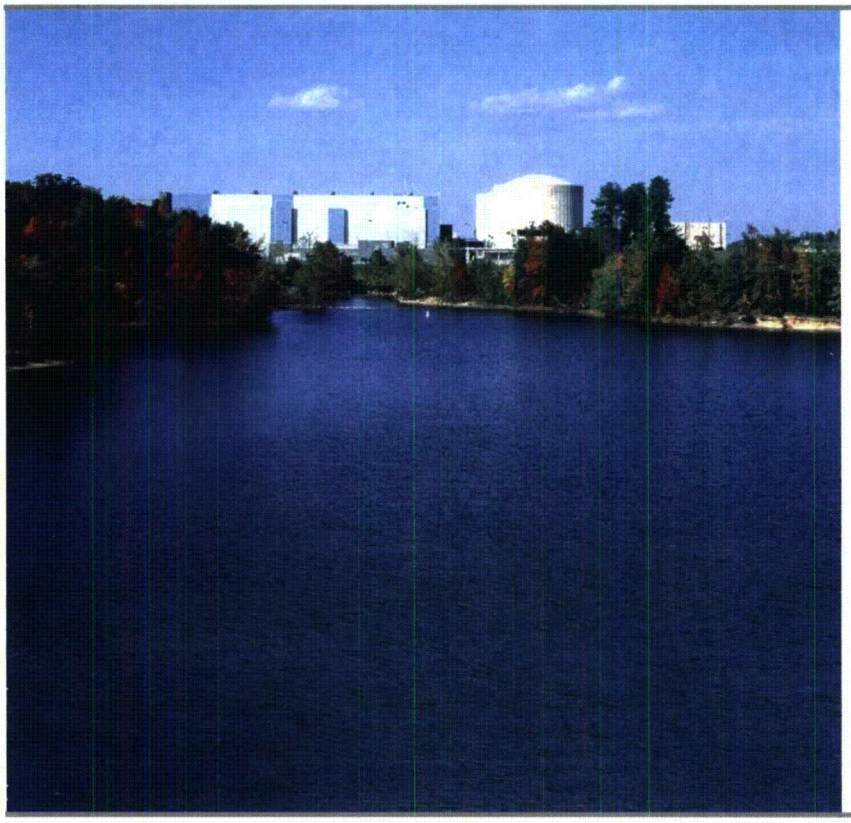
G. Edward Miller
NRC Project Manager (CNS)
U.S. Nuclear Regulatory Commission
One White Flint North
Mail Stop 8 G9A
Rockville, MD 20852

xc (with CD only):

G. A. Hutto, III, Senior Resident Inspector
U.S. Nuclear Regulatory Commission
Catawba Nuclear Station

DUKE ENERGY.

Catawba Nuclear Station
Units 1 and 2



AREOR

Annual Radiological Environmental Operating Report 2013

DUKE ENERGY

ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT

DUKE ENERGY CORPORATION
CATAWBA NUCLEAR STATION
Units 1 and 2

2013

TABLE OF CONTENTS

Appendices

LIST OF FIGURES

LIST OF TABLES

LIST OF ACRONYMS USED IN THIS TEXT *(in alphabetical order)*

BW	BiWeekly
C	Control
CNS	Catawba Nuclear Station
DHEC	Department of Health and Environmental Control
ERA	Environmental Resource Associates
GI-LLI	Gastrointestinal – Lower Large Intestine
GPS	Global Positioning System
ISFSI	Independent Spent Fuel Storage Installation
LLD	Lower Limit of Detection
M	Monthly
MDA	Minimum Detectable Activity
MOA	Memorandum of Agreement
mrem	Millirem
NIST	National Institute of Standards and Technology
NRC	Nuclear Regulatory Commission
ODCM	Offsite Dose Calculation Manual
pCi/kg	picocurie per kilogram
pCi/l	picocurie per liter
pCi/m3	picocurie per cubic meter
PIP	Problem Investigation Program
Q	Quarterly
REMP	Radiological Environmental Monitoring Program
SA	Semiannually
SLCs	Selected Licensee Commitments
SM	Semimonthly
TECH SPECs	Technical Specifications
TLD	Thermoluminescent Dosimeter
µCi/ml	microcurie per milliliter
UFSAR	Updated Final Safety Analysis Report
W	Weekly

1.0 EXECUTIVE SUMMARY

This Annual Radiological Environmental Operating Report describes the Catawba Nuclear Station Radiological Environmental Monitoring Program (REMP), and the program results for the calendar year 2013.

Included are the identification of sampling locations, descriptions of environmental sampling and analysis procedures, comparisons of present environmental radioactivity levels and pre-operational environmental data, comparisons of doses calculated from environmental measurements and effluent data, analysis of trends in environmental radiological data as potentially affected by station operations, and a summary of environmental radiological sampling results. Quality assurance practices, sampling deviations, unavailable samples, and program changes are also discussed.

Sampling activities were conducted as prescribed by Selected Licensee Commitments (SLCs). Nine-hundred thirty-four samples were analyzed comprising 960 test results in order to compile data for the 2013 report. Based on the annual land use census, the current number of sampling sites for Catawba Nuclear Station is sufficient.

Concentrations observed in the environment in 2013 for station related radionuclides were generally within the ranges of concentrations observed in the past. Inspection of data showed that radioactivity concentrations in fish are higher due to surface water tritium levels than the activities reported for samples collected prior to the operation of the station. Measured concentrations were not higher than expected and all positively identified measurements attributable to station operation were within limits as specified in SLCs.

Additionally, environmental radiological monitoring data is consistent with effluents introduced into the environment by plant operations. The total body dose estimated to the maximum exposed member of the public as calculated by environmental sampling data, excluding TLD results, was 1.63E-02 mrem for 2013. Background radiation dose in the United States is approximately 620 mrem per year (approximately half from naturally occurring sources such as radon and half from man-made sources such as medical processes) (reference 6.13). It is therefore concluded that station operations has had no significant radiological impact on the health and safety of the public or the environment.

2.0 INTRODUCTION

2.1 SITE DESCRIPTION AND SAMPLE LOCATIONS

Duke Energy Corporation's Catawba Nuclear Station is a two-unit facility located on the shore of Lake Wylie in York County, South Carolina. Each of the two essentially identical units employs a pressurized water reactor nuclear steam supply system furnished by Westinghouse Electric Corporation. Each generating unit is designed to produce a net electrical output of approximately 1145 MWe. Units 1 and 2 achieved initial criticality on January 7, 1985, and May 8, 1986, respectively.

Condenser cooling is accomplished utilizing a closed system incorporating cooling towers, instead of using lake water directly. Liquid effluents are released into Lake Wylie via the station discharge canal and are not accompanied by the large additional dilution water flow associated with "once-through" condenser cooling. This design results in greater radionuclide concentrations in the discharge canal given comparable liquid effluent source terms.

Figures 2.1-1 and 2.1-2 are maps depicting the Thermoluminescent Dosimeter (TLD) monitoring locations and the sampling locations. The location numbers shown on these maps correspond to those listed in Tables 2.1-A and 2.1-B. Figure 2.1-1 comprises all sample locations within a one mile radius of CNS. Figure 2.1-2 comprises all sample locations within a 10 mile radius of CNS.

2.2 SCOPE AND REQUIREMENTS OF THE REMP

An environmental monitoring program has been in effect at Catawba Nuclear Station since 1981, four years prior to operation of Unit 1 in 1985. The preoperational program provides data on the existing environmental radioactivity levels for the site and vicinity which may be used to determine whether increases in environmental levels are attributable to the station. The operational program provides surveillance and backup support of detailed effluent monitoring which is necessary to evaluate the significance, if any, of the contributions to the existing environmental radioactivity levels that result from station operation.

This monitoring program is based on NRC guidance as reflected in the Selected Licensee Commitments Manual, with regard to sample media, sampling locations, sampling frequency and analytical sensitivity requirements. Indicator and control locations were established for comparison purposes to distinguish radioactivity of station origin from natural or other "man-made" environmental radioactivity. The environmental monitoring program also verifies projected and anticipated radionuclide concentrations in the environment and related exposures from releases of radionuclides from Catawba Nuclear Station. This program satisfies the requirements of Section IV.B.2 of Appendix I to 10CFR50 and provides surveillance of all appropriate critical exposure pathways to man and protects vital interests of the company, public and state and federal agencies concerned with the environment. Reporting levels for

activity found in environmental samples are listed in Table 2.2-A. Table 2.2-B lists the REMP analysis and frequency schedule.

The Annual Land Use Census, required by Selected Licensee Commitments, is performed to ensure that changes in the use of areas at or beyond the site boundary are identified and that modifications to the REMP are made if required by changes in land use. This census satisfies the requirements of Section IV.B.3 of Appendix I to 10CFR50. Results are shown in Table 3.11.

Participation in an interlaboratory comparison program as required by Selected Licensee Commitments provides for independent checks on the precision and accuracy of measurements of radioactive material in REMP sample matrices. Such checks are performed as part of the quality assurance program for environmental monitoring in order to demonstrate that the results are valid for the purposes of Section IV.B.2 of Appendix I to 10CFR50. A summary of the results obtained as part of this comparison program are in Section 5 of this annual report.

2.3 STATISTICAL AND CALCULATIONAL METHODOLOGY

2.3.1 ESTIMATION OF THE MEAN VALUE

There was one (1) basic statistical calculation performed on the raw data resulting from the environmental sample analysis program. The calculation involved the determination of the mean value for the indicator and the control samples for each sample medium. The mean is a widely used statistic. This value was used in the reduction of the data generated by the sampling and analysis of the various media in the Radiological Environmental Monitoring Program. "Net activity (or concentration)" is the activity (or concentration) determined to be present in the sample. No "Minimum Detectable Activity", "Lower Limit of Detection", "Less Than Level", or negative activities or concentrations are included in the calculation of the mean. The following equation was used to estimate the mean (reference 6.8):

$$\overline{x} = \frac{\sum_{i=1}^{N} x_i}{N}$$

Where:

$\overline{x}$ = estimate of the mean,
i = individual sample,
N = total number of samples with a net activity (or concentration),
χ_i = net activity (or concentration) for sample i.

2.3.2 LOWER LEVEL OF DETECTION AND MINIMUM DETECTABLE ACTIVITY

The Lower Level of Detection (LLD), and Minimum Detectable Activity (MDA) are used throughout the REMP.

LLD - The LLD, as defined in the Selected Licensee Commitments Manual is the smallest concentration of radioactive material in a sample that will yield a net count, above the system background, that will be detected with 95% probability with only 5% probability of falsely concluding that a blank observation represents a "real" signal. The LLD is an *a priori* lower limit of detection. The actual LLD is dependent upon the standard deviation of the background counting rate, the counting efficiency, the sample size (mass or volume), the radiochemical yield and the radioactive decay of the sample between sample collection and counting. The "required" LLDs for each sample medium and selected radionuclides are given in the Selected Licensee Commitments and are listed in Table 2.2-C.

MDA - The MDA is the net counting rate (sample after subtraction of background) that must be surpassed before a sample is considered to contain a scientifically measurable amount of a radioactive material exceeding background amounts. The MDA is calculated using a sample background and may be thought of as an "actual" LLD for a particular sample measurement.

2.3.3 TREND IDENTIFICATION

One of the purposes of an environmental monitoring program is to determine if there is a buildup of radionuclides in the environment due to the operation of the nuclear station. Visual inspection of tabular or graphical presentations of data (including preoperational) is used to determine if a trend exists. A decrease in a particular radionuclide's concentration in an environmental medium does not indicate that reactor operations are removing radioactivity from the environment but that reactor operations are not adding that radionuclide to the environment in quantities exceeding the preoperational level and that the normal removal processes (radioactive decay, deposition, resuspension, etc.) are influencing the concentration.

Substantial increases or decreases in the amount of a particular radionuclide's release from the nuclear plant will greatly affect the resulting environmental levels; therefore, a knowledge of the release of a radionuclide from the nuclear plant is necessary to completely interpret the trends, or lack of trends, determined from the environmental data. Factors that may affect environmental levels of radionuclides include prevailing weather conditions (periods of drought, solar cycles or heavier than normal precipitation), construction in or around either the nuclear plant or the sampling location, and addition or deletion of other sources of radioactive materials (such as the Chernobyl accident). Some of these factors may be obvious while others are sometimes unknown. Therefore, how trends are identified will include some judgment by plant personnel.

Figure 2.1-1

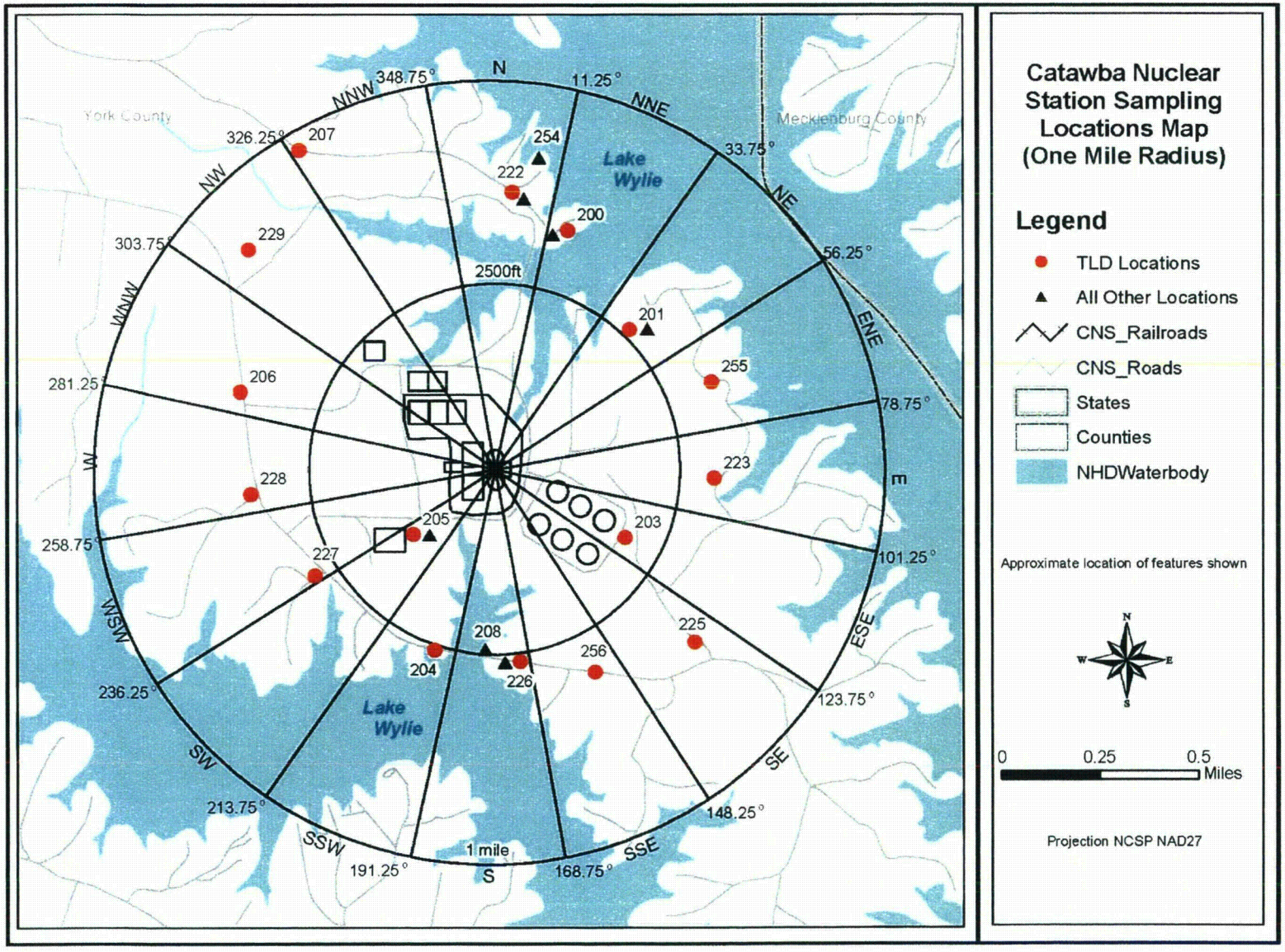

Catawba Nuclear Station Sampling Locations Map (One Mile Radius)
Legend
TLD Locations
All Other Locations
CNS_Railroads
CNS_Roads
States
Counties
NHDWaterbody
Approximate location of features shown
0
0.25
0.5
Miles
Projection NCSP NAD27
York County
Mecklenburg County
Lake Wylie
Lake Wylie
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
348.75°
11.25°
33.75°
56.25°
78.75°
101.25°
123.75°
148.25°
168.75°
191.25°
213.75°
236.25°
258.75°
281.25°
303.75°
326.25°
2500ft
1 mile
200
201
203
204
205
206
207
208
222
223
225
226
227
228
229
254
255
256

Figure 2.1-2

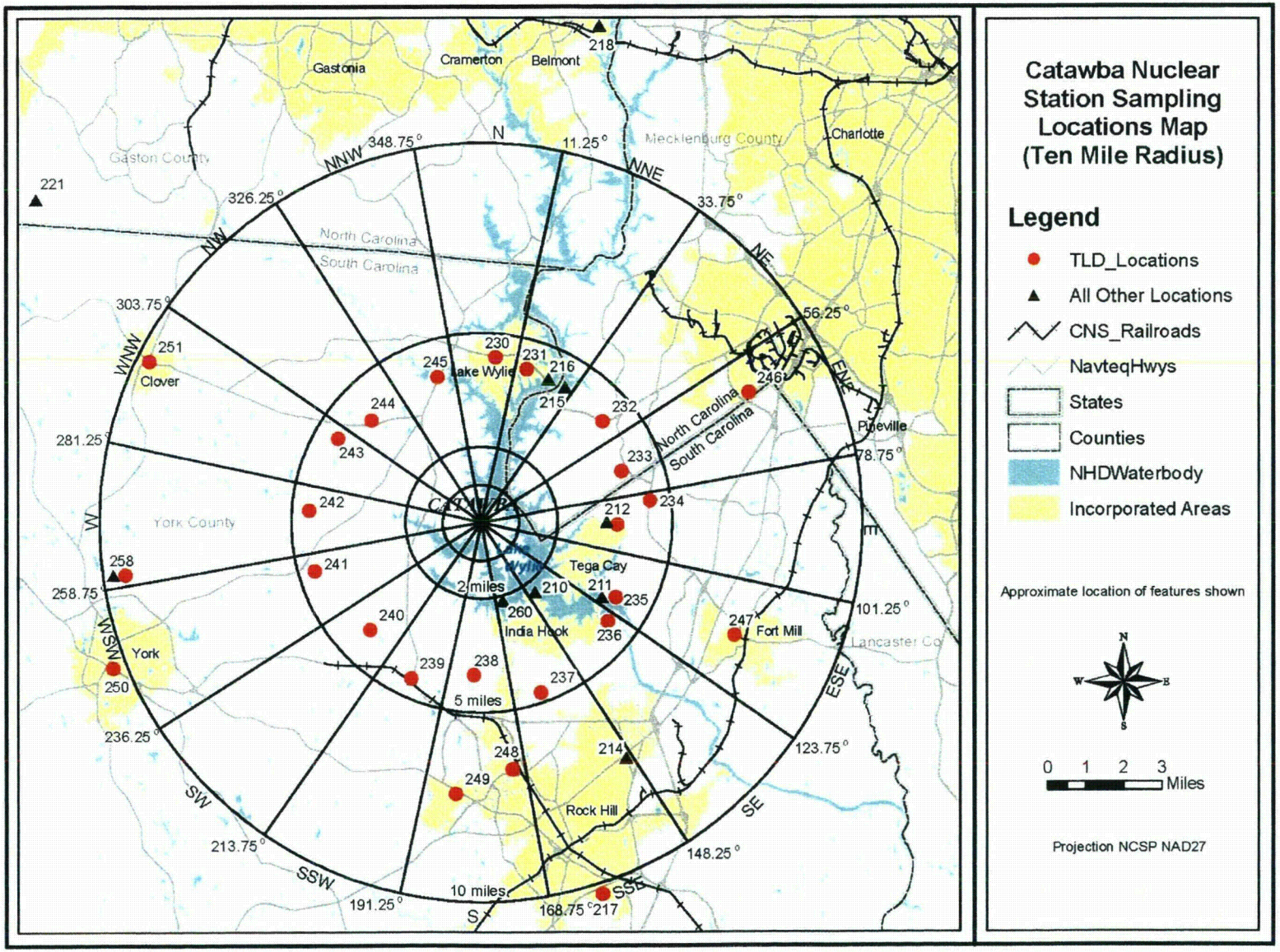

Catawba Nuclear Station Sampling Locations Map (Ten Mile Radius)
Legend
TLD_Locations
All Other Locations
CNS_Railroads
NavteqHwys
States
Counties
NHDWaterbody
Incorporated Areas
Approximate location of features shown
0 1 2 3 Miles
Projection NCSP NAD27
Gastonia
Cramerton
Belmont
Charlotte
Mecklenburg County
Gaston County
York County
Lancaster Co
Clover
Lake Wylie
Tega Cay
India Hook
Fort Mill
York
Rock Hill
Pineville
North Carolina
South Carolina
2 miles
5 miles
10 miles
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
11.25°
33.75°
56.25°
78.75°
101.25°
123.75°
148.25°
168.75°
191.25°
213.75°
236.25°
258.75°
281.25°
303.75°
326.25°
348.75°

TABLE 2.1-A

CATAWBA RADIOLOGICAL MONITORING PROGRAM
SAMPLING LOCATIONS

Table 2.1-A Codes			
W	Weekly	SM	Semimonthly
BW	BiWeekly	Q	Quarterly
M	Monthly	SA	Semiannually
C	Control	I	Indicator

Site #	Measure Type	Location Description*	Air Rad. & Part.	Surface Water	Drinking Water	Shoreline Sediment	Food Products (a)	Fish	Milk	Broad Leaf Veg. (b)	Ground Water
200	I	Site Boundary (0.63 mi NNE)	W							M	
201	I	Site Boundary (0.53 mi NE)	W							M	
205	I	Site Boundary (0.25 mi SW)	W								
208	I	Discharge Canal (0.45 mi S)		M		SA		SA			
210	I	Ebenezer Access (2.31 mi SE)				SA					
211	I	Wylie Dam (4.06 mi ESE)		M							
212	I	Tega Cay (3.32 mi E)	W								
214	I	Rock Hill Water Supply (7.30 mi SSE)			M						
215	C	River Pointe - Hwy 49 (4.21 mi NNE)		M		SA					
216	C	Hwy 49 Bridge (4.19 mi NNE)						SA			
218	C	Belmont Water Supply (13.5 mi NNE)			M						
221	C	Dairy (14.5 mi NW)							SM		
222	I	Site Boundary (0.70 mi N)								M	
226	I	Site Boundary (0.48 mi S)								M	
254	I	Residence (0.82 mi N)									Q
258	C	Fairhope Road (9.84 mi W)	W							M	
260	I	Irrigated Gardens (2.00 mi SSE)					M(a)				

(a) During Harvest Season
(b) When Available

* GPS data reflect approximate accuracy to within 2-5 meters. GPS field measurements were taken as close as possible to the item of interest.

TABLE 2.1-B

CATAWBA RADIOLOGICAL MONITORING PROGRAM
SAMPLING LOCATIONS (TLD SITES)

Table 2.1-B Codes			
IR	Inner Ring	OR	Outer Ring
C	Control	SI	Special Interest

Site #	Measure Type	Location*	Distance (miles)	Sector	Site #	Measure Type	Location*	Distance (miles)	Sector
200	IR	SITE BOUNDARY	0.63	NNE	234	OR	WELLS FARGO BANK	4.50	E
201	IR	SITE BOUNDARY	0.53	NE	235	OR	LAKE WYLIE DAM	4.07	ESE
203	IR	SITE BOUNDARY	0.38	ESE	236	OR	SC WILDLIFE FEDERATION OFFICE	4.25	SE
204	IR	SITE BOUNDARY	0.48	SSW	237	OR	TWIN LAKES ROAD AND HOMESTEAD ROAD	4.75	SSE
205	IR	SITE BOUNDARY	0.25	SW	238	OR	PENNINGTON ROAD AND WEST OAK ROAD	4.02	S
206	IR	SITE BOUNDARY	0.67	WNW	239	OR	CARTER LUMBER COMPANY	4.49	SSW
207	IR	SITE BOUNDARY	0.95	NNW	240	OR	PARAHAM ROAD	4.07	SW
212	SI	TEGA CAY AIR SITE	3.32	E	241	OR	CAMPBELL ROAD	4.58	WSW
217	C	OLD ROCK HILL AIR SITE	10.3	SSE	242	OR	TRANSMISSION TOWER ON PARAHAM ROAD	4.56	W
222	IR	SITE BOUNDARY	0.71	N	243	OR	KINGSBURRY ROAD	4.39	WNW
223	IR	SITE BOUNDARY	0.57	E	244	OR	BETHEL ELEMENTARY SCHOOL	4.02	NW
225	IR	SITE BOUNDARY	0.68	SE	245	OR	CROWDERS CREEK BOAT LANDING	4.01	NNW
226	IR	SITE BOUNDARY	0.48	S	246	SI	CAROWINDS GUARD HOUSE	7.87	ENE
227	IR	SITE BOUNDARY	0.52	WSW	247	C	FORT MILL	7.33	ESE
228	IR	SITE BOUNDARY	0.61	W	248	SI	PIEDMONT MEDICAL CENTER	6.54	S
229	IR	SITE BOUNDARY	0.84	NW	249	SI	YORK COUNTY OPERATIONS CENTER	7.17	S
230	OR	RIVER HILLS CHURCH	4.37	N	250	SI	YORK DUKE ENERGY OFFICE	10.4	WSW
231	OR	RIVER HILLS FRONT ENTRANCE	4.21	NNE	251	C	CLOVER	9.72	WNW
232	OR	PLEASANT HILL ROAD	4.18	NE	255	IR	SITE BOUNDARY	0.61	ENE
233	OR	ZOAR ROAD AND THOMAS DRIVE	3.95	ENE	256	IR	SITE BOUNDARY	0.58	SSE
					258	SI	FAIRHOPE ROAD	9.84	W

* GPS data reflect approximate accuracy to within 2-5 meters. GPS field measurements were taken as close as possible to the item of interest.

TABLE 2.2-A

REPORTING LEVELS FOR RADIOACTIVITY CONCENTRATIONS IN ENVIRONMENTAL SAMPLES

Analysis	Water (pCi/liter)	Air Particulates or Gases (pCi/m^3)	Fish (pCi/kg-wet)	Milk (pCi/liter)	Food Products (pCi/kg-wet)
H-3	20,000[a],[b]				
Mn-54	1,000		30,000		
Fe-59	400		10,000		
Co-58	1,000		30,000		
Co-60	300		10,000		
Zn-65	300		20,000		
Zr-Nb-95	400				
I-131	2	0.9		3	100
Cs-134	30	10	1,000	60	1,000
Cs-137	50	20	2,000	70	2,000
Ba-La-140	200			300	

(a) If no drinking water pathway exists, a value of 30,000 pCi/liter may be used.
(b) H-3 Reporting level not applicable to surface water

TABLE 2.2-B

REMP ANALYSIS FREQUENCY

Sample Medium	Analysis Schedule	Gamma Isotopic	Tritium	Low Level I-131	Gross Beta	TLD
Air Radioiodine	Weekly	X				
Air Particulate	Weekly	X			X	
	Quarterly Composite	X				
Direct Radiation	Quarterly					X
Surface Water	Monthly Composite	X				
	Quarterly Composite		X			
Drinking Water	Monthly Composite	X		(a)	X	
	Quarterly Composite		X			
Ground Water	Quarterly	X	X			
Shoreline Sediment	Semiannually	X				
Milk	Semimonthly	X		X		
Fish	Semiannually	X				
Broadleaf Vegetation	Monthly[b]	X				
Food Products	Monthly[b]	X				

(a) Low-level I-131 analysis will be performed if the dose calculated for the consumption of drinking water is > 1 mrem per year. An LLD of 1 pCi/liter will be required for this analysis.
(b) When Available

TABLE 2.2-C

MAXIMUM VALUES FOR THE LOWER LIMIT OF DETECTION

Analysis	Water (pCi/liter)	Air Particulates or Gases (pCi/m^3)	Fish (pCi/kg-wet)	Milk (pCi/liter)	Food Products (pCi/kg-wet)	Sediment (pCi/kg-dry)
Gross Beta	4	0.01				
H-3	2000 [(a)]					
Mn-54	15		130			
Fe-59	30		260			
Co-58, 60	15		130			
Zn-65	30		260			
Zr-Nb-95	15					
I-131	1 [(b)]	0.07		1	60	
Cs-134	15	0.05	130	15	60	150
Cs-137	18	0.06	150	18	80	180
Ba-La-140	15			15		

(a) If no drinking water pathway exists, a value of 3000 pCi/liter may be used.
(b) If no drinking water pathway exists, the LLD of gamma isotopic analysis may be used.

3.0 INTERPRETATION OF RESULTS

Review of all 2013 REMP analysis results was performed to identify changes in environmental levels as a result of station operations. The following section depicts and explains the review of these results. Sample data for 2013 was compared to preoperational and historical data. Over the years of operation, analysis and collection changes have taken place that do not allow direct comparisons for some data collected from 1984 (preoperational) through 2013. Summary tables containing 2013 information required by Technical Specification Administrative Control 5.6.2 are located in Appendix B.

Evaluation for significant trends was performed for radionuclides that are listed as required within Selected Licensee Commitments 16.11-13. The radionuclides include: H-3, Mn-54, Fe-59, Co-58, Co-60, Zn-65, Zr-95, Nb-95, I-131, Cs-134, Cs-137, Ba-140 and La-140. Gross beta analysis results were trended for drinking water and gross beta trending for air particulates was initiated in 1996. Other radionuclides detected that are the result of plant operation, but not required for reporting, are trended.

A comparison of annual mean concentrations of effluent-based detected radionuclides to historical results provided trending bases. Frequency of detection and concentrations related to SLC reporting levels (Table 2.2-A) were used as criteria for trending conclusions. All 2013 maximum percentages of reporting levels attributed to CNS operation were well below the 100% action level.

Selected Licensee Commitment section 16.11-13 addresses actions to be taken if radionuclides other than those required are detected in samples collected. The occurrences of these radionuclides are the result of CNS liquid effluents which contained the radionuclides.

During 1984-1986, all net activity results (sample minus background), both positive and negative were included in calculation of sample mean. A change in the EnRad gamma spectroscopy system on September 1, 1987, decreased the number of measurements yielding detectable low-level activity for indicator and control location samples. It was thought that the method used by the previous system was vulnerable to false-positive results.

All 2013 sample analysis results were reviewed to detect and identify any significant trends. Tables and graphs are used throughout this section to display data from effluent-based radionuclides identified since the system change in late 1987. All negative concentration values were replaced with zero for calculation purposes. Any zero concentrations used in tables or graphs represent activity measurements less than detectable levels.

Review of all 2013 data presented in this section supports the conclusion that there were no significant changes in environmental sample radionuclide concentrations of samples collected and analyzed from CNS site and surrounding areas that were attributable to plant operations.

3.1 AIRBORNE RADIOIODINE AND PARTICULATES

In 2013, 260 radioiodine and particulate samples were analyzed, 208 from four indicator locations and 52 at the control location. Particulate samples were analyzed weekly for gross beta. A quarterly gamma analysis was performed on the quarterly filter composite (by location). Radioiodine samples received a weekly gamma analysis.

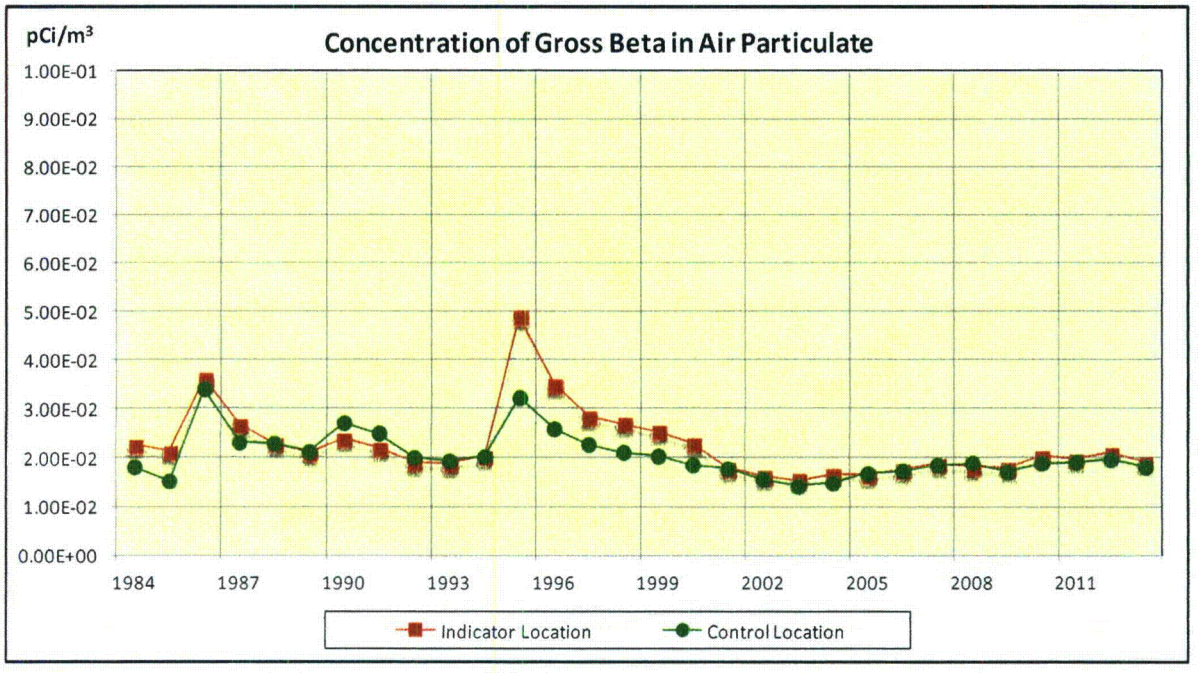
Figure 3.1 shows individual sample gross beta results for the indicator location with highest annual mean and the control location samples during 2013. The two sample locations' results are similar in concentration and have varied negligibly since preoperational periods.

There were no detectable gamma emitters identified for particulate filters analyzed during 2013. Table 3.1-A shows the highest indicator annual mean and control location annual mean for gross beta in air particulate.

There was no detectable I-131 in air radioiodine samples analyzed in 2013. Table 3.1-B shows the highest indicator annual mean and control location annual mean for I-131 since 1984 (preoperational period). The table shows similar concentrations for both the indicator and control locations and the activities decreasing from early in the operational history of the plant. No I-131 activity due to CNS plant operations has been detected since 1987.

K-40 and Be-7 that occur naturally were routinely detected in charcoal cartridges collected during the year.

Figure 3.1



There is no reporting level for gross beta in air particulate

Table 3.1-A Mean Concentration of Gross Beta in Air Particulate

Year	Indicator Location (pCi/m^3)	Control Location (pCi/m^3)
1984	2.25E-2	1.82E-2
1985	2.12E-2	1.53E-2
1986	3.62E-2	3.41E-2
1987	2.67E-2	2.32E-2
1988	2.29E-2	2.30E-2
1989	2.11E-2	2.13E-2
1990	2.39E-2	2.72E-2
1991	2.19E-2	2.51E-2
1992	1.90E-2	2.01E-2
1993	1.87E-2	1.94E-2
1994	2.03E-2	2.03E-2
1995	4.88E-2	3.23E-2
1996	3.49E-2	2.60E-2
1997	2.83E-2	2.28E-2
1998	2.69E-2	2.12E-2
1999	2.53E-2	2.04E-2
2000	2.28E-2	1.86E-2
2001	1.76E-2	1.78E-2
2002	1.60E-2	1.57E-2
2003	1.54E-2	1.42E-2
2004	1.65E-2	1.49E-2
2005	1.66E-2	1.68E-2
2006	1.74E-2	1.74E-2
2007	1.88E-2	1.86E-2
2008	1.80E-2	1.90E-2
2009	1.78E-2	1.72E-2
2010	2.03E-2	1.90E-2
2011	1.98E-2	1.92E-2
2012	2.09E-2	1.97E-2
Average (2003 - 2012)	1.82E-2	1.76E-2
2013	1.92E-2	1.82E-2

Table 3.1-B Mean Concentration of Air Radioiodine (I-131)

Year	Indicator Location (pCi/m^3)	Control Location (pCi/m^3)
1984	1.30E-3	1.46E-2
1985	4.75E-3	2.38E-2
1986	1.43E-2	1.02E-2
1987	1.38E-2	0.00E0
1988	0.00E0	0.00E0
1989	0.00E0	0.00E0
1990	0.00E0	0.00E0
1991	0.00E0	0.00E0
1992	0.00E0	0.00E0
1993	0.00E0	0.00E0
1994	0.00E0	0.00E0
1995	0.00E0	0.00E0
1996	0.00E0	0.00E0
1997	0.00E0	0.00E0
1998	0.00E0	0.00E0
1999	0.00E0	0.00E0
2000	0.00E0	0.00E0
2001	0.00E0	0.00E0
2002	0.00E0	0.00E0
2003	0.00E0	0.00E0
2004	0.00E0	0.00E0
2005	0.00E0	0.00E0
2006	0.00E0	0.00E0
2007	0.00E0	0.00E0
2008	0.00E0	0.00E0
2009	0.00E0	0.00E0
2010	0.00E0	0.00E0
2011	5.53E-2	5.65E-2
2012	0.00E0	0.00E0
2013	0.00E0	0.00E0

0.00E0 = no detectable measurements
2011 concentration affected by Fukushima Daiichi

3.2 DRINKING WATER

Gross beta and gamma spectroscopy were performed on 26 drinking water samples. The samples were composited to create 8 quarterly samples that were analyzed for tritium. One indicator location was sampled, along with one control location.

No gamma emitting radionuclides were identified in 2013 drinking water samples. There have been no gamma emitting radionuclides identified in drinking water samples since 1988.

Table 3.2 shows highest annual mean gross beta concentrations for the indicator location and control location since preoperation. The indicator location (downstream of the plant effluent release point) average concentration was 1.79 pCi/l in 2013 and the control location concentration was 1.59 pCi/l. The 2012 indicator mean was 1.89 pCi/l. The table shows that current gross beta levels are not statistically different from preoperational concentrations.

Tritium was detected in the four indicator samples and in two of the four control samples during 2013. The mean indicator tritium concentration for 2013 was 622 pCi/l, 3.11% of reporting level. The mean control tritium concentration for 2013 was 664 pCi/l, 3.32% of reporting level. Figure 3.2 and Table 3.2 display the highest indicator and control location annual mean concentrations for tritium since 1984.

The concentration of tritium in drinking water is affected by releases from the Catawba plant and the McGuire Nuclear Station, located approximately 40 miles upstream of the Catawba plant on the Catawba River.

The dose for consumption of water was less than one mrem per year, historically and for 2013; therefore low-level iodine analysis is not required.

Figure 3.2

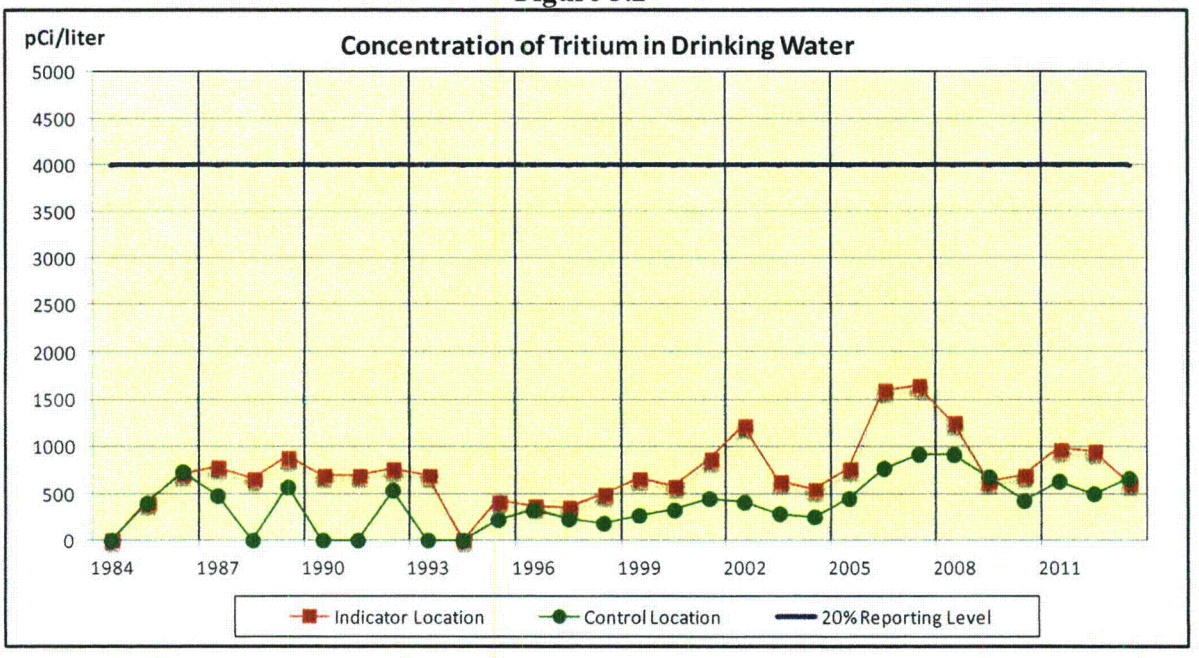


Table 3.2 Mean Concentration of Radionuclides in Drinking Water

YEAR	Gross Beta (pCi/l)		Tritium (pCi/l)	
	Indicator Location	Control Location	Indicator Location	Control Location
1984	4.72	1.83	3.10E-2	3.10E-2
1985	2.70	2.24	4.13E2	4.00E2
1986	3.11	2.26	7.23E2	7.33E2
1987	3.10	2.40	7.80E2	4.80E2
1988	3.60	2.60	6.64E2	0.00E0
1989	3.60	2.90	8.91E2	5.72E2
1990	4.50	3.20	7.03E2	0.00E0
1991	3.70	2.20	7.04E2	0.00E0
1992	3.20	2.40	7.65E2	5.38E2
1993	3.50	2.50	7.06E2	0.00E0
1994	3.30	2.70	0.00E0	0.00E0
1995	4.80	4.50	4.28E2	2.21E2
1996	3.08	3.14	3.71E2	3.27E2
1997	3.74	3.15	3.54E2	2.28E2
1998	2.51	2.44	5.07E2	1.83E2
1999	3.55	2.48	6.71E2	2.70E2
2000	3.04	2.27	5.87E2	3.26E2
2001	3.49	2.30	8.66E2	4.50E2
2002	3.44	2.36	1.22E3	4.11E2
2003	2.27	2.02	6.36E2	2.88E2
2004	1.88	1.69	5.47E2	2.54E2
2005	2.05	1.84	7.69E2	4.50E2
2006	2.30	2.17	1.59E3	7.70E2
2007	2.34	2.21	1.65E3	9.18E2
2008	2.81	2.16	1.25E3	9.16E2
2009	2.07	1.99	6.34E2	6.81E2
2010	1.84	1.80	7.05E2	4.27E2
2011	2.01	1.71	9.73E2	6.36E2
2012	1.89	1.84	9.54E2	5.02E2
2013	1.79	1.59	6.22E2	6.64E2

0.00E0 = no detectable measurements
1984 - 1986 mean based on all net activity

3.3 SURFACE WATER

A total of 39 monthly surface water samples were analyzed for gamma emitting radionuclides. The samples were composited to create 12 quarterly samples for tritium analysis. Two indicator locations and one control location were sampled. One indicator location (208) is located near the liquid effluent discharge point.

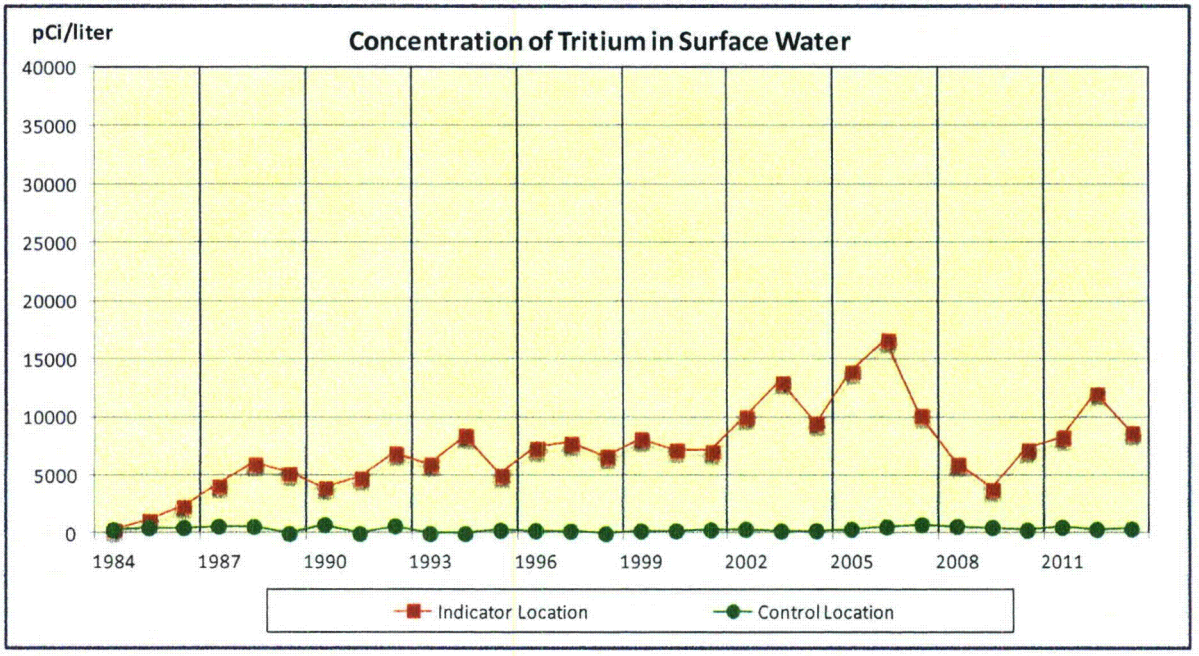
All 2013 indicator location samples contained tritium with an average concentration of 4,618 pCi/l. Indicator Location 208 (Discharge Canal) showed a range of activities from 4,490 to 14,800 pCi/l which had the highest mean concentration of 8,615 pCi/l. Tritium was detected in three of the four control samples during 2013 with an average concentration of 402 pCi/l.

No gamma emitting radionuclides were identified in 2013 surface water samples. Table 3.3 summarizes the indicator annual means of radionuclides detected since the change in the gamma spectroscopy analysis system in 1987. Visual inspection of the tabular data did not reveal any increasing trends.

Figure 3.3 displays the highest indicator and control annual means for tritium since 1984. Table 3.3 lists the highest indicator annual means.

The concentration of tritium in surface water is affected by releases from the Catawba plant and the McGuire Nuclear Station, located approximately 40 miles upstream of the Catawba plant on the Catawba River.

Figure 3.3



There is no reporting level for tritium in surface water, however, if no drinking water pathway exists, a value of 30,000 pCi/l may be used. A drinking water pathway exists for Catawba Nuclear Station, so this limit does not apply for surface water. See section 3.2 for drinking water results.

Table 3.3 Mean Concentrations of Radionuclides in Surface Water (pCi/l)

YEAR	Co-58	Co-60	Nb-95	Cs-137	H-3 Indicator	H-3 Control
1984	4.59E-1	5.71E-1	6.48E-1	9.08E-1	3.35E2	3.18E2
1985	3.46E0	4.83E-2	2.70E0	8.19E-1	1.19E3	5.05E2
1986	3.10E-1	-4.12E-2	2.05E0	4.85E-1	2.34E3	5.05E2
1987	0.00E0	3.10E0	4.30E0	9.90E0	4.17E3	6.20E2
1988	9.20E0	0.00E0	0.00E0	0.00E0	6.03E3	6.07E2
1989	0.00E0	0.00E0	0.00E0	0.00E0	5.27E3	0.00E0
1990	6.50E0	0.00E0	0.00E0	0.00E0	3.98E3	7.73E2
1991	0.00E0	0.00E0	0.00E0	0.00E0	4.87E3	0.00E0
1992	0.00E0	0.00E0	0.00E0	0.00E0	6.91E3	6.64E2
1993	4.70E0	1.80E0	0.00E0	0.00E0	5.98E3	0.00E0
1994	0.00E0	0.00E0	0.00E0	0.00E0	8.42E3	0.00E0
1995	0.00E0	0.00E0	0.00E0	0.00E0	5.13E3	2.89E2
1996	0.00E0	0.00E0	0.00E0	0.00E0	7.36E3	2.61E2
1997	0.00E0	0.00E0	0.00E0	0.00E0	7.77E3	2.20E2
1998	0.00E0	0.00E0	0.00E0	0.00E0	6.61E3	0.00E0
1999	0.00E0	0.00E0	0.00E0	0.00E0	8.13E3	2.41E2
2000	0.00E0	0.00E0	0.00E0	0.00E0	7.19E3	2.56E2
2001	0.00E0	0.00E0	0.00E0	0.00E0	7.13E3	3.28E2
2002	0.00E0	0.00E0	0.00E0	0.00E0	1.00E4	3.80E2
2003	0.00E0	0.00E0	0.00E0	0.00E0	1.31E4	2.37E2
2004	0.00E0	0.00E0	0.00E0	0.00E0	9.43E3	2.60E2
2005	0.00E0	0.00E0	0.00E0	0.00E0	1.40E4	3.78E2
2006	0.00E0	0.00E0	0.00E0	0.00E0	1.67E4	5.83E2
2007	0.00E0	0.00E0	0.00E0	0.00E0	1.01E4	7.82E2
2008	6.80E0	1.16E1	0.00E0	0.00E0	6.02E3	6.31E2
2009	9.40E0	1.06E1	0.00E0	0.00E0	3.93E3	5.29E2
2010	0.00E0	0.00E0	0.00E0	0.00E0	7.26E3	2.94E2
2011	8.75E0	1.96E1	0.00E0	0.00E0	8.29E3	5.41E2
2012	0.00E0	0.00E0	0.00E0	0.00E0	1.21E4	3.71E2
2013	0.00E0	0.00E0	0.00E0	0.00E0	8.62E3	4.02E2

0.00E0 = no detectable measurements 1984 - 1986 mean based on all net activity

3.4 GROUND WATER

A total of three ground water samples was collected and analyzed for gamma emitters and tritium. There is one indicator location and no control location.

Naturally occurring K-40 was the only radionuclide identified during 2013. There have been no radionuclides identified in ground water samples since 1988.

3.5 MILK

A total of 25 milk samples was analyzed by gamma spectroscopy and 26 by low level iodine during 2013 (reference 6.16). There was one control location sampled. No indicator dairies were identified by the 2013 land use census.

There were no gamma emitting radionuclides due to CNS plant operations identified in milk samples in 2013. Cs-137 is the only radionuclide, other than naturally occurring, reported in milk samples since 1996. Cs-137 in milk is not unusual. It is a constituent of nuclear weapons test fallout and nuclear plant accidents and has been observed periodically in samples from indicator and control locations since the preoperational period. Airborne Cs-137 has not been released from the plant since 1992.

Table 3.5 lists highest indicator location annual mean and control location annual mean for Cs-137 since the preoperational period. K-40 is a naturally occurring radionuclide observed in milk samples in 2013.

Table 3.5 Mean Concentration of Radionuclides in Milk

YEAR	Cs-137 Indicator (pCi/l)	Cs-137 Control (pCi/l)
1984	2.95E0	2.98E0
1985	2.11E0	2.12E0
1986	3.76E0	4.54E0
1987	5.00E0	5.50E0
1988	3.20E0	3.80E0
1989	0.00E0	0.00E0
1990	8.00E0	6.70E0
1991	0.00E0	0.00E0
1992	3.40E0	5.00E0
1993	5.00E0	0.00E0
1994	2.80E0	0.00E0
1995	8.60E0	0.00E0
1996	6.05E0	0.00E0
1997	0.00E0	0.00E0
1998	0.00E0	0.00E0
1999	0.00E0	0.00E0
2000	0.00E0	0.00E0
2001	0.00E0	0.00E0
2002	0.00E0	0.00E0
2003	0.00E0	0.00E0
2004	NO INDICATOR LOCATION	0.00E0
2005	NO INDICATOR LOCATION	0.00E0
2006	NO INDICATOR LOCATION	0.00E0
2007	NO INDICATOR LOCATION	0.00E0
2008	NO INDICATOR LOCATION	0.00E0
2009	NO INDICATOR LOCATION	0.00E0
2010	NO INDICATOR LOCATION	0.00E0
2011	NO INDICATOR LOCATION	0.00E0
2012	NO INDICATOR LOCATION	0.00E0
2013	NO INDICATOR LOCATION	0.00E0

0.00E0 = no detectable measurements
1984 - 1986 mean based on all net activity

3.6 BROADLEAF VEGETATION

Gamma spectroscopy was performed on 60 broadleaf vegetation samples during 2013. Four indicator locations and one control location were sampled. There were no gamma emitting radionuclides identified in vegetation samples during 2013.

Cs-137 is the only radionuclide, other than naturally occurring, reported in vegetation samples since the change in gamma spectroscopy analysis systems in 1987. It is not unusual for Cs-137 to be present in vegetation. It is a constituent of nuclear weapons test fallout and nuclear plant accidents and has been observed in samples from indicator and control locations since the preoperational period. Table 3.6 lists the highest indicator location annual mean and control location annual mean for Cs-137 since early in the station's operational history. Visual inspection of the tabular data did not reveal any increasing trends.

Figure 3.6 shows indicator and control annual means for Cs-137 in vegetation since 1984. Values shown from 1984 to 2013 show a stable trend for Cs-137 in vegetation. No airborne Cs-137 has been released from the plant since 1992.

K-40 and Be-7 are naturally occurring radionuclides that were observed in broadleaf vegetation samples in 2013.

Figure 3.6

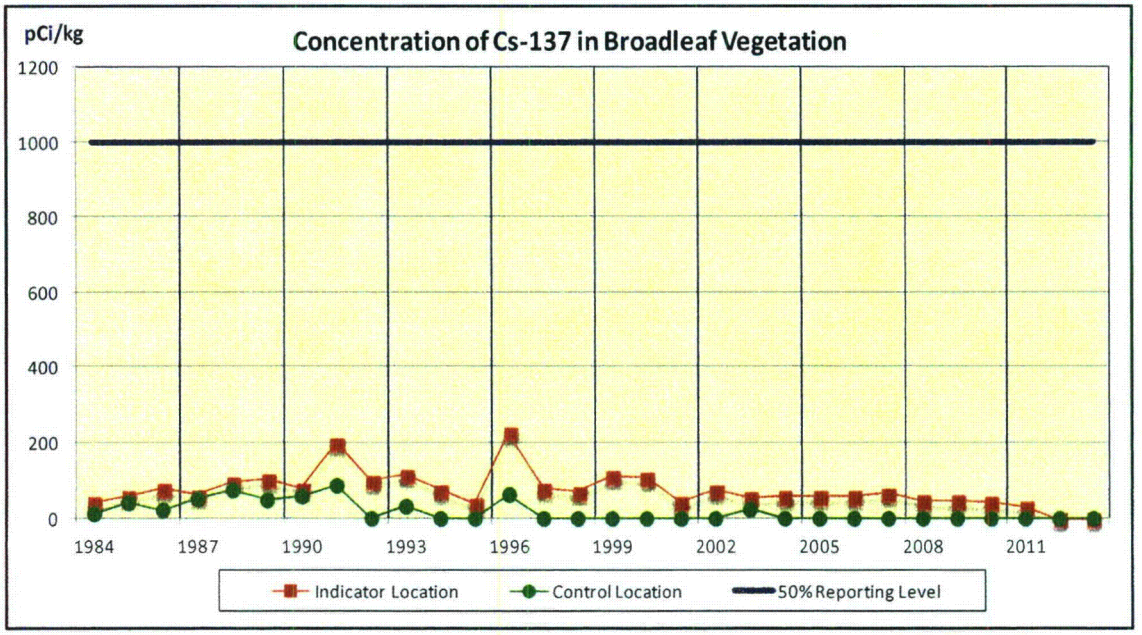


Table 3.6 Mean Concentration of Radionuclides in Broadleaf Vegetation

YEAR	Cs-137 Indicator (pCi/kg)	Cs-137 Control (pCi/kg)
1984	3.76E1	1.30E1
1985	5.48E1	4.16E1
1986	7.42E1	2.22E1
1987	6.10E1	5.10E1
1988	9.10E1	7.40E1
1989	1.00E2	4.80E1
1990	7.70E1	5.80E1
1991	1.98E2	8.60E1
1992	9.70E1	0.00E0
1993	1.13E2	3.20E1
1994	7.00E1	0.00E0
1995	3.60E1	0.00E0
1996	2.23E2	6.22E1
1997	7.57E1	0.00E0
1998	6.53E1	0.00E0
1999	1.08E2	0.00E0
2000	1.04E2	0.00E0
2001	3.76E1	0.00E0
2002	7.02E1	0.00E0
2003	4.96E1	2.40E1
2004	5.45E1	0.00E0
2005	5.48E1	0.00E0
2006	5.79E1	0.00E0
2007	6.31E1	0.00E0
2008	4.44E1	0.00E0
2009	4.25E1	0.00E0
2010	3.77E1	0.00E0
2011	2.62E1	0.00E0
2012	0.00E0	0.00E0
2013	0.00E0	0.00E0

0.00E0 = no detectable measurements
1984 - 1986 mean based on all net activity
2011 concentration affected by Fukushima Daiichi

3.7 FOOD PRODUCTS

Collection of food product samples (crops) from an irrigated garden began in 1989. The irrigated garden is located on Lake Wylie downstream from CNS, Location 260. During the 2013 growing season, ten samples were collected and analyzed for gamma radionuclides. There is no control location for this media type.

Table 3.7 shows Cs-137 indicator location highest annual mean concentrations since 1989.

K-40 and Be-7 are naturally occurring radionuclides that were observed in food product samples in 2013.

Table 3.7 Mean Concentration of Radionuclides in Food Products

YEAR	Cs-137 Indicator (pCi/kg)
1989	0.00E0
1990	0.00E0
1991	0.00E0
1992	0.00E0
1993	2.50E1
1994	0.00E0
1995	0.00E0
1996	0.00E0
1997	0.00E0
1998	0.00E0
1999	0.00E0
2000	0.00E0
2001	0.00E0
2002	0.00E0
2003	0.00E0
2004	0.00E0
2005	0.00E0
2006	0.00E0
2007	0.00E0
2008	0.00E0
2009	0.00E0
2010	0.00E0
2011	0.00E0
2012	0.00E0
2013	0.00E0

0.00E0 = no detectable measurements
There is no control location for Food Products.

3.8 FISH

Gamma spectroscopy was performed on 12 fish samples collected during 2013. One downstream indicator location and one control location were sampled.

Co-58, Co-60, and Cs-137 are normally the predominant radionuclides identified in fish samples. There were no gamma emitting radionuclides identified in any indicator location or control location fish samples during 2013.

Figures 3.8-1, 3.8-2, and 3.8-3 are graphs displaying annual mean concentrations for Co-58, Co-60, and Cs-137. Table 3.8 depicts the highest indicator location annual mean for radionuclides detected. In addition, radionuclides identified in fish samples since 1988 have been included in the table. Overall, radionuclides have not shown a significant trend or accumulation.

K-40 was observed in some fish samples collected during 2013.

Figure 3.8-1

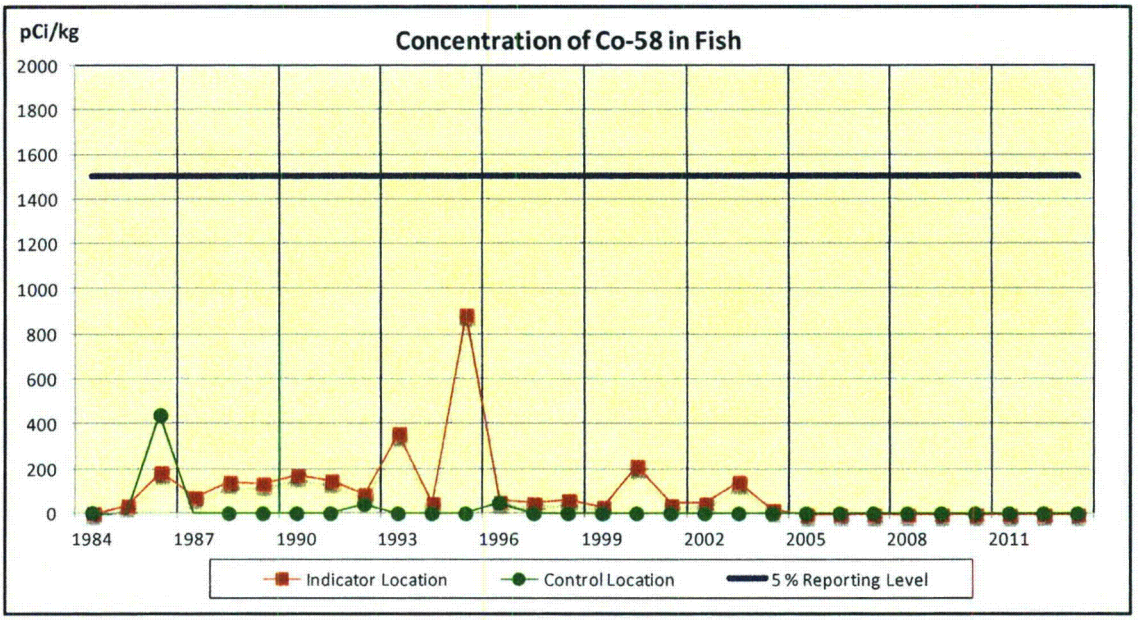


Figure 3.8-2

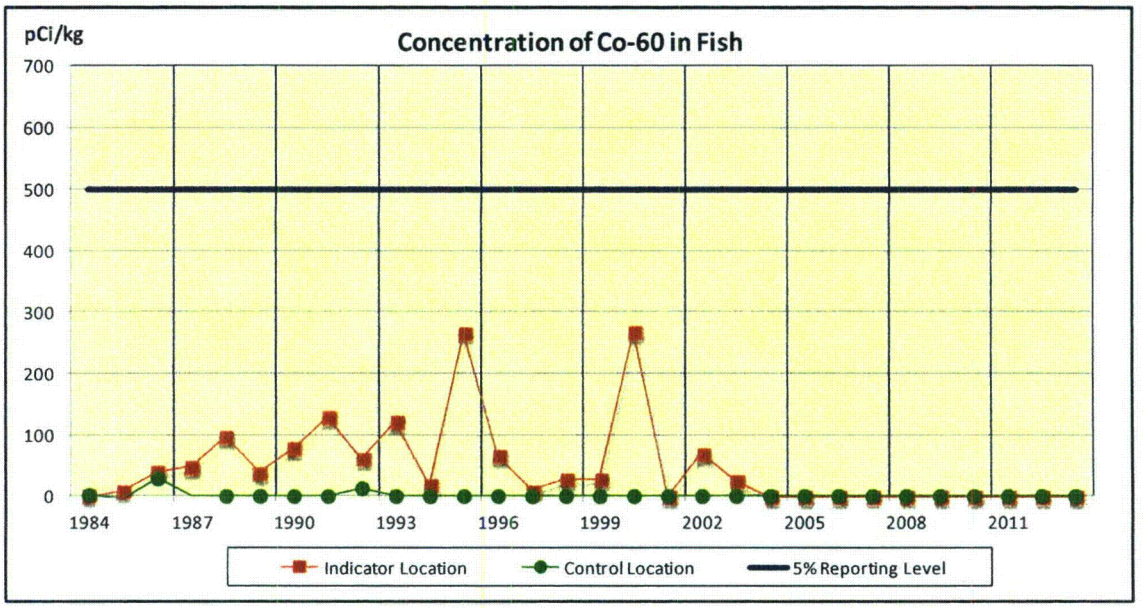


Figure 3.8-3

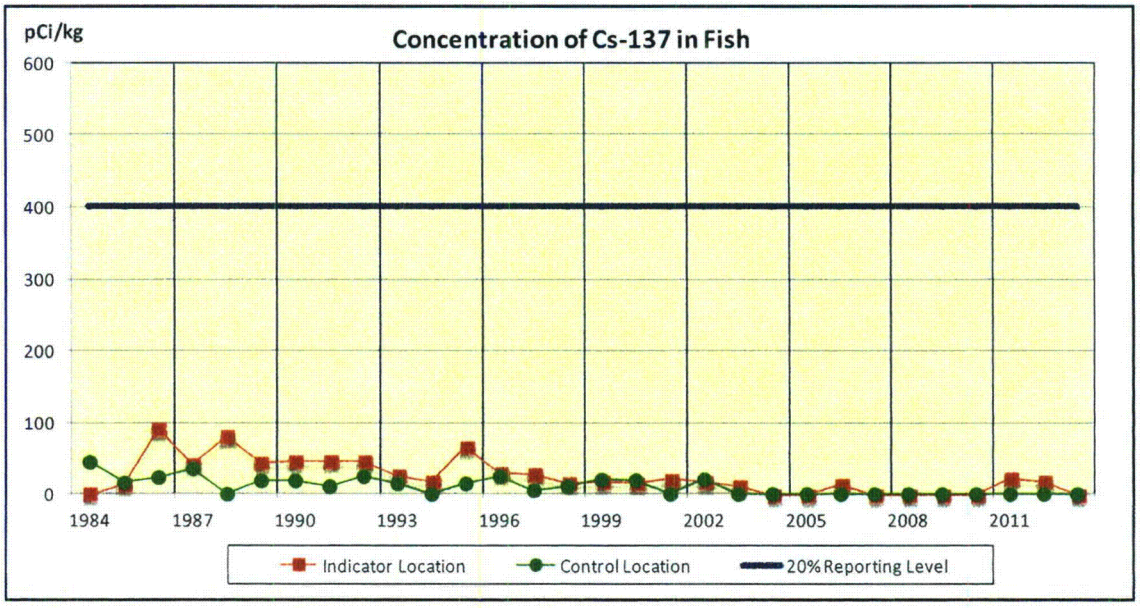


Table 3.8 Mean Concentrations of Radionuclides in Fish (pCi/kg)

Year	Mn-54	Co-58	Co-60	Cs-134	Cs-137	Nb-95	Fe-59	Sb-122	Sb-125
1984	3.07E0	3.00E0	6.11E-1	-5.32E0	1.83E0	0.00E0	0.00E0	0.00E0	0.00E0
1985	7.68E-1	3.40E1	9.11E0	3.22E0	1.28E1	5.07E0	0.00E0	0.00E0	0.00E0
1986	2.01E1	1.86E2	4.01E1	3.51E1	9.29E1	0.00E0	7.30E0	0.00E0	0.00E0
1987	7.24E0	7.57E1	4.81E1	3.83E0	4.27E1	5.40E0	0.00E0	0.00E0	0.00E0
1988	2.85E1	1.40E2	9.70E1	1.67E1	8.24E1	0.00E0	0.00E0	0.00E0	0.00E0
1989	8.28E0	1.33E2	3.83E1	1.47E1	4.37E1	8.58E-1	0.00E0	0.00E0	0.00E0
1990	2.51E1	1.75E2	7.77E1	1.32E1	4.66E1	3.33E0	0.00E0	7.00E0	9.25E0
1991	3.15E1	1.46E2	1.29E2	1.03E1	4.60E1	7.90E-1	2.30E0	0.00E0	7.45E0
1992	1.34E1	9.02E1	6.20E1	1.27E1	4.61E1	0.00E0	0.00E0	0.00E0	0.00E0
1993	2.14E1	3.58E2	1.21E2	2.73E0	2.56E1	0.00E0	0.00E0	0.00E0	0.00E0
1994	1.91E0	4.75E1	1.81E1	0.00E0	1.75E1	0.00E0	0.00E0	0.00E0	1.45E1
1995	5.65E1	8.90E2	2.66E2	0.00E0	6.77E1	1.38E1	0.00E0	0.00E0	0.00E0
1996	0.00E0	5.95E1	6.68E1	0.00E0	3.02E1	0.00E0	0.00E0	0.00E0	0.00E0
1997	0.00E0	4.93E1	9.88E0	0.00E0	2.74E1	0.00E0	0.00E0	0.00E0	0.00E0
1998	0.00E0	6.44E1	2.86E1	0.00E0	1.58E1	0.00E0	0.00E0	0.00E0	0.00E0
1999	0.00E0	3.12E1	2.71E1	0.00E0	1.87E1	0.00E0	0.00E0	0.00E0	0.00E0
2000	0.00E0	2.13E2	2.69E2	0.00E0	1.52E1	0.00E0	0.00E0	0.00E0	0.00E0
2001	0.00E0	4.66E1	0.00E0	0.00E0	2.08E1	0.00E0	0.00E0	0.00E0	0.00E0
2002	0.00E0	5.23E1	7.00E1	0.00E0	1.73E1	0.00E0	0.00E0	0.00E0	0.00E0
2003	0.00E0	1.43E2	2.61E1	0.00E0	1.19E1	0.00E0	0.00E0	0.00E0	0.00E0
2004	4.92E1	1.81E1	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0
2005	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0
2006	0.00E0	0.00E0	0.00E0	0.00E0	1.44E1	0.00E0	0.00E0	0.00E0	0.00E0
2007	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0
2008	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0
2009	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0
2010	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0
2011	0.00E0	0.00E0	0.00E0	0.00E0	2.16E1	0.00E0	0.00E0	0.00E0	0.00E0
2012	0.00E0	0.00E0	0.00E0	0.00E0	1.84E1	0.00E0	0.00E0	0.00E0	0.00E0
2013	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0

0.00E0 = no detectable measurements

3.9 SHORELINE SEDIMENT

During 2013, a total of 6 shoreline sediment samples was analyzed, four from two indicator locations and two from the control location.

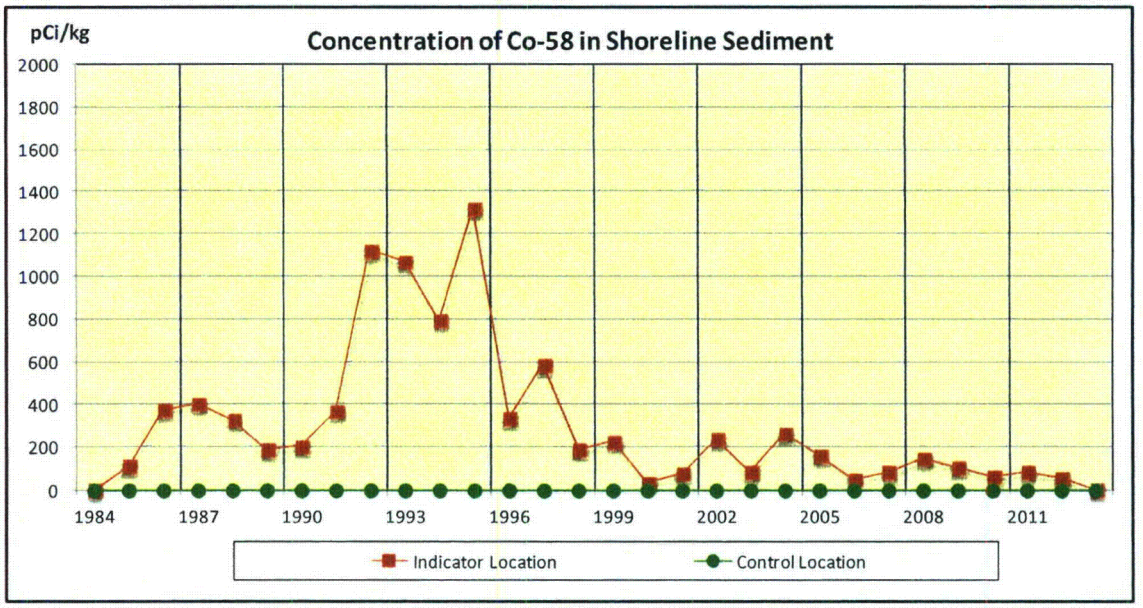
Co-58, Co-60, and Cs-137 are normally the predominant radionuclides identified in shoreline sediment samples. There were no gamma emitting radionuclides identified in any indicator location or control location shoreline sediment samples during 2013.

Table 3.9 lists highest indicator location annual mean since 1984. Included in the table are radionuclides that have been identified in shoreline sediment samples since 1988.

Figures 3.9-1, 3.9-2, and 3.9-3 are graphs displaying annual mean concentrations for Co-58, Co-60, and Cs-137.

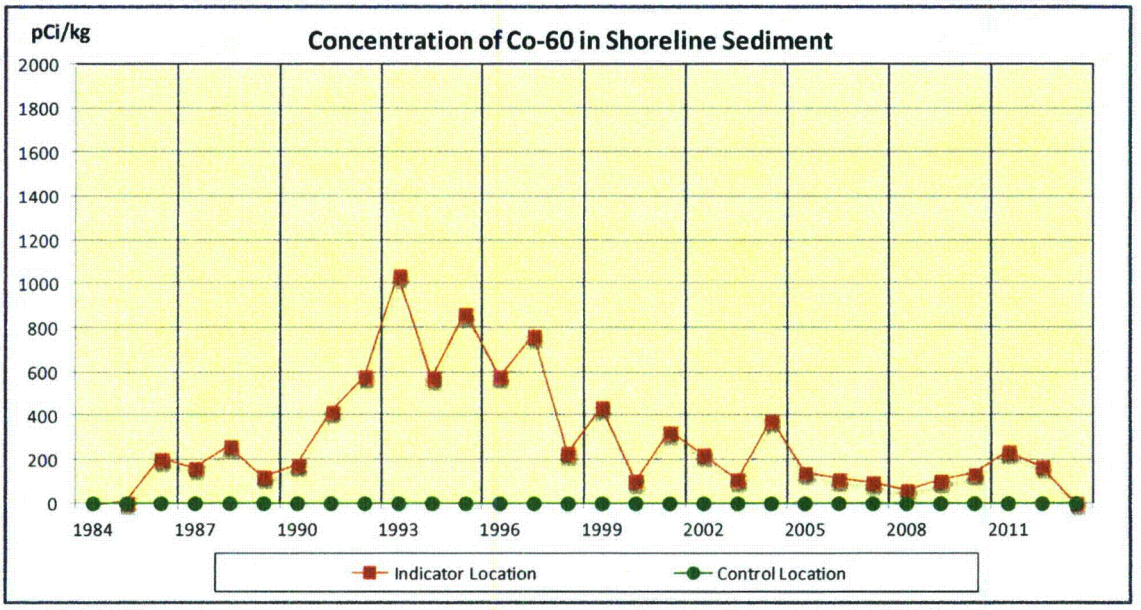
Naturally occurring K-40 was observed in some shoreline sediment samples collected during 2013.

Figure 3.9-1



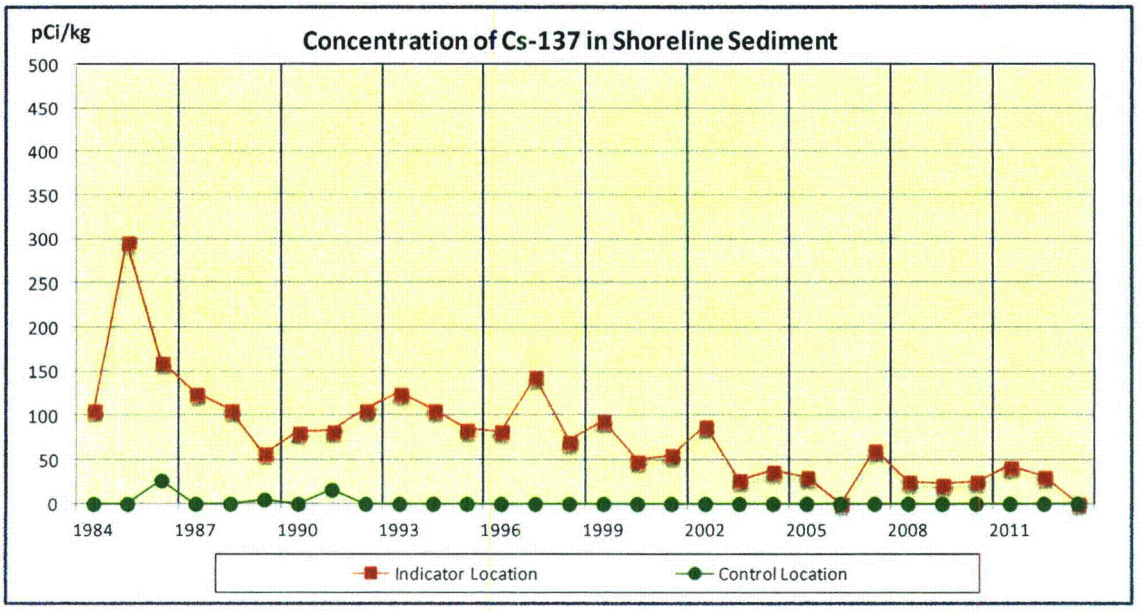
There is no reporting level for Co-58 in Shoreline Sediment

Figure 3.9-2



There is no reporting level for Co-60 in Shoreline Sediment

Figure 3.9-3



There is no reporting level for Cs-137 in Shoreline Sediment

Table 3.9 Mean Concentrations of Radionuclides in Shoreline Sediment (pCi/kg)

Year	Mn-54	Co-58	Co-60	Nb-95	Zr-95	Cs-134	Cs-137	Co-57	Sb-125
1984	1.03E0	4.40E0	-2.34E0	0.00E0	0.00E0	3.19E1	1.07E2	0.00E0	0.00E0
1985	-3.12E0	1.16E2	5.18E0	0.00E0	0.00E0	2.11E2	2.97E2	0.00E0	0.00E0
1986	1.09E2	3.79E2	2.05E2	0.00E0	3.96E1	6.50E1	1.61E2	0.00E0	0.00E0
1987	8.83E1	4.08E2	1.61E2	4.22E1	0.00E0	6.08E1	1.26E2	0.00E0	0.00E0
1988	1.07E2	3.29E2	2.63E2	2.28E1	7.54E0	2.59E1	1.07E2	7.65E-1	3.68E0
1989	4.58E1	1.94E2	1.21E2	5.02E0	0.00E0	1.65E1	5.77E1	0.00E0	1.57E1
1990	5.39E1	2.08E2	1.77E2	0.00E0	0.00E0	1.66E1	8.18E1	0.00E0	7.15E0
1991	8.50E1	3.70E2	4.19E2	5.30E0	0.00E0	1.82E1	8.33E1	1.20E0	1.50E1
1992	1.17E2	1.13E3	5.80E2	3.50E0	0.00E0	1.69E1	1.07E2	3.00E0	2.70E1
1993	1.33E2	1.07E3	1.04E3	0.00E0	0.00E0	2.80E1	1.26E2	2.47E1	2.16E2
1994	4.93E1	7.98E2	5.73E2	0.00E0	0.00E0	5.67E0	1.07E2	4.38E0	4.60E1
1995	1.02E2	1.33E3	8.65E2	1.13E2	0.00E0	0.00E0	8.50E1	3.69E1	1.49E2
1996	8.73E1	3.39E2	5.81E2	0.00E0	0.00E0	0.00E0	8.30E1	0.00E0	1.96E2
1997	6.96E1	5.90E2	7.64E2	0.00E0	0.00E0	0.00E0	1.43E2	0.00E0	1.76E2
1998	3.07E1	1.88E2	2.30E2	0.00E0	0.00E0	0.00E0	7.11E1	0.00E0	0.00E0
1999	7.28E1	2.29E2	4.39E2	0.00E0	0.00E0	0.00E0	9.42E1	0.00E0	1.40E2
2000	0.00E0	3.90E1	1.03E2	0.00E0	0.00E0	0.00E0	4.96E1	0.00E0	0.00E0
2001	3.86E1	8.27E1	3.29E2	0.00E0	0.00E0	0.00E0	5.58E1	0.00E0	0.00E0
2002	3.51E1	2.41E2	2.22E2	0.00E0	0.00E0	0.00E0	8.83E1	0.00E0	0.00E0
2003	2.17E1	8.75E1	1.08E2	0.00E0	0.00E0	0.00E0	2.69E1	0.00E0	0.00E0
2004	6.60E1	2.67E2	3.83E2	0.00E0	0.00E0	0.00E0	3.79E1	0.00E0	0.00E0
2005	0.00E0	1.61E2	1.41E2	0.00E0	0.00E0	0.00E0	3.04E1	0.00E0	0.00E0
2006	0.00E0	5.40E1	1.11E2	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0
2007	0.00E0	8.77E1	9.46E1	0.00E0	0.00E0	0.00E0	6.13E1	0.00E0	0.00E0
2008	0.00E0	1.48E2	6.24E1	0.00E0	0.00E0	0.00E0	2.57E1	0.00E0	0.00E0
2009	0.00E0	1.10E2	1.04E2	0.00E0	0.00E0	0.00E0	2.27E1	0.00E0	0.00E0
2010	0.00E0	6.56E1	1.37E2	0.00E0	0.00E0	0.00E0	2.56E1	0.00E0	0.00E0
2011	0.00E0	8.36E1	2.36E2	0.00E0	0.00E0	3.62E1	4.33E1	1.05E1	0.00E0
2012	0.00E0	5.59E1	1.70E2	0.00E0	0.00E0	0.00E0	3.15E1	0.00E0	0.00E0
2013	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0

0.00E0 = no detectable measurements
1984 - 1986 mean based on all net activity
Negative values are calculated as zeroes

3.10 DIRECT GAMMA RADIATION

3.10.1 ENVIRONMENTAL TLD

In 2013, 164 TLDs were analyzed, 152 at indicator locations and 12 at control locations. TLDs are collected and analyzed quarterly. A transit background for environmental TLDs is determined based on ANSI N545. The highest annual mean exposure for an indicator location was 96.7 milliroentgen. The annual mean exposure for the control locations was 58.0 milliroentgen.

Figure 3.10 and Table 3.10 show TLD inner ring (site boundary), outerRing (4-5 miles), and control location annual averages in milliroentgen per year. Preoperational data and rolling ten year operational data averages are also given. As shown in the graph, inner ring, outer ring, and control data averages historically compare closely. Inner and outer ring averages comprise a number of data points with control averages representing only three locations.

The calculated total body dose (from gaseous effluents) for 2013 was 1.96E0 mrem, which is 2.51% of the average inner ring TLD values. Therefore, it can be concluded that discharges from the plant had very little impact upon the measured TLD values.

A TLD intercomparison program is conducted as part of the quality assurance program. Results of this program are included in section 5.10.

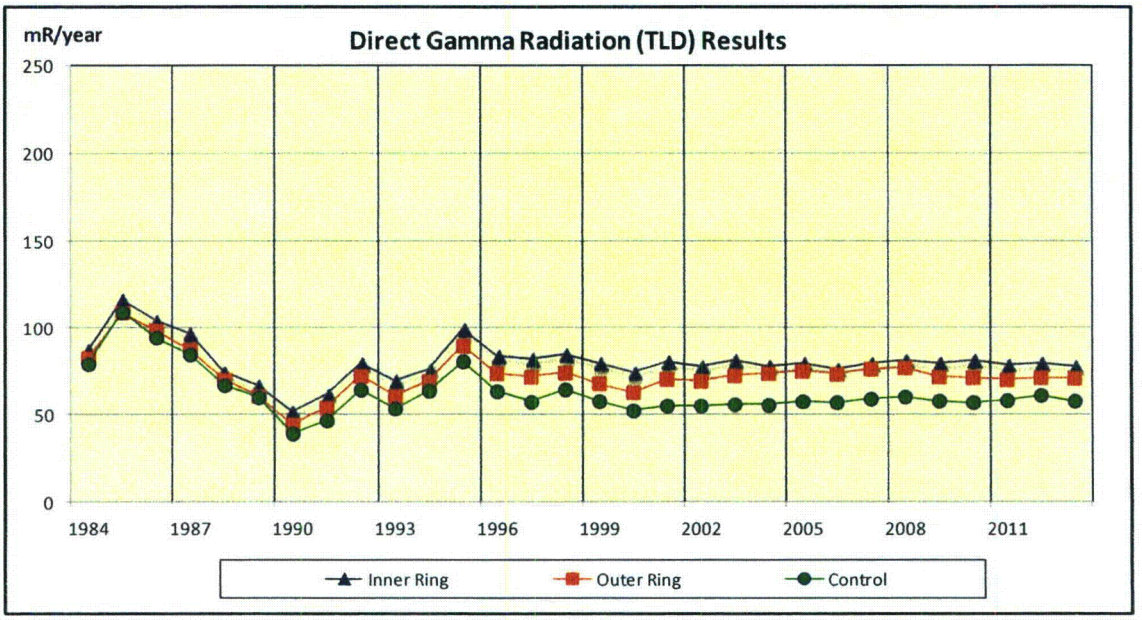
3.10.2 ISFSI

The Catawba Independent Spent Fuel Storage Installation (ISFSI) is a secured area constructed to provide dry storage for spent nuclear fuel. The principal components of the ISFSI are concrete vertical storage modules that hold stainless steel dry storage canisters containing irradiated fuel assemblies.

The ISFSI is located approximately 300 meters north of the Unit 2 reactor building. TLD results are evaluated quarterly to identify trends and demonstrate compliance with dose and dose rate limits at the ISFSI boundaries, the Owner Controlled fence north of ISFSI and at the Exclusion Area Boundary in the west sector. Catawba began storage of spent fuel at the ISFSI in 2007.

Doses measured by environmental TLDs show little or no change since the current TLD system was implemented.

Figure 3.10



There is no reporting level for Direct Radiation (TLD)

Table 3.10 Direct Gamma Radiation (TLD) Results

Year	Inner Ring Average (mR/yr)	Outer Ring Average (mR/yr)	Control Average (mR/yr)
1984*	87.5	82.6	79.3
1985	117	109	109
1986	104	98.5	94.4
1987	97.0	87.4	84.7
1988	74.6	70.3	67.1
1989	67.1	60.8	60.0
1990	52.0	44.5	39.1
1991	62.0	54.1	46.7
1992	80.4	72.5	64.5
1993	70.3	60.9	53.6
1994	76.3	69.3	63.9
1995	99.6	89.7	80.8
1996	84.3	73.9	63.6
1997	82.4	71.9	57.4
1998	85.3	74.2	64.6
1999	80.0	68.1	57.8
2000	75.0	63.0	52.4
2001	81.0	70.5	55.2
2002	78.8	69.5	55.2
2003	81.7	72.6	56.0
2004	78.6	73.8	55.6
2005	79.8	75.2	57.7
2006	76.9	73.6	57.2
2007	80.5	76.4	59.2
2008	81.5	77.1	60.4
2009	79.9	71.9	58.0
2010	81.4	71.6	57.2
2011	78.9	70.3	58.3
2012	80.1	71.6	61.3
Average (2003 – 2012)	79.9	73.4	58.1
2013	78.2	71.2	58.0

* Preoperational Data

3.11 LAND USE CENSUS

The 2013 Annual Land Use Census was conducted July 10, and July 11, 2013 as required by SLC 16.11-14. Table 3.11 summarizes census results. A map indicating identified locations is shown in Figure 3.11.

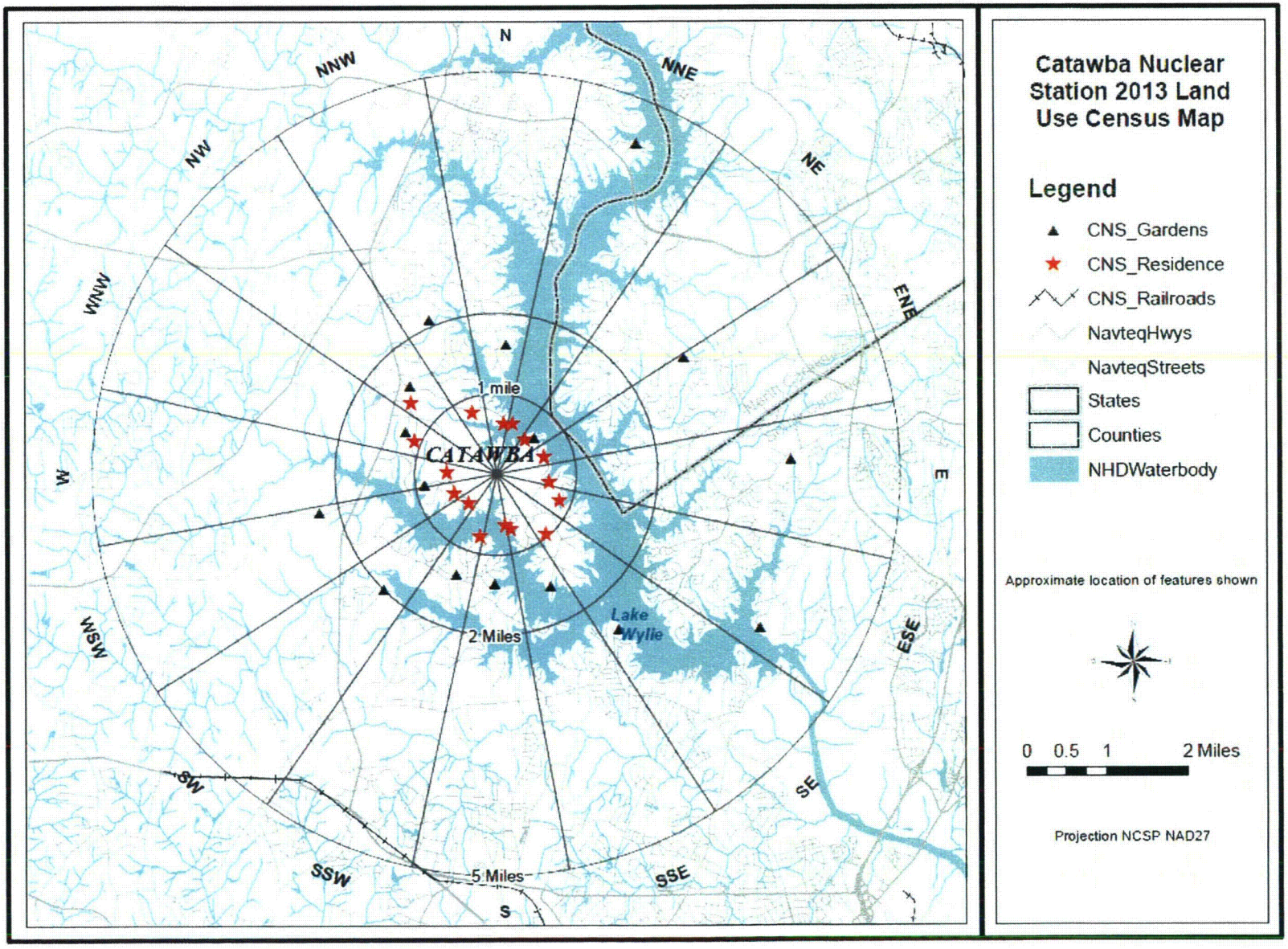
During the 2013 census no irrigated gardens (superior to existing gardens) or milk locations were identified. The nearest residence is located in the NE sector at 0.56 miles. No environmental program changes were required as a result of the 2013 land use census.

Table 3.11 Catawba 2013 Land Use Census Results

Sector		Distance (Miles)	Sector		Distance (Miles)
N	Nearest Residence	0.63	S	Nearest Residence	0.63
	Nearest Garden (irrigated)	1.55		Nearest Garden	1.25
	Nearest Milk Animal	-		Nearest Milk Animal	-
NNE	Nearest Residence	0.66	SSW	Nearest Residence	0.81
	Nearest Garden	4.47		Nearest Garden	1.34
	Nearest Milk Animal	-		Nearest Milk Animal	-
NE	Nearest Residence	0.56	SW	Nearest Residence	0.63
	Nearest Garden	0.68		Nearest Garden	2.02
	Nearest Milk Animal	-		Nearest Milk Animal	-
ENE	Nearest Residence	0.61	WSW	Nearest Residence	0.57
	Nearest Garden	2.73		Nearest Garden	2.03
	Nearest Milk Animal	-		Nearest Milk Animal	-
E	Nearest Residence	0.65	W	Nearest Residence	0.68
	Nearest Garden	3.52		Nearest Garden	0.96
	Nearest Milk Animal	-		Nearest Milk Animal	-
ESE	Nearest Residence	0.84	WNW	Nearest Residence	1.10
	Nearest Garden	3.70		Nearest Garden	1.26
	Nearest Milk Animal	-		Nearest Milk Animal	-
SE	Nearest Residence	0.97	NW	Nearest Residence	1.39
	Nearest Garden (irrigated)	2.55		Nearest Garden	1.54
	Nearest Milk Animal	-		Nearest Milk Animal	-
SSE	Nearest Residence	0.74	NNW	Nearest Residence	0.86
	Nearest Garden	1.64		Nearest Garden	2.13
	Nearest Milk Animal	-		Nearest Milk Animal	-

"-" indicates no occurrences within the 5 mile radius

Figure 3.11


N
NNW
NNE
NW
NE
WNW
ENE
W
E
WSW
ESE
SW
SE
SSW
SSE
S
1 mile
2 Miles
5 Miles
CATAWBA
Lake Wylie
Catawba Nuclear Station 2013 Land Use Census Map
Legend
CNS_Gardens
CNS_Residence
CNS_Railroads
NavteqHwys
NavteqStreets
States
Counties
NHDWaterbody
Approximate location of features shown
0 0.5 1 2 Miles
Projection NCSP NAD27

4.0 EVALUATION OF DOSE

4.1 DOSE FROM ENVIRONMENTAL MEASUREMENTS

Annual doses to maximum exposed individuals were estimated based on measured concentrations of radionuclides in 2013 CNS REMP samples. The primary purpose of estimating doses based on sample results is to allow comparison to effluent program dose estimates.

Doses based on sample results were calculated using the methodology and data presented in NRC Regulatory Guide 1.109. Measured radionuclide concentrations, averaged over the entire year for a specific radionuclide, indicator location and sample type, were used to calculate REMP-based doses. Where applicable, average background concentration at the corresponding control location was subtracted. Regulatory Guide 1.109 consumption rates for the maximum exposed individual were used in the calculations. When the guide listed "NO DATA" as the dose factor for a given radionuclide and organ, a dose factor of zero was assumed.

Maximum dose estimates (Highest Annual Mean Concentration) based on fish sample results are reported in Table 4.1-A. The individual critical population and pathway dose calculations are reported in Table 4.1-B.

REMP-based dose estimates are not reported for airborne radioiodine, airborne particulate, milk, or ground water sample types because no radionuclides attributable to CNS operations were detected. Naturally occurring K-40 and Be-7 were detected in some samples but were not included in any REMP-based dose estimates. Dose estimates are not reported for surface water because sampled surface water is not considered to be a potable drinking water source although surface water tritium concentrations are used in calculating doses from fish. Exposure estimates based upon REMP TLD results are discussed in Section 3.10.

The maximum environmental organ dose estimate for any single sample type (excluding TLD results) collected during 2013 was 1.63E-2 mrem to the adult liver, total body, thyroid, kidney, lung, and GI-LLI from consuming fish.

4.2 ESTIMATED DOSE FROM RELEASES

Throughout the year, dose estimates were calculated based on actual 2013 liquid and gaseous effluent release data. Effluent-based dose estimates were calculated using the RETDAS computer program which employs methodology and data presented in NRC Regulatory Guide 1.109. These doses are shown in Table 4.1-A along with the corresponding REMP-based dose estimates. Summaries of RETDAS dose calculations are reported in the Annual Radioactive Effluent Release Report (reference 6.6).

The effluent-based liquid release doses are summations of the dose contributions from the drinking water, fish, and shoreline pathways. For iodine, particulate, and tritium exposure the effluent-based gaseous release doses are summations of the dose contributors from ground/plane, inhalation, milk and vegetation pathways.

4.3 COMPARISON OF DOSES

The environmental and effluent dose estimates given in Table 4.1-A agree reasonably well. The similarity of the doses indicate that the radioactivity levels in the environment do not differ significantly from those expected based on effluent measurements and modeling of the environmental exposure pathways. This indicates that effluent program dose estimates are both valid and reasonably conservative.

There are some differences in how effluent and environmental doses are calculated that affect the comparison. Doses calculated from environmental data are conservative because they are based on a mean that includes only samples with a net positive activity versus a mean that includes all sample results (i.e. zero results are not included in the mean). Also, airborne tritium is not measured in environmental samples but is used to calculate effluent doses.

Additionally, in 2010 Catawba began reporting estimated dose from effluent Carbon 14 (C-14). This change came about with the issuing of Regulatory Guide 1.21, Revision 2, Measuring, Evaluating and Reporting Radioactive Material in Liquid and Gaseous Effluents and Solid Waste. A description of this change is found in the 2010 Annual Radiological Effluent Release Report. C-14 is not measured in the environment and therefore, environmental and effluent doses from C-14 cannot be compared directly.

In calculations based on liquid release pathways, shoreline sediment, drinking water, and fish were the predominant dose pathways based on environmental and effluent data. The maximum total organ dose based on 2013 environmental sample results was 1.63E-2 mrem to the adult liver, total body, thyroid, kidney, lung, and GI-LLI. The maximum total organ dose of 1.09E-1 mrem for liquid effluent-based estimates was to child liver.

In calculations based on gaseous release pathways, vegetation was the predominant dose pathway for effluent samples. The maximum total organ dose for gaseous effluent estimates was 4.82E0 mrem to the child bone. No radioactivity was detected from gaseous pathways in environmental samples; therefore, there is no calculated dose.

The doses calculated do not exceed 40CFR190 or 10CFR50 dose commitment limits for members of the public. Doses to members of the public attributable to the operation of CNS are being maintained well within regulatory limits.

TABLE 4.1-A

CATAWBA NUCLEAR STATION
2013 ENVIRONMENTAL AND EFFLUENT DOSE COMPARISON

LIQUID RELEASE PATHWAY

Organ	Environmental or Effluent Data	Critical Age [1]	Critical Pathway [2]	Location	Maximum Dose [3] (mrem)
Skin	Environmental	-	-	-	0.00E+00
Skin	Effluent	Teen	Shoreline Sediment	Discharge Pt.	3.18E-03
Bone	Environmental	-	-	-	0.00E+00
Bone	Effluent	Teen	Shoreline Sediment	Discharge Pt.	4.42E-03
Liver	Environmental	Adult	Fish	208 (0.45 mi S)	1.63E-02
Liver	Effluent	Child	Drinking Water	7.30 mi SSE	1.09E-01
T. Body	Environmental	Adult	Fish	208 (0.45 mi S)	1.63E-02
T. Body	Effluent	Child	Drinking Water	7.30 mi SSE	1.08E-01
Thyroid	Environmental	Adult	Fish	208 (0.45 mi S)	1.63E-02
Thyroid	Effluent	Child	Drinking Water	7.30 mi SSE	1.07E-01
Kidney	Environmental	Adult	Fish	208 (0.45 mi S)	1.63E-02
Kidney	Effluent	Child	Drinking Water	7.30 mi SSE	1.08E-01
Lung	Environmental	Adult	Fish	208 (0.45 mi S)	1.63E-02
Lung	Effluent	Child	Drinking Water	7.30 mi SSE	1.07E-01
GI-LLI	Environmental	-	-	-	0.00E+00
GI-LLI	Effluent	Child	Drinking Water	7.30 mi SSE	1.08E-01

(1) Critical Age is the highest total dose (all pathways) to an age group.

(2) Critial Pathway is the highest individual dose within the identified Critical Age group.

(3) Maximum dose is a summation of the fish, drinking water and shoreline sediment pathways.

GASEOUS RELEASE PATHWAY

IODINE, PARTICULATE, and TRITIUM

Organ	Environmental or Effluent Data	Critical Age [1]	Critical Pathway [2]	Location	Maximum Dose [3] (mrem)
Skin	Environmental	-	-	-	0.00E+00
Skin	Effluent	-	-	-	0.00E+00
Bone	Environmental	-	-	-	0.00E+00
Bone	Effluent	Child	Vegetation	0.5 mi NE	4.82E+00
Liver	Environmental	-	-	-	0.00E+00
Liver	Effluent	Child	Vegetation	0.5 mi NE	1.96E+00
T. Body	Environmental	-	-	-	0.00E+00
T. Body	Effluent	Child	Vegetation	0.5 mi NE	1.96E+00
Thyroid	Environmental	-	-	-	0.00E+00
Thyroid	Effluent	Child	Vegetation	0.5 mi NE	1.96E+00
Kidney	Environmental	-	-	-	0.00E+00
Kidney	Effluent	Child	Vegetation	0.5 mi NE	1.96E+00
Lung	Environmental	-	-	-	0.00E+00
Lung	Effluent	Child	Vegetation	0.5 mi NE	1.96E+00
GI-LLI	Environmental	-	-	-	0.00E+00
GI-LLI	Effluent	Child	Vegetation	0.5 mi NE	1.96E+00

(1) Critical Age is the highest total dose (all pathways) to an age group.

(2) Critial Pathway is the highest individual dose within the identified Critical Age group.

(3) Maximum dose is a summation of the ground/plane, inhalation, milk and vegetation pathways.

TABLE 4.1-B

Maximum Individual Dose for 2013 based on Environmental Measurements (mrem) for Catawba Nuclear Station

Age	Sample Medium	Bone	Liver	T. Body	Thyroid	Kidney	Lung	GI-LLI	Skin
Infant	Airborne	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Drinking Water	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Milk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	TOTAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Child	Airborne	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Drinking Water	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Milk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Broadleaf Vegetation	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Fish	0.00E+00	1.04E-02	1.04E-02	1.04E-02	1.04E-02	1.04E-02	1.04E-02	0.00E+00
	Shoreline Sediment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	TOTAL	0.00E+00	1.04E-02	1.04E-02	1.04E-02	1.04E-02	1.04E-02	1.04E-02	0.00E+00
Teen	Airborne	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Drinking Water	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Milk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Broadleaf Vegetation	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Fish	0.00E+00	1.25E-02	1.25E-02	1.25E-02	1.25E-02	1.25E-02	1.25E-02	0.00E+00
	Shoreline Sediment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	TOTAL	0.00E+00	1.25E-02	1.25E-02	1.25E-02	1.25E-02	1.25E-02	1.25E-02	0.00E+00
Adult	Airborne	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Drinking Water	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Milk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Broadleaf Vegetation	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Fish	0.00E+00	1.63E-02	1.63E-02	1.63E-02	1.63E-02	1.63E-02	1.63E-02	0.00E+00
	Shoreline Sediment	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	TOTAL	0.00E+00	1.63E-02	1.63E-02	1.63E-02	1.63E-02	1.63E-02	1.63E-02	0.00E+00

Note: Dose tables are provided for sample media displaying positive nuclide occurrence.

Catawba Nuclear Station

Dose from Fish Pathway for 2013 Data

Maximum Exposed Child

Child Dose from Fish Pathway (mrem) = Usage (kg) x Dose Factor (mrem/pCi ingested) x Concentration (pCi/kg)

H-3 Concentration in Fish = Surface Water pCi/l x Bioaccumulation Factor 0.9 pCi/kg per pCi/l = 8213 pCi/l x 0.9 = 7392 pCi/kg

Usage (intake in one year) = **6.9 kg**

	Ingestion Dose Factor							Highest Annual Net Mean Concentration		Dose (mrem)						
Radionuclide	Bone	Liver	T. Body	Thyroid	Kidney	Lung	GI-LLI	Indicator Location	Fish (pCi/kg)	Bone	Liver	T. Body	Thyroid	Kidney	Lung	GI-LLI
Mn-54	NO DATA	1.07E-05	2.85E-06	NO DATA	3.00E-06	NO DATA	8.98E-06	ALL	0.00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Co-58	NO DATA	1.80E-06	5.51E-06	NO DATA	NO DATA	NO DATA	1.05E-05	ALL	0.00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fe-59	1.65E-05	2.67E-05	1.33E-05	NO DATA	NO DATA	7.74E-06	2.78E-05	ALL	0.00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
C0-60	NO DATA	5.29E-06	1.56E-05	NO DATA	NO DATA	NO DATA	2.93E-05	ALL	0.00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Zn-65	1.37E-05	3.65E-05	2.27E-05	NO DATA	2.30E-05	NO DATA	6.41E-06	ALL	0.00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Cs-134	2.34E-04	3.84E-04	8.10E-05	NO DATA	1.19E-04	4.27E-05	2.07E-06	ALL	0.00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Cs-137	3.27E-04	3.13E-04	4.62E-05	NO DATA	1.02E-04	3.67E-05	1.96E-06	ALL	0.00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
H-3	NO DATA	2.03E-07	2.03E-07	2.03E-07	2.03E-07	2.03E-07	2.03E-07	208	7392	0.00E+00	1.04E-02	1.04E-02	1.04E-02	1.04E-02	1.04E-02	1.04E-02
						Dose Commitment (mrem) =				0.00E+00	1.04E-02	1.04E-02	1.04E-02	1.04E-02	1.04E-02	1.04E-02

Catawba Nuclear Station
Dose from Fish Pathway for 2013 Data
Maximum Exposed Teen

Teen Dose from Fish Pathway (mrem) = Usage (kg) x Dose Factor (mrem/pCi ingested) x Concentration (pCi/kg)

H-3 Concentration in Fish = Surface Water pCi/l x Bioaccumulation Factor 0.9 pCi/kg per pCi/l = 8213 pCi/l x 0.9 = 7392 pCi/kg

Usage (intake in one year) = 16 kg

	Ingestion Dose Factor							Highest Annual Net Mean Concentration		Dose (mrem)						
Radionuclide	Bone	Liver	T. Body	Thyroid	Kidney	Lung	GI-LLI	Location	(pCi/kg)	Bone	Liver	T. Body	Thyroid	Kidney	Lung	GI-LLI
Mn-54	NO DATA	5.90E-06	1.17E-06	NO DATA	1.76E-06	NO DATA	1.21E-05	ALL	0.00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Co-58	NO DATA	9.72E-07	2.24E-06	NO DATA	NO DATA	NO DATA	1.34E-05	ALL	0.00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fe-59	5.87E-06	1.37E-05	5.29E-06	NO DATA	NO DATA	4.32E-06	3.24E-05	ALL	0.00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Co-60	NO DATA	2.81E-06	6.33E-06	NO DATA	NO DATA	NO DATA	3.66E-05	ALL	0.00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Zn-65	5.76E-06	2.00E-05	9.33E-06	NO DATA	1.28E-05	NO DATA	8.47E-06	ALL	0.00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Cs-134	8.37E-05	1.97E-04	9.14E-05	NO DATA	6.26E-05	2.39E-05	2.45E-06	ALL	0.00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Cs-137	1.12E-04	1.49E-04	5.19E-05	NO DATA	5.07E-05	1.97E-05	2.12E-06	ALL	0.00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
H-3	NO DATA	1.06E-07	1.06E-07	1.06E-07	1.06E-07	1.06E-07	1.06E-07	208	7392	0.00E+00	1.25E-02	1.25E-02	1.25E-02	1.25E-02	1.25E-02	1.25E-02
						Dose Commitment (mrem) =				0.00E+00	1.25E-02	1.25E-02	1.25E-02	1.25E-02	1.25E-02	1.25E-02

Catawba Nuclear Station
Dose from Fish Pathway for 2013 Data
Maximum Exposed Adult

Adult Dose from Fish Pathway (mrem) = Usage (kg) x Dose Factor (mrem/pCi ingested) x Concentration (pCi/kg)

H-3 Concentration in Fish = Surface Water pCi/l x Bioaccumulation Factor 0.9 pCi/kg per pCi/l = 8213 pCi/l x 0.9 = 7392 pCi/kg

Usage (intake in one year) = 21 kg

	Ingestion Dose Factor							Highest Annual Net Mean Concentration		Dose (mrem)						
Radionuclide	Bone	Liver	T. Body	Thyroid	Kidney	Lung	GI-LLI	Location	(pCi/kg)	Bone	Liver	T. Body	Thyroid	Kidney	Lung	GI-LLI
Mn-54	NO DATA	4.57E-06	8.72E-07	NO DATA	1.36E-06	NO DATA	1.40E-05	ALL	0.00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Co-58	NO DATA	7.45E-07	1.67E-06	NO DATA	NO DATA	NO DATA	1.51E-05	ALL	0.00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fe-59	4.34E-06	1.02E-05	3.91E-06	NO DATA	NO DATA	2.85E-06	3.40E-05	ALL	0.00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Co-60	NO DATA	2.14E-06	4.72E-06	NO DATA	NO DATA	NO DATA	4.02E-05	ALL	0.00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Zn-65	4.84E-06	1.54E-05	6.96E-06	NO DATA	1.03E-05	NO DATA	9.70E-06	ALL	0.00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Cs-134	6.22E-05	1.48E-04	1.21E-04	NO DATA	4.79E-05	1.59E-05	2.59E-06	ALL	0.00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Cs-137	7.97E-05	1.09E-04	7.14E-05	NO DATA	3.70E-05	1.23E-05	2.11E-06	ALL	0.00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
H-3	NO DATA	1.05E-07	1.05E-07	1.05E-07	1.05E-07	1.05E-07	1.05E-07	208	7392	0.00E+00	1.63E-02	1.63E-02	1.63E-02	1.63E-02	1.63E-02	1.63E-02
						Dose Commitment (mrem) =				0.00E+00	1.63E-02	1.63E-02	1.63E-02	1.63E-02	1.63E-02	1.63E-02

5.0 QUALITY ASSURANCE

5.1 SAMPLE COLLECTION

EnRad Laboratories, Fisheries, and Aquatic Ecology performed the environmental sample collections as specified by approved sample collection procedures.

5.2 SAMPLE ANALYSIS

EnRad Laboratories performed the environmental sample analyses as specified by approved analysis procedures. EnRad Laboratories is located in Huntersville, North Carolina, at Duke Energy's Environmental Center.

5.3 DOSIMETRY ANALYSIS

The Radiation Dosimetry and Records group performed environmental dosimetry measurements as specified by approved dosimetry analysis procedures.

5.4 LABORATORY EQUIPMENT QUALITY ASSURANCE

5.4.1 DAILY QUALITY CONTROL

EnRad Laboratories has an internal quality assurance program which monitors each type of instrumentation for reliability and accuracy. Daily quality control checks ensure that instruments are in proper working order and these checks are used to monitor instrument performance.

5.4.2 CALIBRATION VERIFICATION

National Institute of Standards and Technology (NIST) standards that represent counting geometries are analyzed as unknowns at various frequencies ranging from weekly to annually to verify that efficiency calibrations are valid. The frequency is dependent upon instrument use and performance. Investigations are performed and documented should calibration verification data fall outside of the acceptable limits.

5.4.3 BATCH PROCESSING

Method quality control samples are analyzed with sample analyses that are processed in batches. These include gross beta in drinking water and tritium analyses.

5.5 DUKE ENERGY INTERCOMPARISON PROGRAM

EnRad Laboratories participated in the Duke Energy Fleet Scientific Services (FSS) Intercomparison Program during 2013. Interlaboratory cross-check standards,

including gamma in water (Marinelli beakers), and tritium in water samples were analyzed during 2013. A summary of the EnRad Laboratory program results for 2013 is documented in Table 5.0-A.

5.6 ECKERT & ZIEGLER ANALYTICS CROSS CHECK PROGRAM

EnRad Laboratories participated in the Eckert & Ziegler Analytics Cross Check Program during 2013. Cross-check standards including Marinelli beakers, air filters, tritium in water, and Iodine in milk samples were analyzed at various times of the year. A summary of the EnRad Laboratory program results for 2013 is documented in Table 5.0-B.

5.7 ERA PROFICIENCY TESTING

EnRad Laboratories performed method proficiency testing through a program administered by Environmental Resource Associates (ERA) of Arvada, CO. ERA supplied requested method proficiency samples for analysis and nuclide concentration determination. ERA reported proficiency test results to the North Carolina Department of Health and Human Services, North Carolina Public Health Drinking Water Laboratory Certification Program. A summary of these proficiency test data for 2013 is documented in Table 5.0-C.

5.8 DUKE ENERGY AUDITS

The Catawba Nuclear Station Radiological Environmental Monitoring Program was not audited by the Quality Assurance Group in 2013 but was audited in 2012 (reference 6.14). No environmental monitoring issues were identified.

5.9 U.S. NUCLEAR REGULATORY COMMISSION INSPECTIONS

The Catawba Nuclear Station Radiological Environmental Monitoring Program was audited by the NRC in 2013 (reference 6.12). No findings were noted in the 2013 audit report.

5.10 STATE OF SOUTH CAROLINA INTERCOMPARISON PROGRAM

Catawba Nuclear Station routinely participates with the Bureau of Radiological Health of the State's Department of Health and Environmental Control (DHEC) in an intercomparison program. The Memorandum of Agreement (MOA) between SC DHEC and Duke Energy describes the sampling frequency and analysis parameters for drinking water, surface water, milk, fish, vegetation, and shoreline sediment samples collected by EnRad Laboratories. Samples are routinely split with DHEC for intercomparison analysis. DHEC collects air samples near two of the locations sampled for air by CNS. Results of the analyses performed on split and duplicate samples are sent to DHEC. This program was discontinued late in the year at the request of SC DHEC (Reference 6.15) and was replaced by a similar program with a vendor laboratory.

5.11 TLD INTERCOMPARISON PROGRAM

5.11.1 NUCLEAR TECHNOLOGY SERVICES INTERCOMPARISON PROGRAM

Radiation Dosimetry and Records participates in a quarterly TLD intercomparison program administered by Nuclear Technology Services, Inc. of Roswell, GA. Nuclear Technology Services irradiates environmental dosimeters quarterly and sends them to the Radiation Dosimetry and Records group for analysis of the unknown estimated delivered exposure. A summary of the Nuclear Technology Services Intercomparison Report is documented in Table 5.0-D.

5.11.2 INTERNAL CROSSCHECK (DUKE ENERGY)

Radiation Dosimetry and Records participates in a quarterly TLD intracomparison program administered internally by the Dosimetry Lab. The Dosimetry Lab Staff irradiates environmental dosimeters quarterly and submits them for analysis of the unknown estimated delivered exposure. A summary of the Internal Cross Check (Duke Energy) Result is documented in Table 5.0-D.

TABLE 5.0-A

DUKE ENERGY

INTERLABORATORY COMPARISON PROGRAM

2013 EnRad Fleet Scientific Services Cross Check Performance Summary

Cross check samples were distributed by Fleet Scientific Services (FSS) in accordance with Duke Energy Nuclear Generation Procedure SRPMP 9-2. Six water samples were analyzed for tritium and gamma emitters. The below table lists results for specific analyses. All 27 results were evaluated as prescribed in procedure SRPMP 9-2 and passed the acceptance criteria for the program.

Sample	Sample ID	Nuclide	Quarter	Units	EnRad Value	FSS Value	EnRad/FSS Ratio	Evaluation
Tritium in Water	Q131TWR1	H-3	1	pCi/L	7.48E+02	7.27E+02	1.03	Pass
					7.53E+02	7.27E+02	1.04	Pass
					7.11E+02	7.27E+02	0.98	Pass
	Q131TWR2	H-3	1	pCi/L	7.51E+05	7.85E+05	0.96	Pass
					7.52E+05	7.85E+05	0.96	Pass
					7.49E+05	7.85E+05	0.95	Pass
	Q131TWR3	H-3	1	pCi/L	6.23E+03	5.86E+03	1.06	Pass
					6.36E+03	5.86E+03	1.09	Pass
					6.32E+03	5.86E+03	1.08	Pass
Gamma in Water	Q131GWR - 0.5 L	Mn-54	1	pCi/L	4.16E+03	3.85E+03	1.08	Pass
		Co-57	1	pCi/L	7.42E+03	6.86E+03	1.08	Pass
		Co-60	1	pCi/L	5.94E+03	5.84E+03	1.02	Pass
		Sn-113	1	pCi/L	7.15E+03	7.23E+03	0.99	Pass
		Ba-133	1	pCi/L	5.86E+03	5.70E+03	1.03	Pass
		Cs-137	1	pCi/L	3.38E+03	3.46E+03	0.98	Pass
	Q131GWR - 1.0 L	Mn-54	1	pCi/L	4.21E+03	3.85E+03	1.09	Pass
		Co-57	1	pCi/L	7.68E+03	6.86E+03	1.12	Pass
		Co-60	1	pCi/L	5.90E+03	5.84E+03	1.01	Pass
		Sn-113	1	pCi/L	6.94E+03	7.23E+03	0.96	Pass
		Ba-133	1	pCi/L	5.58E+03	5.70E+03	0.98	Pass
		Cs-137	1	pCi/L	3.38E+03	3.46E+03	0.98	Pass
	Q131GWR - 3.5 L	Mn-54	1	pCi/L	4.38E+03	3.85E+03	1.14	Pass
		Co-57	1	pCi/L	7.91E+03	6.86E+03	1.15	Pass
		Co-60	1	pCi/L	6.18E+03	5.84E+03	1.06	Pass
		Sn-113	1	pCi/L	7.52E+03	7.23E+03	1.04	Pass
		Ba-133	1	pCi/L	5.93E+03	5.70E+03	1.04	Pass
		Cs-137	1	pCi/L	3.48E+03	3.46E+03	1.00	Pass

TABLE 5.0-B

ECKERT & ZIEGLER ANALYTICS

CROSS CHECK PROGRAM

2013 Cross Check Results for EnRad Laboratories

Cross check samples are received, prepared, and analyzed in all four quarters of 2013. Results are reported directly to Eckert & Ziegler Analytics. Environmental cross check samples were analyzed in replicate, and the average result reported to Eckert & Ziegler Analytics. The acceptance criteria for the program was based on the NRC Inspection Manual Procedure 84750 (IP 84750). Fifty-seven environmental results were reported, of which 57 (100%) met the acceptance criteria based on IP 84750.

Sample	Sample ID	Nuclide	Quarter	Units	EnRad Value	EZA Value	EnRad/EZA Ratio	Evaluation
Beta Filter	E10509	Gross Beta	1	pCi	86.5	94.2	0.92	Agreement
	E10606	Gross Beta	3	pCi	187	215	0.87	Agreement
Gamma Filter	E10508	Ce-141	1	pCi	97.3	107	0.91	Agreement
		Cr-51	1	pCi	256	269	0.95	Agreement
		Cs-134	1	pCi	113	122	0.93	Agreement
		Cs-137	1	pCi	144	151	0.95	Agreement
		Co-58	1	pCi	109	119	0.92	Agreement
		Mn-54	1	pCi	121	119	1.02	Agreement
		Fe-59	1	pCi	149	144	1.04	Agreement
		Zn-65	1	pCi	179	171	1.04	Agreement
		Co-60	1	pCi	224	228	0.98	Agreement
I-131 in Milk	E10531	I-131	2	pCi/L	91.8	97.3	0.94	Agreement
I-131 in Water	E10709	I-131	4	pCi/L	98.6	99	1.00	Agreement
Beta in Water	E10532	Gross Beta	2	pCi/L	304	293	1.04	Agreement
	E10708	Gross Beta	4	pCi/L	291	279	1.04	Agreement
I-131 Cartridge	E10533	I-131	2	pCi	94	89.7	1.05	Agreement
	E10707	I-131	4	pCi	77.2	76.5	1.01	Agreement
Gamma Composite Filter	E10534	Ce-141	2	pCi	80.6	77.1	1.05	Agreement
		Cr-51	2	pCi	240	214	1.12	Agreement
		Cs-134	2	pCi	107	107	1.00	Agreement
		Cs-137	2	pCi	122	129	0.95	Agreement
		Co-58	2	pCi	76.6	80.2	0.96	Agreement
		Mn-54	2	pCi	149	147	1.01	Agreement
		Fe-59	2	pCi	105	102	1.03	Agreement
		Zn-65	2	pCi	196	186	1.06	Agreement
		Co-60	2	pCi	152	150	1.02	Agreement

TABLE 5.0-B (Cont.)

Sample	Sample ID	Nuclide	Quarter	Units	EnRad Value	EZA Value	EnRad/EZA Ratio	Evaluation
Tritium in Water	E10535	H-3	2	pCi/L	9690	9890	0.98	Agreement
	E10705	H-3	4	pCi/L	13800	14500	0.95	Agreement
Gamma Composite Filter	E10706	Ce-141	4	pCi	107	117	0.91	Agreement
		Cr-51	4	pCi	332	317	1.05	Agreement
		Cs-134	4	pCi	145	152	0.96	Agreement
		Cs-137	4	pCi	126	135	0.93	Agreement
		Co-58	4	pCi	118	120	0.98	Agreement
		Mn-54	4	pCi	177	180	0.99	Agreement
		Fe-59	4	pCi	140	118	1.19	Agreement
		Zn-65	4	pCi	781	793	0.99	Agreement
		Co-60	4	pCi	155	157	0.99	Agreement
Gamma in Milk	E10536	I-131	2	pCi/L	96.2	95.5	1.01	Agreement
		Ce-141	2	pCi/L	92	90.4	1.02	Agreement
		Cr-51	2	pCi/L	238	250	0.95	Agreement
		Cs-134	2	pCi/L	122	125	0.98	Agreement
		Cs-137	2	pCi/L	145	151	0.96	Agreement
		Co-58	2	pCi/L	93.1	94	0.99	Agreement
		Mn-54	2	pCi/L	180	172	1.05	Agreement
		Fe-59	2	pCi/L	129	120	1.08	Agreement
		Zn-65	2	pCi/L	239	217	1.10	Agreement
		Co-60	2	pCi/L	177	175	1.01	Agreement
Gamma in Water	E10704	I-131	4	pCi/L	95.4	92.4	1.03	Agreement
		Ce-141	4	pCi/L	89.3	88.8	1.01	Agreement
		Cr-51	4	pCi/L	243	240	1.01	Agreement
		Cs-134	4	pCi/L	109	115	0.95	Agreement
		Cs-137	4	pCi/L	104	102	1.02	Agreement
		Co-58	4	pCi/L	91.5	90.6	1.01	Agreement
		Mn-54	4	pCi/L	141	136	1.04	Agreement
		Fe-59	4	pCi/L	92.6	89.1	1.04	Agreement
		Zn-65	4	pCi/L	629	600	1.05	Agreement
		Co-60	4	pCi/L	123	119	1.04	Agreement

TABLE 5.0-C

ENVIRONMENTAL RESOURCE ASSOCIATES (ERA) PROFICIENCY TESTING

2013 Proficiency Test Results for EnRad Laboratories

North Carolina Department of Health and Human Services Laboratory Certification
EnRad Laboratories

Proficiency test samples are received, prepared, and analyzed in second and fourth quarters of 2013. Results are reported directly to Environmental Resource Associates as described in the instruction package within the study period. Proficiency test data are reported to ERA for evaluation. The acceptance criteria for the program was based on the National Environmental Laboratory Accreditation Conference (NELAC) Field of Proficiency Testing criteria. Fourteen results were reported of which 12 (85.7%) met the acceptance criteria. ERA reports proficiency test results to the North Carolina Department of Health and Human Services, North Carolina Public Drinking Water Laboratory Certification Program. This testing is to satisfy the North Carolina state drinking water radiochemistry certification requirements. The individual measurements were evaluated and results falling outside the acceptable ratio criteria had an evaluation performed to identify any recommended remedial actions and to reduce anomalous errors. Complete documentation of any evaluation will be available and provided to the NRC upon request.

Sample	Sample ID	Nuclide	Quarter	Units	EnRad Value	ERA Value	Acceptance Limits	Evaluation
Gamma Emitters in Water	RAD-93	Ba-133	2	pCi/L	82.5	82.1	69.0 - 90.3	Acceptable
		Cs-134	2	pCi/L	41.9	42.8	34.2 - 47.1	Acceptable
		Cs-137	2	pCi/L	42.1	41.7	37.0 - 48.8	Acceptable
		Co-60	2	pCi/L	71	65.9	59.3 - 75.0	Acceptable
		Zn-65	2	pCi/L	207	189	170 - 222	Acceptable
Gamma Emitters in Water	RAD-95	Ba-133	4	pCi/L	48.3	54.2	44.7 - 59.9	Acceptable
		Cs-134	4	pCi/L	81.5	86.7	71.1 - 95.4	Acceptable
		Cs-137	4	pCi/L	180	206	185 - 228	Not Acceptable *
		Co-60	4	pCi/L	103	102	91.8 - 114	Acceptable
		Zn-65	4	pCi/L	337	333	300 - 389	Acceptable
Tritium in Water	RAD-93	H-3	2	pCi/L	6620	4050	3450 - 4460	Not Acceptable #
	RAD-95	H-3	4	pCi/L	17000	17700	15500 - 19500	Acceptable
Iodine-131 in Water	RAD-93	I-131	2	pCi/L	26.9	23.8	19.7 - 28.3	Acceptable
	RAD-95	I-131	4	pCi/L	21.4	23.6	19.6 - 28.0	Acceptable

* See PIP G-13-02152
\# See PIP G-13-00925

TABLE 5.0-D

2013 ENVIRONMENTAL DOSIMETER CROSS-CHECK RESULTS

Nuclear Technology Services

1st Quarter 2013						*2nd Quarter 2013*					
TLD Number	Reported (mR)	Delivered (mR)	Bias (% diff)	Pass/Fail Criteria	Pass/Fail	TLD Number	Reported (mR)	Delivered (mR)	Bias (% diff)	Pass/Fail Criteria	Pass/Fail
102432	83.6	79.19	5.61	<+/-15%	Pass	102104	91.10	90.22	0.98	<+/-15%	Pass
102452	83.0	79.19	4.84	<+/-15%	Pass	102359	91.20	90.22	1.09	<+/-15%	Pass
102453	83.8	79.19	5.77	<+/-15%	Pass	102099	92.44	90.22	2.46	<+/-15%	Pass
102455	82.6	79.19	4.34	<+/-15%	Pass	102294	93.25	90.22	3.36	<+/-15%	Pass
102473	85.2	79.19	7.59	<+/-15%	Pass	102420	93.88	90.22	4.06	<+/-15%	Pass
Average Bias (B)			5.63			Average Bias (B)			2.39		
Standard Deviation (S)			1.24			Standard Deviation (S)			1.36		
Measure Performance |B|+S			6.87	<15%	Pass	Measure Performance |B|+S			3.75	<15%	Pass
3rd Quarter 2013						**4th Quarter 2013**					
TLD Number	Reported (mR)	Delivered (mR)	Bias (% diff)	Pass/Fail Criteria	Pass/Fail	TLD Number	Reported (mR)	Delivered (mR)	Bias (% diff)	Pass/Fail Criteria	Pass/Fail
103363	82.62	79.0	4.53	<+/-15%	Pass	103138	90.70	89.2	1.68	<+/-15%	Pass
103661	86.78	79.0	9.79	<+/-15%	Pass	103139	91.28	89.2	2.33	<+/-15%	Pass
103414	83.02	79.0	5.04	<+/-15%	Pass	103140	92.38	89.2	3.57	<+/-15%	Pass
103154	87.35	79.0	10.51	<+/-15%	Pass	103747	90.97	89.2	1.98	<+/-15%	Pass
103145	85.45	79.0	8.11	<+/-15%	Pass	103676	90.97	89.2	1.98	<+/-15%	Pass
Average Bias (B)			7.60			Average Bias (B)			2.31		
Standard Deviation (S)			2.72			Standard Deviation (S)			0.74		
Measure Performance |B|+S			10.31	<15%	Pass	Measure Performance |B|+S			3.05	<15%	Pass

TABLE 5.0-D (Cont.)

Internal Crosscheck (Duke Energy)

1st Quarter 2013						2nd Quarter 2013					
TLD Number	Reported (mR)	Delivered (mR)	Bias (% diff)	Pass/Fail Criteria	Pass/Fail	TLD Number	Reported (mR)	Delivered (mR)	Bias (% diff)	Pass/Fail Criteria	Pass/Fail
103725	36.4	35.0	3.89	<+/-15%	Pass	103279	27.6	28.0	-1.54	<+/-15%	Pass
103726	37.6	35.0	7.43	<+/-15%	Pass	102457	27.8	28.0	-0.61	<+/-15%	Pass
103259	35.8	35.0	2.26	<+/-15%	Pass	102497	27.4	28.0	-2.29	<+/-15%	Pass
103761	34.5	35.0	-1.51	<+/-15%	Pass	102005	27.7	28.0	-1.04	<+/-15%	Pass
102729	36.8	35.0	5.00	<+/-15%	Pass	102492	27.1	28.0	-3.29	<+/-15%	Pass
102728	34.8	35.0	-0.46	<+/-15%	Pass	102102	27.4	28.0	-2.11	<+/-15%	Pass
103258	33.4	35.0	-4.54	<+/-15%	Pass	102345	27.0	28.0	-3.43	<+/-15%	Pass
102727	37.1	35.0	6.09	<+/-15%	Pass	101378	27.3	28.0	-2.61	<+/-15%	Pass
103724	34.9	35.0	-0.37	<+/-15%	Pass	102400	28.5	28.0	1.79	<+/-15%	Pass
102726	35.7	35.0	1.94	<+/-15%	Pass	103257	28.6	28.0	2.21	<+/-15%	Pass
		Average Bias (B)	1.97					Average Bias (B)	-1.29		
		Standard Deviation (S)	3.74					Standard Deviation (S)	1.95		
		Measure Performance |B|+S	5.71	<15%	Pass			Measure Performance |B|+S	3.24	<15%	Pass

3rd Quarter 2013						4th Quarter 2013					
TLD Number	Reported (mR)	Delivered (mR)	Bias (% diff)	Pass/Fail Criteria	Pass/Fail	TLD Number	Reported (mR)	Delivered (mR)	Bias (% diff)	Pass/Fail Criteria	Pass/Fail
103370	32.0	31.0	3.35	<+/-15%	Pass	103581	57.2	51.0	12.14	<+/-15%	Pass
103610	32.0	31.0	3.10	<+/-15%	Pass	102905	56.8	51.0	11.37	<+/-15%	Pass
103597	32.4	31.0	4.35	<+/-15%	Pass	103134	56.0	51.0	9.88	<+/-15%	Pass
103553	31.6	31.0	1.87	<+/-15%	Pass	120802	56.9	51.0	11.59	<+/-15%	Pass
103369	32.5	31.0	4.90	<+/-15%	Pass	103118	57.3	51.0	12.25	<+/-15%	Pass
103750	32.2	31.0	3.87	<+/-15%	Pass	120703	55.7	51.0	9.12	<+/-15%	Pass
103578	33.3	31.0	7.35	<+/-15%	Pass	102521	56.1	51.0	9.92	<+/-15%	Pass
103136	32.4	31.0	4.55	<+/-15%	Pass	103582	55.5	51.0	8.90	<+/-15%	Pass
103368	32.6	31.0	5.13	<+/-15%	Pass	102826	57.9	51.0	13.61	<+/-15%	Pass
103552	32.5	31.0	4.74	<+/-15%	Pass	102702	56.1	51.0	10.06	<+/-15%	Pass
		Average Bias (B)	4.32					Average Bias (B)	10.88		
		Standard Deviation (S)	1.46					Standard Deviation (S)	1.54		
		Measure Performance |B|+S	5.78	<15%	Pass			Measure Performance |B|+S	12.42	<15%	Pass

6.0 REFERENCES

6.1 Catawba Selected Licensee Commitment Report

6.2 Catawba Technical Specifications

6.3 Catawba Updated Final Safety Analysis Review

6.4 Catawba Offsite Dose Calculation Manual

6.5 Catawba Annual Environmental Operating Report 1985 - 2012

6.6 Catawba Annual Effluent Report 1985 - 2013

6.7 Probability and Statistics in Engineering and Management Science, Hines and Montgomery, 1969, pages 287-293.

6.8 Practical Statistics for the Physical Sciences, Havilcek and Crain, 1988, pages 83-93.

6.9 Nuclear Regulatory Commission Regulatory Guide 1.109, Calculation of Annual Doses to Man from Routine Releases of Reactor Effluents for the Purposes of Evaluating Compliance with 10CFR50, Appendix I.

6.10 EnRad Laboratories Operating Procedures

6.11 RETDAS, Radiological Effluent Tracking and Dose Assessment Software, Canberra Version 3.5.1, DPC Revision #4.0

6.12 NRC Integrated Inspection Report 05000413/2013002 and 05000414/2013002

6.13 NCRP (2009). National Council on Radiation Protection and Measurements. *Ionizing Radiation Exposure of the Population of the United States*, NCRP Report No. 160 (National Council on Radiation Protection and Measurements, Bethesda, Maryland).

6.14 Radiological Effluents Control Audit 12-18 (NOS)(REC)(CNS)

6.15 Problem Investigation Program Database, V 3.4.3, Duke Energy Company, G-13-02184

6.16 Problem Investigation Program Database, V 3.4.3, Duke Energy Company, G-13-00892

APPENDIX A

ENVIRONMENTAL SAMPLING
&
ANALYSIS PROCEDURES

APPENDIX A

ENVIRONMENTAL SAMPLING AND ANALYSIS PROCEDURES

Adherence to established procedures for sampling and analysis of all environmental media at Catawba Nuclear Station was required to ensure compliance with Station Selected Licensee Commitments. Analytical procedures were employed to ensure that Selected Licensee Commitments detection capabilities were achieved.

Environmental sampling and analyses were performed by EnRad Laboratories, Dosimetry and Records, Fisheries and Aquatic Ecology.

This appendix describes the environmental sampling frequencies and analysis procedures by media type.

I. CHANGE OF SAMPLING PROCEDURES

No changes were made to the sampling procedure during 2013.

II. DESCRIPTION OF ANALYSIS PROCEDURES

Gamma spectroscopy analyses are performed using high purity germanium gamma detectors and Canberra analytical software. Designated sample volumes are transferred to appropriate counting geometries and analyzed by gamma spectroscopy. Perishable samples such as fish and broadleaf vegetation are ground to achieve a homogeneous mixture. Soils and sediments are dried, sifted to remove foreign objects (rocks, clams, glass, etc.) then transferred to appropriate counting geometry.

Low-level iodine analyses are performed by passing a designated sample aliquot through a pre-weighed amount of ion exchange resin to remove and concentrate any iodine in the aqueous sample (milk). The resin is then dried, mixed thoroughly, and a net resin weight determined before being transferred to appropriate counting geometry and analyzed by gamma spectroscopy.

Tritium analyses are performed quarterly by using low-level environmental liquid scintillation analysis technique on a Packard 2550 liquid scintillation system or Perkin-Elmer 2900TR liquid scintillation system. Tritium samples are distilled and batch processed with a laboratory fortified blank, matrix spike, matrix spike duplicate, and blank to verify instrument performance and sample preparation technique are acceptable.

Gross beta analysis is performed by concentrating a designated aliquot of sample precipitate and analyzing by Tennelec XLB Series 5 gas-flow proportional counters. Samples are batch processed with a blank to ensure sample contamination has not occurred.

III. CHANGE OF ANALYSIS PROCEDURES

Quarterly gamma spectroscopy analysis of airborne particulate filter composite (by location) was implemented during 2013; elective weekly gamma spectroscopy of the airborne particulate individual filter was discontinued.

IV. SAMPLING AND ANALYSIS PROCEDURES

A.1 AIRBORNE PARTICULATE AND RADIOIODINE

Airborne particulate and radioiodine samples at each of five locations were composited continuously by means of continuous air samplers. Air particulates were collected on a particulate filter and radioiodines were collected in a charcoal cartridge positioned behind the filter in the sampler. The samplers are designed to operate at a constant flow rate (in order to compensate for any filter loading) and are set to sample approximately 2 cubic feet per minute. Filters and cartridges were collected weekly. A separate weekly gamma analysis was performed on each charcoal cartridge. A weekly gross beta analysis was performed on each filter. A quarterly gamma analysis was performed on the quarterly filter composite (by location). The continuous composite samples were collected from the locations listed below.

Location 200	=	Site Boundary (0.63 mi. NNE)
Location 201	=	Site Boundary (0.53 mi. NE)
Location 205	=	Site Boundary (0.25 mi. SW)
Location 212	=	Tega Cay (3.32 mi. E)
Location 258	=	Fairhope Road (9.84 mi. W)

A.2 DRINKING WATER

Monthly composite drinking water samples were collected at each of two locations. A gross beta and gamma analysis was performed on monthly composites. Tritium analysis was performed on the quarterly composites. The composites were collected monthly from the locations listed below.

Location 214	=	Rock Hill Water Supply (7.30 mi. SSE)
Location 218	=	Belmont Water Supply (13.5 mi. NNE)

A.3 SURFACE WATER

Monthly composite samples were collected at each of three locations. A gamma analysis was performed on the monthly composites. Tritium analysis was performed on the quarterly composites. The composites were collected monthly from the locations listed below.

Location 208	=	Discharge Canal (0.45 mi. S)
Location 211	=	Wylie Dam (4.06 mi. ESE)
Location 215	=	River Pointe - Hwy 49 (4.21 mi. NNE)

A.4 GROUND WATER

Grab samples were collected quarterly from a residential well at one location. A gamma analysis and tritium analysis were performed on each sample. The samples were collected from the location listed below.

Location 254	=	Residence (0.82 mi. N)

A.5 MILK

Biweekly grab samples were collected at one location. A gamma and low-level Iodine-131 analysis was performed on each sample. The biweekly grab samples were collected from the location listed below.

Location 221	=	Dairy (14.5 mi. NW)

A.6 BROADLEAF VEGETATION

Monthly samples were collected at each of five locations. A gamma analysis was performed on each sample. The samples were collected from the locations listed below.

Location 200	=	Site Boundary (0.63 mi. NNE)
Location 201	=	Site Boundary (0.53 mi. NE)
Location 222	=	Site Boundary (0.70 mi. N)
Location 226	=	Site Boundary (0.48 mi. S)
Location 258	=	Fairhope Road (9.84 mi. W)

A.7 FOOD PRODUCTS

Monthly samples were collected when available during the harvest season at one location. A gamma analysis was performed on each sample. The samples were collected from the location listed below.

Location 260	=	Irrigated Gardens (2.00 mi. SSE)

A.8 FISH

Semiannual samples were collected at each of two locations. A gamma analysis was performed on the edible portions of each sample. Boney fish (i.e. Sunfish) were prepared whole minus the head and tail portions. The samples were collected from the locations listed below.

Location 208	=	Discharge Canal (0.45 mi. S)
Location 216	=	Hwy 49 Bridge (4.19 mi. NNE)

A.9 SHORELINE SEDIMENT

Semiannual samples were collected at each of three locations. A gamma analysis was performed on each sample following the drying and removal of rocks and clams. The samples were collected from the locations listed below.

Location 208	=	Discharge Canal (0.45 mi. S)
Location 210	=	Ebenezer Access (2.31 mi. SE)
Location 215	=	River Pointe - Hwy 49 (4.21 mi. NNE)

A.10 DIRECT GAMMA RADIATION (TLD)

Thermoluminescent dosimeters (TLD) were collected quarterly at forty-one locations. A gamma exposure rate was determined for each TLD. TLD locations are listed in Table 2.1-B. The TLDs were placed as indicated below.

* An inner ring of 16 TLDs, one in each meteorological sector in the general area of the site boundary.

* An outer ring of 16 TLDs, one in each meteorological sector in the 6 to 8 kilometer range.

* The remaining TLDs were placed in special interest areas such as population centers, residential areas, schools, and at three control locations.

A.11 ANNUAL LAND USE CENSUS

An Annual Land Use Census was conducted to identify within a distance of 8 kilometers (5.0 miles) from the station, the nearest location from the site boundary in each of the sixteen meteorological sectors, the following:

* The Nearest Residence

* The Nearest Garden greater than 50 square meters or 500 square feet

* The Nearest Milk-giving Animal (cow, goat, etc.)

The census was conducted during the growing season from 7/10 – 7/11/2013. Results are shown in Table 3.11. No changes were made to the sampling procedures during 2013 as a result of the 2013 census.

V. GLOBAL POSITIONING SYSTEM (GPS) ANALYSIS

The Catawba site centerline used for GPS measurements was referenced from the Catawba Nuclear Station Updated Final Safety Analysis Report (UFSAR), section 2.1.1.1, Specification of Location. Waypoint coordinates used for CNS GPS measurements were latitude 35°-3'-5"N and longitude 81°-4'-10"W. Maps and tables were generated using North American Datum (NAD) 27. Data normally reflect accuracy to within 2 to 5 meters from point of measurement. All GPS field measurements were taken as close as possible to the item of interest. Distances for the locations are displayed using three significant figures.

APPENDIX B

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM

SUMMARY OF RESULTS

2013

CATAWBA NUCLEAR STATION
RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM DATA SUMMARY

Catawba Nuclear Station
York County, South Carolina

Docket Numbers 50-413, 414
Calendar Year 2013

Medium or Pathway Sampled or Measured (Unit of Measurement)	Type and Total No. of Measurements Performed	Lower Limit of Detection (LLD)[1]	All Indicator Locations[2] [3] Mean Range	Location w/Highest Annual Mean		Control Locations Mean Range[2] [3]	No. of Non-Routine Report Meas.
				Name, Distance, and Direction	Mean Range[2] [3]		
Air Particulate (pCi/m^3)	Gross Beta 260	See Table 2.2-C	1.88E-2 (208/208) 6.45E-3 – 3.73E-2	212 (3.32 E)	1.91E-2 (52/52) 6.45E-3 – 3.27E-2	258 (9.84 mi W) 1.82E-2 (52/52) 6.17E-3 – 3.20E-2	0
	Gamma 20	See Table 2.2-C	All less than LLD	-----	-----	All less than LLD	0
Air Radioiodine (pCi/m^3)	Gamma 260	See Table 2.2-C	All less than LLD	-----	-----	All less than LLD	0
Drinking Water (pCi/l)	Gross Beta 26	4	1.79 (13/13) 0.89 – 3.03	214 (7.30 mi SSE)	1.79 (13/13) 0.89 – 3.03	218 (13.5 mi NNE) 1.59 (13/13) 0.73 – 2.30	0
	Gamma 26	See Table 2.2-C	All less than LLD	-----	-----	All less than LLD	0
	Tritium 8	2000	622 (4/4) 233 - 890	214 (7.30 mi SSE)	622 (4/4) 233 - 890	218 (13.5 mi NNE) 664 (2/4) 656 – 672	0
Surface Water (pCi/l)	Gamma 39	See Table 2.2-C	All less than LLD	-----	-----	All less than LLD	0
	Tritium 12	2000	4618 (8/8) 308 - 14800	208 (0.45 mi S)	8615 (4/4) 4490 - 14800	215 (4.21 mi NNE) 402 (3/4) 159 – 568	0
Ground Water (pCi/l)	Gamma 3[4]	See Table 2.2-C	All less than LLD	-----	-----	All less than LLD	0
	Tritium 3[4]	2000	All less than LLD	-----	-----	No Control Location	0

CATAWBA NUCLEAR STATION
RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM DATA SUMMARY

Catawba Nuclear Station
York County, South Carolina

Docket Numbers 50-413, 414
Calendar Year 2013

Medium or Pathway Sampled or Measured (Unit of Measurement)	Type and Total No. of Measurements Performed	Lower Limit of Detection (LLD)[1]	All Indicator Locations[2][3] Mean Range	Location w/Highest Annual Mean		Control Locations Mean Range[2][3]	No. of Non-Routine Report Meas.
				Name, Distance, and Direction	Mean Range[2][3]		
Milk (pCi/l)	Gamma 25[4]	See Table 2.2-C	No Indicator Location	-----	-----	All less than LLD	0
	I-131 26	See Table 2.2-C	No Indicator Location	-----	-----	All less than LLD	0
Broadleaf Vegetation (pCi/kg, wet)	Gamma 60	See Table 2.2-C	All less than LLD	-----	-----	All less than LLD	0
Food Products (pCi/kg, wet)	Gamma 10	See Table 2.2-C	All less than LLD	-----	-----	No Control Location	0
Fish (pCi/kg, wet)	Gamma 12	See Table 2.2-C	All less than LLD	-----	-----	All less than LLD	0
Sediments--Shoreline (pCi/kg, dry)	Gamma 6	See Table 2.2-C	All less than LLD	-----	-----	All less than LLD	0
TLD (mR per quarter)[5]	TLD Readout 164	-----	18.4 (152/152) 12.0 – 26.7	229 (0.84 mi NW)	24.2 (4/4) 22.0 – 26.7	217 (10.3 mi SSE) 247 (7.33 mi ESE) 251 (9.72 mi WNW) 14.5 (12/12) 11.0 – 19.3	0

Footnotes to Appendix B

1. The Lower Limit of Detection (LLD) is the smallest concentration of radioactive material in a sample that will yield a net count above system background which will be detected with 95 percent probability and with only 5 percent probability of falsely concluding that a blank observation represents a "real" signal. Due to counting statistics and varying volumes, occasionally lower LLDs are achieved. Refer to Section 2.3.2 for an explanation of how LLD values were derived.

2. Mean and range are based on detectable measurements only.

3. The fractions of all samples with detectable activities at specific locations are indicated in parentheses.

4. Missing samples or surveillances are discussed in Appendix C or Appendix D.

5. TLD exposure is reported in milliroentgen (mR) per standard quarter (91 days).

APPENDIX C

SAMPLING DEVIATIONS
&
UNAVAILABLE ANALYSES

APPENDIX C

CATAWBA NUCLEAR STATION
SAMPLING DEVIATIONS & UNAVAILABLE ANALYSES

DEVIATION & UNAVAILABLE REASON CODES			
BF	Blown Fuse	PO	Power Outage
FZ	Sample Frozen	PS	Pump out of service / Undergoing Repair
IW	Inclement Weather	SL	Sample Loss/Lost due to Lab Accident
LC	Line Clog to Sampler	SM	Motor / Rotor Seized
OT	Other	TF	Torn Filter
PI	Power Interrupt	VN	Vandalism
PM	Preventive Maintenance	CN	Construction

C.1 SAMPLING DEVIATIONS

There were no sampling deviations noted for 2013.

C.2 UNAVAILABLE ANALYSES

Ground Water

Location	Scheduled Collection Dates	Code	Description & Action to Prevent Recurrence	Corrective Action Identity
254	5/29/2013	OT	Sample failed to be collected due to laboratory scheduling error. Scheduled tests were not performed.	G-13-00892

APPENDIX D

ANALYTICAL DEVIATIONS

APPENDIX D

CATAWBA NUCLEAR STATION
ANALYTICAL DEVIATIONS

DEVIATION & UNAVAILABLE REASON CODES			
BF	Blown Fuse	PO	Power Outage
FZ	Sample Frozen	PS	Pump out of service / Undergoing Repair
IW	Inclement Weather	SL	Sample Loss/Lost due to Lab Accident
LC	Line Clog to Sampler	SM	Motor / Rotor Seized
OT	Other	TF	Torn Filter
PI	Power Interrupt	VN	Vandalism
PM	Preventive Maintenance	CN	Construction
AD	Analytical Deviation		

D.1 ANALYTICAL DEVIATIONS

Milk

Location	Scheduled Collection Dates	Actual Collection Dates	Code	Description & Action to Prevent Recurrence	Corrective Action Identity
221	4/9/2013	4/9/2013	AD	Sample collected but not fully analyzed. Gamma spectroscopy analysis was not performed due to laboratory processing error. LLI-131 analysis was performed.	G-13-00892

APPENDIX E

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM RESULTS

2013

This appendix includes sample analysis report summaries and supportive data generated from each sample medium for 2013.

Sample ID:	Sample Dates:	Nuclide	Activity	1 Sigma Error	LLD
250434	1/2/2013 - 1/8/2013	Beta	2.62E-02	1.72E-03	3.47E-03
250564	1/8/2013 - 1/15/2013	Beta	1.58E-02	1.39E-03	3.23E-03
250733	1/15/2013 - 1/22/2013	Beta	1.36E-02	1.30E-03	3.11E-03
250981	1/22/2013 - 1/29/2013	Beta	2.97E-02	1.64E-03	2.94E-03
251267	1/29/2013 - 2/5/2013	Beta	1.63E-02	1.31E-03	2.86E-03
251597	2/5/2013 - 2/12/2013	Beta	1.72E-02	1.33E-03	2.75E-03
252063	2/12/2013 - 2/19/2013	Beta	1.85E-02	1.38E-03	2.87E-03
252680	2/19/2013 - 2/26/2013	Beta	1.69E-02	1.34E-03	2.95E-03
253066	2/26/2013 - 3/5/2013	Beta	1.23E-02	1.22E-03	2.85E-03
253874	3/5/2013 - 3/12/2013	Beta	1.04E-02	1.21E-03	3.09E-03
254196	3/12/2013 - 3/19/2013	Beta	1.80E-02	1.37E-03	2.93E-03
254731	3/19/2013 - 3/26/2013	Beta	1.86E-02	1.40E-03	2.97E-03
255291	3/26/2013 - 4/2/2013	Beta	1.66E-02	1.39E-03	3.19E-03
255820	4/2/2013 - 4/9/2013	Beta	2.01E-02	1.44E-03	3.01E-03
256054	4/9/2013 - 4/16/2013	Beta	1.60E-02	1.38E-03	3.21E-03
256322	4/16/2013 - 4/23/2013	Beta	1.54E-02	1.39E-03	3.26E-03
256398	1/2/2013 - 4/2/2013	I-131	<2.26E-02	0.00E+00	2.26E-02
		Cs-134	<4.12E-04	0.00E+00	4.12E-04
		Cs-137	<4.07E-04	0.00E+00	4.07E-04
		Be-7	1.46E-01	6.87E-03	6.34E-03
		K-40	1.07E-02	2.49E-03	5.05E-03
256589	4/23/2013 - 4/30/2013	Beta	1.56E-02	1.30E-03	2.84E-03
257112	4/30/2013 - 5/7/2013	Beta	8.51E-03	1.05E-03	2.59E-03
257265	5/7/2013 - 5/14/2013	Beta	1.81E-02	1.36E-03	2.80E-03
257712	5/14/2013 - 5/21/2013	Beta	2.77E-02	1.61E-03	2.97E-03
257956	5/21/2013 - 5/29/2013	Beta	1.85E-02	1.26E-03	2.56E-03
258191	5/29/2013 - 6/4/2013	Beta	1.15E-02	1.44E-03	3.79E-03

CATAWBA Radiological Environmental Monitoring Analysis Report - 2013 (Appendix E)

Media Type: AIR PARTICULATE Concentration (Activity): pCi/m3

Sample Point 200 [INDICATOR - NNE @ 0.63 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	1 Sigma Error	LLD
258538	6/4/2013 - 6/11/2013	Beta	1.37E-02	1.30E-03	3.06E-03
259008	6/11/2013 - 6/18/2013	Beta	1.67E-02	1.39E-03	3.17E-03
259556	6/18/2013 - 6/25/2013	Beta	1.43E-02	1.29E-03	2.95E-03
260190	6/25/2013 - 7/2/2013	Beta	1.68E-02	1.34E-03	2.88E-03
260650	7/2/2013 - 7/9/2013	Beta	7.09E-03	1.09E-03	2.96E-03
261613	7/9/2013 - 7/16/2013	Beta	9.41E-03	1.15E-03	2.92E-03
262115	7/16/2013 - 7/23/2013	Beta	1.02E-02	1.18E-03	2.98E-03
262660	4/2/2013 - 7/2/2013	I-131	<2.18E-02	0.00E+00	2.18E-02
		Cs-134	<2.40E-04	0.00E+00	2.40E-04
		Cs-137	<3.97E-04	0.00E+00	3.97E-04
		Be-7	1.52E-01	5.32E-03	4.88E-03
		K-40	1.56E-02	2.36E-03	2.53E-03
262949	7/23/2013 - 7/30/2013	Beta	1.84E-02	1.39E-03	2.95E-03
263358	7/30/2013 - 8/6/2013	Beta	2.41E-02	1.52E-03	2.94E-03
264016	8/6/2013 - 8/13/2013	Beta	1.66E-02	1.34E-03	2.94E-03
265147	8/13/2013 - 8/20/2013	Beta	9.72E-03	1.21E-03	3.15E-03
265456	8/20/2013 - 8/27/2013	Beta	1.51E-02	1.31E-03	2.98E-03
267142	8/27/2013 - 9/4/2013	Beta	3.19E-02	1.54E-03	2.48E-03
267592	9/4/2013 - 9/10/2013	Beta	3.52E-02	1.87E-03	3.13E-03
268447	9/10/2013 - 9/17/2013	Beta	3.03E-02	1.64E-03	2.90E-03
269570	9/17/2013 - 9/24/2013	Beta	2.10E-02	1.42E-03	2.73E-03
270713	9/24/2013 - 10/1/2013	Beta	2.28E-02	1.51E-03	3.04E-03
271438	10/1/2013 - 10/8/2013	Beta	3.31E-02	1.67E-03	2.71E-03
272045	10/8/2013 - 10/15/2013	Beta	1.34E-02	1.26E-03	2.96E-03
272428	10/15/2013 - 10/22/2013	Beta	2.91E-02	1.64E-03	3.02E-03
272554	7/2/2013 - 10/1/2013	I-131	<2.67E-02	0.00E+00	2.67E-02
		Cs-134	<2.52E-04	0.00E+00	2.52E-04
		Cs-137	<2.73E-04	0.00E+00	2.73E-04
		Be-7	1.04E-01	5.02E-03	4.55E-03
		K-40	6.02E-03	1.42E-03	2.45E-03

Media Type: AIR PARTICULATE Concentration (Activity): pCi/m3

Sample Point 200 [INDICATOR - NNE @ 0.63 miles]

Sample ID:	272829	Sample Dates: 10/22/2013 - 10/29/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	2.82E-02	1.60E-03	2.89E-03
Sample ID:	273921	Sample Dates: 10/29/2013 - 11/5/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	2.79E-02	1.62E-03	3.07E-03
Sample ID:	274368	Sample Dates: 11/5/2013 - 11/12/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	2.19E-02	1.43E-03	2.70E-03
Sample ID:	274882	Sample Dates: 11/12/2013 - 11/19/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.35E-02	1.30E-03	3.10E-03
Sample ID:	276436	Sample Dates: 11/19/2013 - 11/25/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.82E-02	1.52E-03	3.42E-03
Sample ID:	278791	Sample Dates: 11/25/2013 - 12/3/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	2.63E-02	1.44E-03	2.56E-03
Sample ID:	278862	Sample Dates: 12/3/2013 - 12/10/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.22E-02	1.19E-03	2.78E-03
Sample ID:	279102	Sample Dates: 12/10/2013 - 12/17/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	2.47E-02	1.58E-03	3.12E-03
Sample ID:	279730	Sample Dates: 12/17/2013 - 12/23/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.36E-02	1.43E-03	3.49E-03
Sample ID:	280219	Sample Dates: 12/23/2013 - 12/31/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.51E-02	1.20E-03	2.66E-03
Sample ID:	280591	Sample Dates: 10/1/2013 - 12/31/2013	Nuclide	Activity	1 Sigma Error	LLD
			Cs-134	<3.72E-04	0.00E+00	3.72E-04
			Cs-137	<3.75E-04	0.00E+00	3.75E-04
			Be-7	1.18E-01	6.24E-03	4.78E-03
			K-40	9.58E-03	2.17E-03	4.25E-03

Sample Point 201 [INDICATOR - NE @ 0.53 miles]

Sample ID:	250435	Sample Dates: 1/2/2013 - 1/8/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	2.43E-02	1.69E-03	3.49E-03
Sample ID:	250565	Sample Dates: 1/8/2013 - 1/15/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.95E-02	1.47E-03	3.20E-03
Sample ID:	250734	Sample Dates: 1/15/2013 - 1/22/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	9.88E-03	1.21E-03	3.15E-03
Sample ID:	250982	Sample Dates: 1/22/2013 - 1/29/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	3.21E-02	1.68E-03	2.91E-03
Sample ID:	251268	Sample Dates: 1/29/2013 - 2/5/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	2.00E-02	1.41E-03	2.88E-03
Sample ID:	251598	Sample Dates: 2/5/2013 - 2/12/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.30E-02	1.21E-03	2.72E-03
Sample ID:	252064	Sample Dates: 2/12/2013 - 2/19/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.60E-02	1.32E-03	2.87E-03
Sample ID:	252681	Sample Dates: 2/19/2013 - 2/26/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.60E-02	1.32E-03	2.94E-03
Sample ID:	253067	Sample Dates: 2/26/2013 - 3/5/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.23E-02	1.23E-03	2.88E-03
Sample ID:	253875	Sample Dates: 3/5/2013 - 3/12/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.07E-02	1.22E-03	3.07E-03
Sample ID:	254197	Sample Dates: 3/12/2013 - 3/19/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.85E-02	1.40E-03	2.98E-03
Sample ID:	254732	Sample Dates: 3/19/2013 - 3/26/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	2.08E-02	1.44E-03	2.92E-03

CATAWBA Radiological Environmental Monitoring Analysis Report - 2013 (Appendix E)

Media Type: AIR PARTICULATE Concentration (Activity): pCi/m3

Sample Point 201 [INDICATOR - NE @ 0.53 miles]

Sample ID:	255292	Sample Dates: 3/26/2013 - 4/2/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.65E-02	1.40E-03	3.21E-03
Sample ID:	255821	Sample Dates: 4/2/2013 - 4/9/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.88E-02	1.41E-03	3.02E-03
Sample ID:	256055	Sample Dates: 4/9/2013 - 4/16/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.13E-02	1.28E-03	3.27E-03
Sample ID:	256323	Sample Dates: 4/16/2013 - 4/23/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.51E-02	1.36E-03	3.20E-03
Sample ID:	256399	Sample Dates: 1/2/2013 - 4/2/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.96E-02	0.00E+00	1.96E-02
			Cs-134	<2.75E-04	0.00E+00	2.75E-04
			Cs-137	<2.93E-04	0.00E+00	2.93E-04
			Be-7	1.28E-01	4.86E-03	4.61E-03
			K-40	1.65E-02	2.15E-03	2.67E-03
Sample ID:	256590	Sample Dates: 4/23/2013 - 4/30/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.47E-02	1.29E-03	2.88E-03
Sample ID:	257113	Sample Dates: 4/30/2013 - 5/7/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	9.81E-03	1.09E-03	2.57E-03
Sample ID:	257266	Sample Dates: 5/7/2013 - 5/14/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.57E-02	1.30E-03	2.80E-03
Sample ID:	257713	Sample Dates: 5/14/2013 - 5/21/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	2.69E-02	1.58E-03	2.95E-03
Sample ID:	257957	Sample Dates: 5/21/2013 - 5/29/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.71E-02	1.24E-03	2.59E-03
Sample ID:	258192	Sample Dates: 5/29/2013 - 6/4/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.15E-02	1.42E-03	3.71E-03
Sample ID:	258539	Sample Dates: 6/4/2013 - 6/11/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.24E-02	1.26E-03	3.05E-03
Sample ID:	259009	Sample Dates: 6/11/2013 - 6/18/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.56E-02	1.37E-03	3.17E-03
Sample ID:	259557	Sample Dates: 6/18/2013 - 6/25/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.29E-02	1.25E-03	2.94E-03
Sample ID:	260191	Sample Dates: 6/25/2013 - 7/2/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.68E-02	1.35E-03	2.90E-03
Sample ID:	260651	Sample Dates: 7/2/2013 - 7/9/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	7.12E-03	1.09E-03	2.96E-03
Sample ID:	261614	Sample Dates: 7/9/2013 - 7/16/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	7.37E-03	1.09E-03	2.94E-03
Sample ID:	262116	Sample Dates: 7/16/2013 - 7/23/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.36E-02	1.28E-03	2.99E-03
Sample ID:	262661	Sample Dates: 4/2/2013 - 7/2/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<2.42E-02	0.00E+00	2.42E-02
			Cs-134	<2.52E-04	0.00E+00	2.52E-04
			Cs-137	<2.92E-04	0.00E+00	2.92E-04
			Be-7	1.44E-01	5.79E-03	4.24E-03
			K-40	8.08E-03	2.50E-03	4.43E-03
Sample ID:	262950	Sample Dates: 7/23/2013 - 7/30/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	2.07E-02	1.44E-03	2.93E-03
Sample ID:	263359	Sample Dates: 7/30/2013 - 8/6/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	2.79E-02	1.60E-03	2.96E-03
Sample ID:	264017	Sample Dates: 8/6/2013 - 8/13/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.87E-02	1.39E-03	2.95E-03

CATAWBA Radiological Environmental Monitoring Analysis Report - 2013 (Appendix E)

Media Type: AIR PARTICULATE Concentration (Activity): pCi/m3

Sample Point 201 [INDICATOR - NE @ 0.53 miles]

Sample ID:	265148	Sample Dates: 8/13/2013 - 8/20/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	8.61E-03	1.19E-03	3.17E-03
Sample ID:	265457	Sample Dates: 8/20/2013 - 8/27/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.40E-02	1.27E-03	2.94E-03
Sample ID:	267143	Sample Dates: 8/27/2013 - 9/4/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	3.24E-02	1.56E-03	2.49E-03
Sample ID:	267593	Sample Dates: 9/4/2013 - 9/10/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	3.73E-02	1.92E-03	3.13E-03
Sample ID:	268448	Sample Dates: 9/10/2013 - 9/17/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	2.95E-02	1.63E-03	2.90E-03
Sample ID:	269571	Sample Dates: 9/17/2013 - 9/24/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	2.46E-02	1.49E-03	2.72E-03
Sample ID:	270714	Sample Dates: 9/24/2013 - 10/1/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.80E-02	1.39E-03	3.04E-03
Sample ID:	271439	Sample Dates: 10/1/2013 - 10/8/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	2.78E-02	1.56E-03	2.71E-03
Sample ID:	272046	Sample Dates: 10/8/2013 - 10/15/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	9.71E-03	1.17E-03	2.98E-03
Sample ID:	272429	Sample Dates: 10/15/2013 - 10/22/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	2.31E-02	1.51E-03	3.01E-03
Sample ID:	272555	Sample Dates: 7/2/2013 - 10/1/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<2.75E-02	0.00E+00	2.75E-02
			Cs-134	<3.88E-04	0.00E+00	3.88E-04
			Cs-137	<3.37E-04	0.00E+00	3.37E-04
			Be-7	1.01E-01	5.82E-03	5.37E-03
			K-40	1.25E-02	2.14E-03	4.24E-03
Sample ID:	272830	Sample Dates: 10/22/2013 - 10/29/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	2.94E-02	1.63E-03	2.89E-03
Sample ID:	273922	Sample Dates: 10/29/2013 - 11/5/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	2.84E-02	1.63E-03	3.06E-03
Sample ID:	274369	Sample Dates: 11/5/2013 - 11/12/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	2.10E-02	1.41E-03	2.72E-03
Sample ID:	274883	Sample Dates: 11/12/2013 - 11/19/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.65E-02	1.37E-03	3.07E-03
Sample ID:	276437	Sample Dates: 11/19/2013 - 11/25/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.37E-02	1.41E-03	3.44E-03
Sample ID:	278766	Sample Dates: 11/25/2013 - 12/3/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	2.53E-02	1.42E-03	2.54E-03
Sample ID:	278837	Sample Dates: 12/3/2013 - 12/10/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.21E-02	1.20E-03	2.83E-03
Sample ID:	279077	Sample Dates: 12/10/2013 - 12/17/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	2.55E-02	1.58E-03	3.07E-03
Sample ID:	279705	Sample Dates: 12/17/2013 - 12/23/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.66E-02	1.50E-03	3.48E-03
Sample ID:	280194	Sample Dates: 12/23/2013 - 12/31/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.73E-02	1.27E-03	2.71E-03
Sample ID:	280592	Sample Dates: 10/1/2013 - 12/31/2013	Nuclide	Activity	1 Sigma Error	LLD
			Cs-134	<2.53E-04	0.00E+00	2.53E-04
			Cs-137	<2.97E-04	0.00E+00	2.97E-04
			Be-7	1.27E-01	4.70E-03	3.63E-03
			K-40	1.93E-02	2.31E-03	3.00E-03

CATAWBA Radiological Environmental Monitoring Analysis Report - 2013 (Appendix E)

Media Type: AIR PARTICULATE Concentration (Activity): pCi/m3

Sample Point 205 [INDICATOR - SW @ 0.25 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	1 Sigma Error	LLD
250436	1/2/2013 - 1/8/2013	Beta	2.76E-02	1.76E-03	3.46E-03
250566	1/8/2013 - 1/15/2013	Beta	2.02E-02	1.49E-03	3.23E-03
250735	1/15/2013 - 1/22/2013	Beta	1.17E-02	1.25E-03	3.11E-03
250983	1/22/2013 - 1/29/2013	Beta	3.07E-02	1.66E-03	2.94E-03
251269	1/29/2013 - 2/5/2013	Beta	1.51E-02	1.29E-03	2.86E-03
251599	2/5/2013 - 2/12/2013	Beta	1.66E-02	1.31E-03	2.75E-03
252065	2/12/2013 - 2/19/2013	Beta	1.83E-02	1.37E-03	2.87E-03
252682	2/19/2013 - 2/26/2013	Beta	1.62E-02	1.33E-03	2.96E-03
253068	2/26/2013 - 3/5/2013	Beta	1.39E-02	1.26E-03	2.85E-03
253876	3/5/2013 - 3/12/2013	Beta	1.22E-02	1.26E-03	3.09E-03
254198	3/12/2013 - 3/19/2013	Beta	2.10E-02	1.46E-03	2.98E-03
254733	3/19/2013 - 3/26/2013	Beta	1.91E-02	1.40E-03	2.91E-03
255293	3/26/2013 - 4/2/2013	Beta	1.61E-02	1.38E-03	3.19E-03
255822	4/2/2013 - 4/9/2013	Beta	1.83E-02	1.40E-03	3.03E-03
256056	4/9/2013 - 4/16/2013	Beta	1.27E-02	1.33E-03	3.32E-03
256324	4/16/2013 - 4/23/2013	Beta	1.70E-02	1.41E-03	3.20E-03
256400	1/2/2013 - 4/2/2013	I-131	<2.03E-02	0.00E+00	2.03E-02
		Cs-134	<3.13E-04	0.00E+00	3.13E-04
		Cs-137	<2.75E-04	0.00E+00	2.75E-04
		Be-7	1.38E-01	5.91E-03	4.32E-03
		K-40	7.12E-03	2.11E-03	4.44E-03
256691	4/23/2013 - 4/30/2013	Beta	1.65E-02	1.32E-03	2.84E-03
257114	4/30/2013 - 5/7/2013	Beta	9.26E-03	1.08E-03	2.61E-03
257267	5/7/2013 - 5/14/2013	Beta	1.76E-02	1.35E-03	2.80E-03
257714	5/14/2013 - 5/21/2013	Beta	2.74E-02	1.59E-03	2.96E-03
257958	5/21/2013 - 5/29/2013	Beta	1.74E-02	1.24E-03	2.55E-03
258193	5/29/2013 - 6/4/2013	Beta	1.05E-02	1.42E-03	3.79E-03

Media Type: AIR PARTICULATE Concentration (Activity): pCi/m3

Sample Point 205 [INDICATOR - SW @ 0.25 miles]

Sample ID:	258540	Sample Dates: 6/4/2013 - 6/11/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.22E-02	1.25E-03	3.05E-03
Sample ID:	259010	Sample Dates: 6/11/2013 - 6/18/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.61E-02	1.38E-03	3.16E-03
Sample ID:	259558	Sample Dates: 6/18/2013 - 6/25/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.59E-02	1.34E-03	2.98E-03
Sample ID:	260192	Sample Dates: 6/25/2013 - 7/2/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.46E-02	1.28E-03	2.86E-03
Sample ID:	260652	Sample Dates: 7/2/2013 - 7/9/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	8.53E-03	1.13E-03	2.95E-03
Sample ID:	261615	Sample Dates: 7/9/2013 - 7/16/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	8.79E-03	1.13E-03	2.93E-03
Sample ID:	262117	Sample Dates: 7/16/2013 - 7/23/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.08E-02	1.20E-03	2.97E-03
Sample ID:	262662	Sample Dates: 4/2/2013 - 7/2/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<2.23E-02	0.00E+00	2.23E-02
			Cs-134	<2.40E-04	0.00E+00	2.40E-04
			Cs-137	<2.95E-04	0.00E+00	2.95E-04
			Be-7	1.41E-01	5.29E-03	4.02E-03
			K-40	2.28E-02	2.52E-03	2.85E-03
Sample ID:	262951	Sample Dates: 7/23/2013 - 7/30/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	2.06E-02	1.45E-03	2.95E-03
Sample ID:	263360	Sample Dates: 7/30/2013 - 8/6/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	2.35E-02	1.50E-03	2.94E-03
Sample ID:	264018	Sample Dates: 8/6/2013 - 8/13/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.63E-02	1.34E-03	2.94E-03
Sample ID:	265149	Sample Dates: 8/13/2013 - 8/20/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	8.01E-03	1.16E-03	3.14E-03
Sample ID:	265458	Sample Dates: 8/20/2013 - 8/27/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.67E-02	1.35E-03	2.98E-03
Sample ID:	267144	Sample Dates: 8/27/2013 - 9/4/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	2.91E-02	1.48E-03	2.47E-03
Sample ID:	267594	Sample Dates: 9/4/2013 - 9/10/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	3.50E-02	1.87E-03	3.14E-03
Sample ID:	268449	Sample Dates: 9/10/2013 - 9/17/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	3.22E-02	1.68E-03	2.90E-03
Sample ID:	269572	Sample Dates: 9/17/2013 - 9/24/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	2.53E-02	1.52E-03	2.73E-03
Sample ID:	270715	Sample Dates: 9/24/2013 - 10/1/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.92E-02	1.43E-03	3.04E-03
Sample ID:	271440	Sample Dates: 10/1/2013 - 10/8/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	2.80E-02	1.57E-03	2.71E-03
Sample ID:	272047	Sample Dates: 10/8/2013 - 10/15/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.12E-02	1.20E-03	2.96E-03
Sample ID:	272430	Sample Dates: 10/15/2013 - 10/22/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	2.95E-02	1.65E-03	3.02E-03
Sample ID:	272556	Sample Dates: 7/2/2013 - 10/1/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<2.00E-02	0.00E+00	2.00E-02
			Cs-134	<2.54E-04	0.00E+00	2.54E-04
			Cs-137	<2.35E-04	0.00E+00	2.35E-04
			Be-7	9.96E-02	4.24E-03	3.87E-03
			K-40	2.53E-02	2.67E-03	3.09E-03

Media Type: AIR PARTICULATE Concentration (Activity): pCi/m3

Sample Point 205 [INDICATOR - SW @ 0.25 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	1 Sigma Error	LLD
272831	10/22/2013 - 10/29/2013	Beta	2.78E-02	1.59E-03	2.89E-03
273923	10/29/2013 - 11/5/2013	Beta	3.08E-02	1.68E-03	3.07E-03
274370	11/5/2013 - 11/12/2013	Beta	2.29E-02	1.45E-03	2.70E-03
274884	11/12/2013 - 11/19/2013	Beta	1.82E-02	1.42E-03	3.10E-03
276438	11/19/2013 - 11/25/2013	Beta	1.35E-02	1.40E-03	3.42E-03
278758	11/25/2013 - 12/3/2013	Beta	2.27E-02	1.35E-03	2.51E-03
278829	12/3/2013 - 12/10/2013	Beta	1.28E-02	1.23E-03	2.87E-03
279069	12/10/2013 - 12/17/2013	Beta	2.85E-02	1.64E-03	3.08E-03
279697	12/17/2013 - 12/23/2013	Beta	1.81E-02	1.55E-03	3.51E-03
280186	12/23/2013 - 12/31/2013	Beta	2.09E-02	1.34E-03	2.69E-03
280593	10/1/2013 - 12/31/2013	Cs-134	<2.60E-04	0.00E+00	2.60E-04
		Cs-137	<3.42E-04	0.00E+00	3.42E-04
		Be-7	1.25E-01	6.35E-03	4.45E-03
		K-40	1.04E-02	1.86E-03	3.18E-03

Sample Point 212 [INDICATOR - E @ 3.32 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	1 Sigma Error	LLD
250437	1/2/2013 - 1/8/2013	Beta	2.89E-02	1.78E-03	3.46E-03
250567	1/8/2013 - 1/15/2013	Beta	1.92E-02	1.48E-03	3.25E-03
250736	1/15/2013 - 1/22/2013	Beta	1.16E-02	1.25E-03	3.11E-03
250984	1/22/2013 - 1/29/2013	Beta	3.17E-02	1.68E-03	2.94E-03
251270	1/29/2013 - 2/5/2013	Beta	2.05E-02	1.41E-03	2.85E-03
251600	2/5/2013 - 2/12/2013	Beta	1.59E-02	1.30E-03	2.77E-03
252066	2/12/2013 - 2/19/2013	Beta	1.77E-02	1.36E-03	2.87E-03
252683	2/19/2013 - 2/26/2013	Beta	1.71E-02	1.35E-03	2.96E-03
253069	2/26/2013 - 3/5/2013	Beta	1.40E-02	1.26E-03	2.84E-03
253877	3/5/2013 - 3/12/2013	Beta	1.12E-02	1.24E-03	3.11E-03
254199	3/12/2013 - 3/19/2013	Beta	2.32E-02	1.49E-03	2.93E-03
254734	3/19/2013 - 3/26/2013	Beta	1.88E-02	1.41E-03	2.97E-03

Media Type: AIR PARTICULATE Concentration (Activity): pCi/m3

Sample Point 212 [INDICATOR - E @ 3.32 miles]

Sample ID:	255294	Sample Dates: 3/26/2013 - 4/2/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.71E-02	1.40E-03	3.18E-03
Sample ID:	255823	Sample Dates: 4/2/2013 - 4/9/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	2.06E-02	1.46E-03	3.02E-03
Sample ID:	256057	Sample Dates: 4/9/2013 - 4/16/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.41E-02	1.34E-03	3.24E-03
Sample ID:	256325	Sample Dates: 4/16/2013 - 4/23/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.50E-02	1.38E-03	3.27E-03
Sample ID:	256401	Sample Dates: 1/2/2013 - 4/2/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<5.54E-02	0.00E+00	5.54E-02
			Cs-134	<7.93E-04	0.00E+00	7.93E-04
			Cs-137	<5.96E-04	0.00E+00	5.96E-04
			Be-7	1.43E-01	9.30E-03	1.08E-02
			K-40	1.66E-02	4.75E-03	8.65E-03
Sample ID:	256592	Sample Dates: 4/23/2013 - 4/30/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.68E-02	1.32E-03	2.82E-03
Sample ID:	257115	Sample Dates: 4/30/2013 - 5/7/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.13E-02	1.14E-03	2.61E-03
Sample ID:	257268	Sample Dates: 5/7/2013 - 5/14/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.84E-02	1.36E-03	2.80E-03
Sample ID:	257715	Sample Dates: 5/14/2013 - 5/21/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	2.83E-02	1.62E-03	2.97E-03
Sample ID:	257959	Sample Dates: 5/21/2013 - 5/29/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.80E-02	1.25E-03	2.55E-03
Sample ID:	258194	Sample Dates: 5/29/2013 - 6/4/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.34E-02	1.50E-03	3.80E-03
Sample ID:	258541	Sample Dates: 6/4/2013 - 6/11/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.35E-02	1.29E-03	3.07E-03
Sample ID:	259011	Sample Dates: 6/11/2013 - 6/18/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.78E-02	1.41E-03	3.16E-03
Sample ID:	259559	Sample Dates: 6/18/2013 - 6/25/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.44E-02	1.29E-03	2.95E-03
Sample ID:	260193	Sample Dates: 6/25/2013 - 7/2/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.41E-02	1.27E-03	2.89E-03
Sample ID:	260653	Sample Dates: 7/2/2013 - 7/9/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	6.45E-03	1.07E-03	2.96E-03
Sample ID:	261616	Sample Dates: 7/9/2013 - 7/16/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.02E-02	1.17E-03	2.93E-03
Sample ID:	262118	Sample Dates: 7/16/2013 - 7/23/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.00E-02	1.17E-03	2.96E-03
Sample ID:	262663	Sample Dates: 4/2/2013 - 7/2/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<2.73E-02	0.00E+00	2.73E-02
			Cs-134	<1.60E-04	0.00E+00	1.60E-04
			Cs-137	<1.58E-04	0.00E+00	1.58E-04
			Be-7	1.47E-01	3.43E-03	2.42E-03
			K-40	8.01E-03	1.23E-03	2.07E-03
Sample ID:	263134	Sample Dates: 7/23/2013 - 7/30/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	2.20E-02	1.48E-03	2.97E-03
Sample ID:	263361	Sample Dates: 7/30/2013 - 8/6/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	2.39E-02	1.52E-03	2.94E-03
Sample ID:	264019	Sample Dates: 8/6/2013 - 8/13/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.64E-02	1.34E-03	2.95E-03

CATAWBA Radiological Environmental Monitoring Analysis Report - 2013 (Appendix E)

Media Type: AIR PARTICULATE Concentration (Activity): pCi/m3

Sample Point 212 [INDICATOR - E @ 3.32 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	1 Sigma Error	LLD
265150	8/13/2013 - 8/20/2013	Beta	1.01E-02	1.22E-03	3.14E-03
265459	8/20/2013 - 8/27/2013	Beta	1.40E-02	1.30E-03	3.03E-03
267145	8/27/2013 - 9/4/2013	Beta	3.01E-02	1.50E-03	2.45E-03
267595	9/4/2013 - 9/10/2013	Beta	3.27E-02	1.82E-03	3.13E-03
268450	9/10/2013 - 9/17/2013	Beta	2.72E-02	1.57E-03	2.88E-03
269573	9/17/2013 - 9/24/2013	Beta	2.71E-02	1.56E-03	2.75E-03
270716	9/24/2013 - 10/1/2013	Beta	1.93E-02	1.43E-03	3.04E-03
271441	10/1/2013 - 10/8/2013	Beta	3.13E-02	1.64E-03	2.71E-03
272048	10/8/2013 - 10/15/2013	Beta	1.15E-02	1.21E-03	2.93E-03
272431	10/15/2013 - 10/22/2013	Beta	2.79E-02	1.62E-03	3.05E-03
272557	7/2/2013 - 10/1/2013	I-131	<2.22E-02	0.00E+00	2.22E-02
		Cs-134	<2.59E-04	0.00E+00	2.59E-04
		Cs-137	<2.95E-04	0.00E+00	2.95E-04
		Be-7	1.02E-01	4.81E-03	4.00E-03
		K-40	7.70E-03	2.35E-03	4.82E-03
272832	10/22/2013 - 10/29/2013	Beta	2.78E-02	1.59E-03	2.88E-03
273924	10/29/2013 - 11/5/2013	Beta	2.75E-02	1.61E-03	3.08E-03
274371	11/5/2013 - 11/12/2013	Beta	2.56E-02	1.50E-03	2.68E-03
274885	11/12/2013 - 11/19/2013	Beta	1.36E-02	1.32E-03	3.13E-03
276439	11/19/2013 - 11/26/2013	Beta	1.57E-02	1.45E-03	3.42E-03
278759	11/26/2013 - 12/3/2013	Beta	2.76E-02	1.47E-03	2.55E-03
278830	12/3/2013 - 12/10/2013	Beta	1.20E-02	1.18E-03	2.77E-03
279070	12/10/2013 - 12/17/2013	Beta	2.64E-02	1.62E-03	3.14E-03
279698	12/17/2013 - 12/23/2013	Beta	1.59E-02	1.47E-03	3.46E-03
280187	12/23/2013 - 12/31/2013	Beta	1.79E-02	1.27E-03	2.68E-03
280595	10/1/2013 - 12/31/2013	Cs-134	<2.54E-04	0.00E+00	2.54E-04
		Cs-137	<2.20E-04	0.00E+00	2.20E-04
		Be-7	1.20E-01	4.63E-03	4.18E-03
		K-40	1.68E-02	2.36E-03	3.38E-03

CATAWBA Radiological Environmental Monitoring Analysis Report - 2013 (Appendix E)

Media Type: AIR PARTICULATE Concentration (Activity): pCi/m3

Sample Point 258 [CONTROL - W @ 9.84 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	1 Sigma Error	LLD
250438	1/2/2013 - 1/8/2013	Beta	2.60E-02	1.73E-03	3.48E-03
250568	1/8/2013 - 1/15/2013	Beta	1.61E-02	1.39E-03	3.20E-03
250737	1/15/2013 - 1/22/2013	Beta	1.06E-02	1.24E-03	3.15E-03
250985	1/22/2013 - 1/29/2013	Beta	2.81E-02	1.60E-03	2.91E-03
251271	1/29/2013 - 2/5/2013	Beta	1.78E-02	1.36E-03	2.90E-03
251601	2/5/2013 - 2/12/2013	Beta	1.53E-02	1.27E-03	2.71E-03
252067	2/12/2013 - 2/19/2013	Beta	1.71E-02	1.35E-03	2.88E-03
252684	2/19/2013 - 2/26/2013	Beta	1.56E-02	1.33E-03	3.01E-03
253070	2/26/2013 - 3/5/2013	Beta	1.25E-02	1.21E-03	2.82E-03
253878	3/5/2013 - 3/12/2013	Beta	9.25E-03	1.17E-03	3.06E-03
254200	3/12/2013 - 3/19/2013	Beta	2.16E-02	1.47E-03	2.99E-03
254735	3/19/2013 - 3/26/2013	Beta	1.81E-02	1.37E-03	2.92E-03
255295	3/26/2013 - 4/2/2013	Beta	1.55E-02	1.37E-03	3.20E-03
255824	4/2/2013 - 4/9/2013	Beta	1.95E-02	1.42E-03	2.99E-03
256058	4/9/2013 - 4/16/2013	Beta	1.44E-02	1.36E-03	3.29E-03
256326	4/16/2013 - 4/23/2013	Beta	1.61E-02	1.38E-03	3.18E-03
256402	1/2/2013 - 4/2/2013	I-131	<2.36E-02	0.00E+00	2.36E-02
		Cs-134	<3.48E-04	0.00E+00	3.48E-04
		Cs-137	<3.57E-04	0.00E+00	3.57E-04
		Be-7	1.42E-01	5.36E-03	4.64E-03
		K-40	1.66E-02	2.48E-03	3.50E-03
256593	4/23/2013 - 4/30/2013	Beta	1.42E-02	1.27E-03	2.88E-03
257116	4/30/2013 - 5/7/2013	Beta	1.08E-02	1.12E-03	2.58E-03
257269	5/7/2013 - 5/14/2013	Beta	1.58E-02	1.30E-03	2.79E-03
257716	5/14/2013 - 5/21/2013	Beta	2.55E-02	1.55E-03	2.95E-03
257960	5/21/2013 - 5/29/2013	Beta	1.63E-02	1.23E-03	2.59E-03
258195	5/29/2013 - 6/4/2013	Beta	1.31E-02	1.47E-03	3.72E-03

CATAWBA Radiological Environmental Monitoring Analysis Report - 2013 (Appendix E)

Media Type: AIR PARTICULATE Concentration (Activity): pCi/m3

Sample Point 258 [CONTROL - W @ 9.84 miles]

Sample ID:	258542	Sample Dates: 6/4/2013 - 6/11/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.13E-02	1.23E-03	3.04E-03
Sample ID:	259012	Sample Dates: 6/11/2013 - 6/18/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.79E-02	1.42E-03	3.17E-03
Sample ID:	259560	Sample Dates: 6/18/2013 - 6/25/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.28E-02	1.25E-03	2.97E-03
Sample ID:	260194	Sample Dates: 6/25/2013 - 7/2/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.57E-02	1.31E-03	2.87E-03
Sample ID:	260654	Sample Dates: 7/2/2013 - 7/9/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	6.17E-03	1.06E-03	2.95E-03
Sample ID:	261617	Sample Dates: 7/9/2013 - 7/16/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	8.93E-03	1.14E-03	2.94E-03
Sample ID:	262119	Sample Dates: 7/16/2013 - 7/23/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.13E-02	1.22E-03	2.99E-03
Sample ID:	262664	Sample Dates: 4/2/2013 - 7/2/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<6.95E-02	0.00E+00	6.95E-02
			Cs-134	<8.84E-04	0.00E+00	8.84E-04
			Cs-137	<9.39E-04	0.00E+00	9.39E-04
			Be-7	1.45E-01	9.95E-03	1.27E-02
			K-40	2.26E-02	4.84E-03	1.05E-02
Sample ID:	263135	Sample Dates: 7/23/2013 - 7/30/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.91E-02	1.40E-03	2.92E-03
Sample ID:	263362	Sample Dates: 7/30/2013 - 8/6/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	2.41E-02	1.52E-03	2.95E-03
Sample ID:	264020	Sample Dates: 8/6/2013 - 8/13/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.44E-02	1.29E-03	2.94E-03
Sample ID:	265151	Sample Dates: 8/13/2013 - 8/20/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	9.96E-03	1.22E-03	3.17E-03
Sample ID:	265460	Sample Dates: 8/20/2013 - 8/27/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.65E-02	1.35E-03	2.99E-03
Sample ID:	267146	Sample Dates: 8/27/2013 - 9/4/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	3.11E-02	1.52E-03	2.46E-03
Sample ID:	267596	Sample Dates: 9/4/2013 - 9/10/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	3.20E-02	1.80E-03	3.12E-03
Sample ID:	268451	Sample Dates: 9/10/2013 - 9/17/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	3.09E-02	1.66E-03	2.90E-03
Sample ID:	269574	Sample Dates: 9/17/2013 - 9/24/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	2.37E-02	1.48E-03	2.72E-03
Sample ID:	270717	Sample Dates: 9/24/2013 - 10/1/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	2.09E-02	1.47E-03	3.04E-03
Sample ID:	271442	Sample Dates: 10/1/2013 - 10/8/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	2.93E-02	1.59E-03	2.70E-03
Sample ID:	272049	Sample Dates: 10/8/2013 - 10/15/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.23E-02	1.24E-03	2.99E-03
Sample ID:	272432	Sample Dates: 10/15/2013 - 10/22/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	2.56E-02	1.56E-03	3.01E-03
Sample ID:	272558	Sample Dates: 7/2/2013 - 10/1/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<6.77E-02	0.00E+00	6.77E-02
			Cs-134	<9.75E-04	0.00E+00	9.75E-04
			Cs-137	<8.85E-04	0.00E+00	8.85E-04
			Be-7	1.13E-01	8.92E-03	1.16E-02
			K-40	1.71E-02	4.27E-03	1.14E-02

CATAWBA Radiological Environmental Monitoring Analysis Report - 2013 (Appendix E)

Media Type: AIR PARTICULATE Concentration (Activity): pCi/m3

Sample Point 258 [CONTROL - W @ 9.84 miles]

Sample ID:	272833	Sample Dates: 10/22/2013 - 10/29/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	2.45E-02	1.52E-03	2.88E-03
Sample ID:	273925	Sample Dates: 10/29/2013 - 11/5/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	2.80E-02	1.63E-03	3.07E-03
Sample ID:	274372	Sample Dates: 11/5/2013 - 11/12/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.88E-02	1.36E-03	2.72E-03
Sample ID:	274886	Sample Dates: 11/12/2013 - 11/19/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.73E-02	1.39E-03	3.06E-03
Sample ID:	276440	Sample Dates: 11/19/2013 - 11/25/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.98E-02	1.57E-03	3.45E-03
Sample ID:	278760	Sample Dates: 11/25/2013 - 12/3/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	2.24E-02	1.36E-03	2.54E-03
Sample ID:	278831	Sample Dates: 12/3/2013 - 12/10/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.23E-02	1.21E-03	2.82E-03
Sample ID:	279071	Sample Dates: 12/10/2013 - 12/17/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	2.75E-02	1.62E-03	3.06E-03
Sample ID:	279699	Sample Dates: 12/17/2013 - 12/23/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.54E-02	1.48E-03	3.52E-03
Sample ID:	280188	Sample Dates: 12/23/2013 - 12/31/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.82E-02	1.28E-03	2.68E-03
Sample ID:	280596	Sample Dates: 10/1/2013 - 12/31/2013	Nuclide	Activity	1 Sigma Error	LLD
			Cs-134	<3.84E-04	0.00E+00	3.84E-04
			Cs-137	<3.92E-04	0.00E+00	3.92E-04
			Be-7	1.14E-01	6.11E-03	5.22E-03
			K-40	9.50E-03	2.26E-03	3.81E-03

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 200 [INDICATOR - NNE @ 0.63 miles]

Sample ID:	250444	Sample Dates: 1/2/2013 - 1/8/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<6.11E-03	0.00E+00	6.11E-03
			Cs-134	<6.49E-03	0.00E+00	6.49E-03
			Cs-137	<8.33E-03	0.00E+00	8.33E-03
			Be-7	<4.42E-02	0.00E+00	4.42E-02
			K-40	3.51E-01	6.52E-02	1.04E-01
Sample ID:	250574	Sample Dates: 1/8/2013 - 1/15/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.92E-02	0.00E+00	1.92E-02
			Cs-134	<1.73E-02	0.00E+00	1.73E-02
			Cs-137	<1.82E-02	0.00E+00	1.82E-02
			Be-7	<1.30E-01	0.00E+00	1.30E-01
			K-40	3.54E-01	9.15E-02	2.47E-01
Sample ID:	250743	Sample Dates: 1/15/2013 - 1/22/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.37E-02	0.00E+00	1.37E-02
			Cs-134	<1.33E-02	0.00E+00	1.33E-02
			Cs-137	<1.57E-02	0.00E+00	1.57E-02
			Be-7	<1.03E-01	0.00E+00	1.03E-01
			K-40	4.34E-01	9.71E-02	1.57E-01
Sample ID:	250991	Sample Dates: 1/22/2013 - 1/29/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.15E-02	0.00E+00	1.15E-02
			Cs-134	<8.41E-03	0.00E+00	8.41E-03
			Cs-137	<9.55E-03	0.00E+00	9.55E-03
			Be-7	<7.16E-02	0.00E+00	7.16E-02
			K-40	3.40E-01	8.51E-02	5.75E-02
Sample ID:	251277	Sample Dates: 1/29/2013 - 2/5/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.84E-02	0.00E+00	1.84E-02
			Cs-134	<1.44E-02	0.00E+00	1.44E-02
			Cs-137	<1.85E-02	0.00E+00	1.85E-02
			Be-7	<1.29E-01	0.00E+00	1.29E-01

CATAWBA Radiological Environmental Monitoring Analysis Report - 2013 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 200 [INDICATOR - NNE @ 0.63 miles]

Sample ID:	251277	Sample Dates: 1/29/2013 - 2/5/2013	Nuclide	Activity	1 Sigma Error	LLD
			K-40	3.43E-01	8.86E-02	1.98E-01
Sample ID:	251607	Sample Dates: 2/5/2013 - 2/12/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.11E-02	0.00E+00	1.11E-02
			Cs-134	<1.22E-02	0.00E+00	1.22E-02
			Cs-137	<1.21E-02	0.00E+00	1.21E-02
			Be-7	<7.92E-02	0.00E+00	7.92E-02
			K-40	6.15E-01	9.16E-02	1.49E-01
Sample ID:	252073	Sample Dates: 2/12/2013 - 2/19/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.47E-02	0.00E+00	1.47E-02
			Cs-134	<1.23E-02	0.00E+00	1.23E-02
			Cs-137	<1.36E-02	0.00E+00	1.36E-02
			Be-7	<9.16E-02	0.00E+00	9.16E-02
			K-40	<4.56E-01	0.00E+00	4.56E-01
Sample ID:	252690	Sample Dates: 2/19/2013 - 2/26/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.46E-02	0.00E+00	1.46E-02
			Cs-134	<8.68E-03	0.00E+00	8.68E-03
			Cs-137	<1.04E-02	0.00E+00	1.04E-02
			Be-7	<8.88E-02	0.00E+00	8.88E-02
			K-40	5.39E-01	8.42E-02	1.18E-01
Sample ID:	253076	Sample Dates: 2/26/2013 - 3/5/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.91E-02	0.00E+00	1.91E-02
			Cs-134	<1.63E-02	0.00E+00	1.63E-02
			Cs-137	<1.57E-02	0.00E+00	1.57E-02
			Be-7	<1.20E-01	0.00E+00	1.20E-01
			K-40	3.97E-01	1.18E-01	2.79E-01
Sample ID:	253884	Sample Dates: 3/5/2013 - 3/12/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<2.02E-02	0.00E+00	2.02E-02
			Cs-134	<1.42E-02	0.00E+00	1.42E-02
			Cs-137	<1.38E-02	0.00E+00	1.38E-02
			Be-7	<1.26E-01	0.00E+00	1.26E-01
			K-40	5.47E-01	1.14E-01	2.07E-01
Sample ID:	254206	Sample Dates: 3/12/2013 - 3/19/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.69E-02	0.00E+00	1.69E-02
			Cs-134	<1.62E-02	0.00E+00	1.62E-02
			Cs-137	<1.36E-02	0.00E+00	1.36E-02
			Be-7	<1.28E-01	0.00E+00	1.28E-01
			K-40	2.46E-01	1.06E-01	2.10E-01
Sample ID:	254741	Sample Dates: 3/19/2013 - 3/26/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.76E-02	0.00E+00	1.76E-02
			Cs-134	<1.22E-02	0.00E+00	1.22E-02
			Cs-137	<1.73E-02	0.00E+00	1.73E-02
			Be-7	<8.40E-02	0.00E+00	8.40E-02
			K-40	<4.96E-01	0.00E+00	4.96E-01
Sample ID:	255301	Sample Dates: 3/26/2013 - 4/2/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.12E-02	0.00E+00	1.12E-02
			Cs-134	<1.16E-02	0.00E+00	1.16E-02
			Cs-137	<1.40E-02	0.00E+00	1.40E-02
			Be-7	<9.93E-02	0.00E+00	9.93E-02
			K-40	4.79E-01	1.22E-01	2.23E-01
Sample ID:	255830	Sample Dates: 4/2/2013 - 4/9/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.52E-02	0.00E+00	1.52E-02
			Cs-134	<1.90E-02	0.00E+00	1.90E-02
			Cs-137	<1.38E-02	0.00E+00	1.38E-02
			Be-7	<1.19E-01	0.00E+00	1.19E-01
			K-40	<5.58E-01	0.00E+00	5.58E-01
Sample ID:	256064	Sample Dates: 4/9/2013 - 4/16/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<2.26E-02	0.00E+00	2.26E-02
			Cs-134	<1.36E-02	0.00E+00	1.36E-02
			Cs-137	<9.21E-03	0.00E+00	9.21E-03
			Be-7	<9.46E-02	0.00E+00	9.46E-02

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 200 [INDICATOR - NNE @ 0.63 miles]

Sample ID:	256064	Sample Dates: 4/9/2013 - 4/16/2013	Nuclide	Activity	1 Sigma Error	LLD
			K-40	<5.43E-01	0.00E+00	5.43E-01
Sample ID:	256332	Sample Dates: 4/16/2013 - 4/23/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.56E-02	0.00E+00	1.56E-02
			Cs-134	<8.66E-03	0.00E+00	8.66E-03
			Cs-137	<8.14E-03	0.00E+00	8.14E-03
			Be-7	<9.34E-02	0.00E+00	9.34E-02
			K-40	2.74E-01	9.65E-02	1.81E-01
Sample ID:	256599	Sample Dates: 4/23/2013 - 4/30/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<2.00E-02	0.00E+00	2.00E-02
			Cs-134	<7.84E-03	0.00E+00	7.84E-03
			Cs-137	<2.29E-02	0.00E+00	2.29E-02
			Be-7	<9.70E-02	0.00E+00	9.70E-02
			K-40	2.66E-01	1.02E-01	2.11E-01
Sample ID:	257122	Sample Dates: 4/30/2013 - 5/7/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.79E-02	0.00E+00	1.79E-02
			Cs-134	<1.52E-02	0.00E+00	1.52E-02
			Cs-137	<1.19E-02	0.00E+00	1.19E-02
			Be-7	<1.21E-01	0.00E+00	1.21E-01
			K-40	5.24E-01	1.12E-01	1.76E-01
Sample ID:	257275	Sample Dates: 5/7/2013 - 5/14/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.19E-02	0.00E+00	1.19E-02
			Cs-134	<8.29E-03	0.00E+00	8.29E-03
			Cs-137	<1.43E-02	0.00E+00	1.43E-02
			Be-7	<6.56E-02	0.00E+00	6.56E-02
			K-40	3.30E-01	8.24E-02	1.53E-01
Sample ID:	257722	Sample Dates: 5/14/2013 - 5/21/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.30E-02	0.00E+00	1.30E-02
			Cs-134	<6.71E-03	0.00E+00	6.71E-03
			Cs-137	<1.42E-02	0.00E+00	1.42E-02
			Be-7	<7.88E-02	0.00E+00	7.88E-02
			K-40	<3.56E-01	0.00E+00	3.56E-01
Sample ID:	257966	Sample Dates: 5/21/2013 - 5/29/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<2.36E-02	0.00E+00	2.36E-02
			Cs-134	<1.50E-02	0.00E+00	1.50E-02
			Cs-137	<1.83E-02	0.00E+00	1.83E-02
			Be-7	<1.39E-01	0.00E+00	1.39E-01
			K-40	3.43E-01	9.16E-02	2.86E-01
Sample ID:	258201	Sample Dates: 5/29/2013 - 6/4/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<2.00E-02	0.00E+00	2.00E-02
			Cs-134	<2.02E-02	0.00E+00	2.02E-02
			Cs-137	<2.34E-02	0.00E+00	2.34E-02
			Be-7	<2.13E-01	0.00E+00	2.13E-01
			K-40	<6.19E-01	0.00E+00	6.19E-01
Sample ID:	258548	Sample Dates: 6/4/2013 - 6/11/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.14E-02	0.00E+00	1.14E-02
			Cs-134	<7.62E-03	0.00E+00	7.62E-03
			Cs-137	<8.95E-03	0.00E+00	8.95E-03
			Be-7	<7.10E-02	0.00E+00	7.10E-02
			K-40	4.37E-01	9.35E-02	1.46E-01
Sample ID:	259018	Sample Dates: 6/11/2013 - 6/18/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.87E-02	0.00E+00	1.87E-02
			Cs-134	<2.14E-02	0.00E+00	2.14E-02
			Cs-137	<7.97E-03	0.00E+00	7.97E-03
			Be-7	<1.79E-01	0.00E+00	1.79E-01
			K-40	<4.51E-01	0.00E+00	4.51E-01
Sample ID:	259566	Sample Dates: 6/18/2013 - 6/25/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<2.26E-02	0.00E+00	2.26E-02
			Cs-134	<1.97E-02	0.00E+00	1.97E-02
			Cs-137	<1.94E-02	0.00E+00	1.94E-02
			Be-7	<1.22E-01	0.00E+00	1.22E-01

CATAWBA Radiological Environmental Monitoring Analysis Report - 2013 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 200 [INDICATOR - NNE @ 0.63 miles]

Sample ID:	259566	Sample Dates: 6/18/2013 - 6/25/2013	Nuclide	Activity	1 Sigma Error	LLD
			K-40	5.18E-01	1.48E-01	2.69E-01
Sample ID:	260200	Sample Dates: 6/25/2013 - 7/2/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.98E-02	0.00E+00	1.98E-02
			Cs-134	<1.21E-02	0.00E+00	1.21E-02
			Cs-137	<1.60E-02	0.00E+00	1.60E-02
			Be-7	<7.72E-02	0.00E+00	7.72E-02
			K-40	3.87E-01	9.69E-02	6.54E-02
Sample ID:	260660	Sample Dates: 7/2/2013 - 7/9/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<2.31E-02	0.00E+00	2.31E-02
			Cs-134	<1.72E-02	0.00E+00	1.72E-02
			Cs-137	<2.08E-02	0.00E+00	2.08E-02
			Be-7	<1.59E-01	0.00E+00	1.59E-01
			K-40	4.14E-01	1.39E-01	2.75E-01
Sample ID:	261623	Sample Dates: 7/9/2013 - 7/16/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.39E-02	0.00E+00	1.39E-02
			Cs-134	<6.99E-03	0.00E+00	6.99E-03
			Cs-137	<1.36E-02	0.00E+00	1.36E-02
			Be-7	<7.78E-02	0.00E+00	7.78E-02
			K-40	3.88E-01	8.72E-02	1.22E-01
Sample ID:	262125	Sample Dates: 7/16/2013 - 7/23/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<2.08E-02	0.00E+00	2.08E-02
			Cs-134	<1.54E-02	0.00E+00	1.54E-02
			Cs-137	<1.96E-02	0.00E+00	1.96E-02
			Be-7	<9.92E-02	0.00E+00	9.92E-02
			K-40	4.83E-01	1.17E-01	2.14E-01
Sample ID:	263141	Sample Dates: 7/23/2013 - 7/30/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.60E-02	0.00E+00	1.60E-02
			Cs-134	<1.62E-02	0.00E+00	1.62E-02
			Cs-137	<2.52E-02	0.00E+00	2.52E-02
			Be-7	<1.31E-01	0.00E+00	1.31E-01
			K-40	6.64E-01	1.38E-01	3.21E-01
Sample ID:	263368	Sample Dates: 7/30/2013 - 8/6/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<2.20E-02	0.00E+00	2.20E-02
			Cs-134	<2.12E-02	0.00E+00	2.12E-02
			Cs-137	<2.15E-02	0.00E+00	2.15E-02
			Be-7	<1.48E-01	0.00E+00	1.48E-01
			K-40	3.69E-01	1.28E-01	7.72E-02
Sample ID:	264026	Sample Dates: 8/6/2013 - 8/13/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.97E-02	0.00E+00	1.97E-02
			Cs-134	<1.74E-02	0.00E+00	1.74E-02
			Cs-137	<2.35E-02	0.00E+00	2.35E-02
			Be-7	<1.69E-01	0.00E+00	1.69E-01
			K-40	3.41E-01	9.85E-02	2.98E-01
Sample ID:	265157	Sample Dates: 8/13/2013 - 8/20/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.56E-02	0.00E+00	1.56E-02
			Cs-134	<1.62E-02	0.00E+00	1.62E-02
			Cs-137	<1.20E-02	0.00E+00	1.20E-02
			Be-7	<1.05E-01	0.00E+00	1.05E-01
			K-40	3.83E-01	1.15E-01	1.99E-01
Sample ID:	265466	Sample Dates: 8/20/2013 - 8/27/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<2.58E-02	0.00E+00	2.58E-02
			Cs-134	<1.84E-02	0.00E+00	1.84E-02
			Cs-137	<2.31E-02	0.00E+00	2.31E-02
			Be-7	<1.57E-01	0.00E+00	1.57E-01
			K-40	4.28E-01	1.10E-01	2.58E-01
Sample ID:	267152	Sample Dates: 8/27/2013 - 9/4/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.27E-02	0.00E+00	1.27E-02
			Cs-134	<1.10E-02	0.00E+00	1.10E-02
			Cs-137	<1.23E-02	0.00E+00	1.23E-02
			Be-7	<8.30E-02	0.00E+00	8.30E-02

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 200 [INDICATOR - NNE @ 0.63 miles]

Sample ID:	267152	Sample Dates: 8/27/2013 - 9/4/2013	Nuclide	Activity	1 Sigma Error	LLD
			K-40	2.66E-01	7.12E-02	5.15E-02
Sample ID:	267602	Sample Dates: 9/4/2013 - 9/10/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.89E-02	0.00E+00	1.89E-02
			Cs-134	<2.02E-02	0.00E+00	2.02E-02
			Cs-137	<2.33E-02	0.00E+00	2.33E-02
			Be-7	<1.68E-01	0.00E+00	1.68E-01
			K-40	<6.00E-01	0.00E+00	6.00E-01
Sample ID:	268457	Sample Dates: 9/10/2013 - 9/17/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<2.10E-02	0.00E+00	2.10E-02
			Cs-134	<1.66E-02	0.00E+00	1.66E-02
			Cs-137	<2.05E-02	0.00E+00	2.05E-02
			Be-7	<1.00E-01	0.00E+00	1.00E-01
			K-40	<4.75E-01	0.00E+00	4.75E-01
Sample ID:	269580	Sample Dates: 9/17/2013 - 9/24/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<2.27E-02	0.00E+00	2.27E-02
			Cs-134	<1.70E-02	0.00E+00	1.70E-02
			Cs-137	<1.86E-02	0.00E+00	1.86E-02
			Be-7	<1.46E-01	0.00E+00	1.46E-01
			K-40	<5.43E-01	0.00E+00	5.43E-01
Sample ID:	270723	Sample Dates: 9/24/2013 - 10/1/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<2.00E-02	0.00E+00	2.00E-02
			Cs-134	<2.23E-02	0.00E+00	2.23E-02
			Cs-137	<1.46E-02	0.00E+00	1.46E-02
			Be-7	<1.99E-01	0.00E+00	1.99E-01
			K-40	4.23E-01	1.42E-01	2.46E-01
Sample ID:	271448	Sample Dates: 10/1/2013 - 10/8/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<2.06E-02	0.00E+00	2.06E-02
			Cs-134	<2.12E-02	0.00E+00	2.12E-02
			Cs-137	<2.59E-02	0.00E+00	2.59E-02
			Be-7	<1.17E-01	0.00E+00	1.17E-01
			K-40	5.16E-01	1.22E-01	2.58E-01
Sample ID:	272055	Sample Dates: 10/8/2013 - 10/15/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.84E-02	0.00E+00	1.84E-02
			Cs-134	<1.58E-02	0.00E+00	1.58E-02
			Cs-137	<2.05E-02	0.00E+00	2.05E-02
			Be-7	<1.48E-01	0.00E+00	1.48E-01
			K-40	4.51E-01	1.36E-01	2.13E-01
Sample ID:	272438	Sample Dates: 10/15/2013 - 10/22/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<2.34E-02	0.00E+00	2.34E-02
			Cs-134	<9.78E-03	0.00E+00	9.78E-03
			Cs-137	<2.06E-02	0.00E+00	2.06E-02
			Be-7	<1.03E-01	0.00E+00	1.03E-01
			K-40	5.14E-01	1.49E-01	3.80E-01
Sample ID:	272839	Sample Dates: 10/22/2013 - 10/29/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.78E-02	0.00E+00	1.78E-02
			Cs-134	<1.57E-02	0.00E+00	1.57E-02
			Cs-137	<2.45E-02	0.00E+00	2.45E-02
			Be-7	<1.15E-01	0.00E+00	1.15E-01
			K-40	5.18E-01	1.22E-01	7.77E-02
Sample ID:	273931	Sample Dates: 10/29/2013 - 11/5/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<2.28E-02	0.00E+00	2.28E-02
			Cs-134	<1.73E-02	0.00E+00	1.73E-02
			Cs-137	<1.69E-02	0.00E+00	1.69E-02
			Be-7	<1.62E-01	0.00E+00	1.62E-01
			K-40	<5.56E-01	0.00E+00	5.56E-01
Sample ID:	274378	Sample Dates: 11/5/2013 - 11/12/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<2.32E-02	0.00E+00	2.32E-02
			Cs-134	<1.88E-02	0.00E+00	1.88E-02
			Cs-137	<2.47E-02	0.00E+00	2.47E-02
			Be-7	<1.53E-01	0.00E+00	1.53E-01

CATAWBA Radiological Environmental Monitoring Analysis Report - 2013 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 200 [INDICATOR - NNE @ 0.63 miles]

Sample ID:	274378	Sample Dates: 11/5/2013 - 11/12/2013	Nuclide	Activity	1 Sigma Error	LLD
			K-40	<6.31E-01	0.00E+00	6.31E-01
Sample ID:	274892	Sample Dates: 11/12/2013 - 11/19/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<2.34E-02	0.00E+00	2.34E-02
			Cs-134	<1.43E-02	0.00E+00	1.43E-02
			Cs-137	<2.00E-02	0.00E+00	2.00E-02
			Be-7	<1.74E-01	0.00E+00	1.74E-01
			K-40	3.86E-01	1.42E-01	2.64E-01
Sample ID:	276446	Sample Dates: 11/19/2013 - 11/25/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<2.20E-02	0.00E+00	2.20E-02
			Cs-134	<1.71E-02	0.00E+00	1.71E-02
			Cs-137	<7.56E-03	0.00E+00	7.56E-03
			Be-7	<9.93E-02	0.00E+00	9.93E-02
			K-40	3.20E-01	1.71E-01	2.87E-01
Sample ID:	278761	Sample Dates: 11/25/2013 - 12/3/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.21E-02	0.00E+00	1.21E-02
			Cs-134	<1.12E-02	0.00E+00	1.12E-02
			Cs-137	<1.06E-02	0.00E+00	1.06E-02
			Be-7	<6.52E-02	0.00E+00	6.52E-02
			K-40	2.31E-01	1.10E-01	2.25E-01
Sample ID:	278832	Sample Dates: 12/3/2013 - 12/10/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<2.07E-02	0.00E+00	2.07E-02
			Cs-134	<1.40E-02	0.00E+00	1.40E-02
			Cs-137	<2.02E-02	0.00E+00	2.02E-02
			Be-7	<1.21E-01	0.00E+00	1.21E-01
			K-40	3.46E-01	1.29E-01	2.65E-01
Sample ID:	279072	Sample Dates: 12/10/2013 - 12/17/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<8.54E-03	0.00E+00	8.54E-03
			Cs-134	<8.28E-03	0.00E+00	8.28E-03
			Cs-137	<1.34E-02	0.00E+00	1.34E-02
			Be-7	<7.85E-02	0.00E+00	7.85E-02
			K-40	5.23E-01	8.38E-02	1.00E-01
Sample ID:	279700	Sample Dates: 12/17/2013 - 12/23/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.99E-02	0.00E+00	1.99E-02
			Cs-134	<2.00E-02	0.00E+00	2.00E-02
			Cs-137	<2.31E-02	0.00E+00	2.31E-02
			Be-7	<2.06E-01	0.00E+00	2.06E-01
			K-40	6.87E-01	1.50E-01	3.46E-01
Sample ID:	280189	Sample Dates: 12/23/2013 - 12/31/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<2.10E-02	0.00E+00	2.10E-02
			Cs-134	<1.74E-02	0.00E+00	1.74E-02
			Cs-137	<1.92E-02	0.00E+00	1.92E-02
			Be-7	<1.66E-01	0.00E+00	1.66E-01
			K-40	3.96E-01	9.91E-02	6.70E-02

Sample Point 201 [INDICATOR - NE @ 0.53 miles]

Sample ID:	250445	Sample Dates: 1/2/2013 - 1/8/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.28E-02	0.00E+00	1.28E-02
			Cs-134	<1.05E-02	0.00E+00	1.05E-02
			Cs-137	<1.06E-02	0.00E+00	1.06E-02
			Be-7	<8.03E-02	0.00E+00	8.03E-02
			K-40	3.21E-01	6.70E-02	9.94E-02
Sample ID:	250575	Sample Dates: 1/8/2013 - 1/15/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.13E-02	0.00E+00	1.13E-02
			Cs-134	<6.62E-03	0.00E+00	6.62E-03
			Cs-137	<9.50E-03	0.00E+00	9.50E-03
			Be-7	<7.36E-02	0.00E+00	7.36E-02
			K-40	4.06E-01	7.53E-02	1.00E-01
Sample ID:	250744	Sample Dates: 1/15/2013 - 1/22/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.72E-02	0.00E+00	1.72E-02
			Cs-134	<1.77E-02	0.00E+00	1.77E-02

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 201 [INDICATOR - NE @ 0.53 miles]

Sample ID:	250744	Sample Dates: 1/15/2013 - 1/22/2013	Nuclide	Activity	1 Sigma Error	LLD
			Cs-137	<9.24E-03	0.00E+00	9.24E-03
			Be-7	<1.10E-01	0.00E+00	1.10E-01
			K-40	5.11E-01	1.09E-01	6.28E-02
Sample ID:	250992	Sample Dates: 1/22/2013 - 1/29/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.78E-02	0.00E+00	1.78E-02
			Cs-134	<1.45E-02	0.00E+00	1.45E-02
			Cs-137	<1.47E-02	0.00E+00	1.47E-02
			Be-7	<1.20E-01	0.00E+00	1.20E-01
			K-40	3.66E-01	1.14E-01	2.17E-01
Sample ID:	251278	Sample Dates: 1/29/2013 - 2/5/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.14E-02	0.00E+00	1.14E-02
			Cs-134	<9.45E-03	0.00E+00	9.45E-03
			Cs-137	<7.53E-03	0.00E+00	7.53E-03
			Be-7	<7.06E-02	0.00E+00	7.06E-02
			K-40	4.34E-01	1.11E-01	1.93E-01
Sample ID:	251608	Sample Dates: 2/5/2013 - 2/12/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.66E-02	0.00E+00	1.66E-02
			Cs-134	<1.52E-02	0.00E+00	1.52E-02
			Cs-137	<1.48E-02	0.00E+00	1.48E-02
			Be-7	<9.84E-02	0.00E+00	9.84E-02
			K-40	<4.76E-01	0.00E+00	4.76E-01
Sample ID:	252074	Sample Dates: 2/12/2013 - 2/19/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.09E-02	0.00E+00	1.09E-02
			Cs-134	<1.01E-02	0.00E+00	1.01E-02
			Cs-137	<1.05E-02	0.00E+00	1.05E-02
			Be-7	<5.17E-02	0.00E+00	5.17E-02
			K-40	2.35E-01	1.16E-01	1.95E-01
Sample ID:	252691	Sample Dates: 2/19/2013 - 2/26/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.15E-02	0.00E+00	1.15E-02
			Cs-134	<1.52E-02	0.00E+00	1.52E-02
			Cs-137	<1.45E-02	0.00E+00	1.45E-02
			Be-7	<1.26E-01	0.00E+00	1.26E-01
			K-40	<4.78E-01	0.00E+00	4.78E-01
Sample ID:	253077	Sample Dates: 2/26/2013 - 3/5/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<2.19E-02	0.00E+00	2.19E-02
			Cs-134	<9.84E-03	0.00E+00	9.84E-03
			Cs-137	<1.70E-02	0.00E+00	1.70E-02
			Be-7	<1.18E-01	0.00E+00	1.18E-01
			K-40	<4.38E-01	0.00E+00	4.38E-01
Sample ID:	253885	Sample Dates: 3/5/2013 - 3/12/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.93E-02	0.00E+00	1.93E-02
			Cs-134	<1.30E-02	0.00E+00	1.30E-02
			Cs-137	<1.70E-02	0.00E+00	1.70E-02
			Be-7	<7.75E-02	0.00E+00	7.75E-02
			K-40	6.16E-01	1.21E-01	6.40E-02
Sample ID:	254207	Sample Dates: 3/12/2013 - 3/19/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.86E-02	0.00E+00	1.86E-02
			Cs-134	<1.16E-02	0.00E+00	1.16E-02
			Cs-137	<1.57E-02	0.00E+00	1.57E-02
			Be-7	<1.21E-01	0.00E+00	1.21E-01
			K-40	3.08E-01	1.12E-01	2.02E-01
Sample ID:	254742	Sample Dates: 3/19/2013 - 3/26/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.60E-02	0.00E+00	1.60E-02
			Cs-134	<9.78E-03	0.00E+00	9.78E-03
			Cs-137	<1.40E-02	0.00E+00	1.40E-02
			Be-7	<8.80E-02	0.00E+00	8.80E-02
			K-40	6.73E-01	1.27E-01	6.50E-02
Sample ID:	255302	Sample Dates: 3/26/2013 - 4/2/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<8.88E-03	0.00E+00	8.88E-03
			Cs-134	<1.12E-02	0.00E+00	1.12E-02

CATAWBA Radiological Environmental Monitoring Analysis Report - 2013 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 201 [INDICATOR - NE @ 0.53 miles]

Sample ID: 255302 **Sample Dates: 3/26/2013 - 4/2/2013**

Nuclide	Activity	1 Sigma Error	LLD
Cs-137	<1.28E-02	0.00E+00	1.28E-02
Be-7	<7.59E-02	0.00E+00	7.59E-02
K-40	5.46E-01	8.86E-02	1.55E-01

Sample ID: 255831 **Sample Dates: 4/2/2013 - 4/9/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<2.28E-02	0.00E+00	2.28E-02
Cs-134	<1.49E-02	0.00E+00	1.49E-02
Cs-137	<1.48E-02	0.00E+00	1.48E-02
Be-7	<1.09E-01	0.00E+00	1.09E-01
K-40	<5.10E-01	0.00E+00	5.10E-01

Sample ID: 256065 **Sample Dates: 4/9/2013 - 4/16/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.08E-02	0.00E+00	1.08E-02
Cs-134	<9.87E-03	0.00E+00	9.87E-03
Cs-137	<1.29E-02	0.00E+00	1.29E-02
Be-7	<5.37E-02	0.00E+00	5.37E-02
K-40	<4.10E-01	0.00E+00	4.10E-01

Sample ID: 256333 **Sample Dates: 4/16/2013 - 4/23/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.01E-02	0.00E+00	1.01E-02
Cs-134	<1.03E-02	0.00E+00	1.03E-02
Cs-137	<1.33E-02	0.00E+00	1.33E-02
Be-7	<7.71E-02	0.00E+00	7.71E-02
K-40	4.88E-01	8.38E-02	1.07E-01

Sample ID: 256600 **Sample Dates: 4/23/2013 - 4/30/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<2.13E-02	0.00E+00	2.13E-02
Cs-134	<1.00E-02	0.00E+00	1.00E-02
Cs-137	<1.79E-02	0.00E+00	1.79E-02
Be-7	<1.14E-01	0.00E+00	1.14E-01
K-40	3.32E-01	8.86E-02	2.03E-01

Sample ID: 257123 **Sample Dates: 4/30/2013 - 5/7/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.59E-02	0.00E+00	1.59E-02
Cs-134	<1.14E-02	0.00E+00	1.14E-02
Cs-137	<6.74E-03	0.00E+00	6.74E-03
Be-7	<1.45E-01	0.00E+00	1.45E-01
K-40	5.42E-01	1.13E-01	2.54E-01

Sample ID: 257276 **Sample Dates: 5/7/2013 - 5/14/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.35E-02	0.00E+00	1.35E-02
Cs-134	<7.98E-03	0.00E+00	7.98E-03
Cs-137	<1.33E-02	0.00E+00	1.33E-02
Be-7	<6.75E-02	0.00E+00	6.75E-02
K-40	3.76E-01	7.36E-02	1.32E-01

Sample ID: 257723 **Sample Dates: 5/14/2013 - 5/21/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<9.77E-03	0.00E+00	9.77E-03
Cs-134	<1.17E-02	0.00E+00	1.17E-02
Cs-137	<1.54E-02	0.00E+00	1.54E-02
Be-7	<7.11E-02	0.00E+00	7.11E-02
K-40	3.57E-01	8.86E-02	1.05E-01

Sample ID: 257967 **Sample Dates: 5/21/2013 - 5/29/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<2.31E-02	0.00E+00	2.31E-02
Cs-134	<1.97E-02	0.00E+00	1.97E-02
Cs-137	<1.76E-02	0.00E+00	1.76E-02
Be-7	<1.24E-01	0.00E+00	1.24E-01
K-40	3.95E-01	1.23E-01	2.26E-01

Sample ID: 258202 **Sample Dates: 5/29/2013 - 6/4/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<2.23E-02	0.00E+00	2.23E-02
Cs-134	<1.98E-02	0.00E+00	1.98E-02
Cs-137	<1.90E-02	0.00E+00	1.90E-02
Be-7	<1.45E-01	0.00E+00	1.45E-01
K-40	<4.70E-01	0.00E+00	4.70E-01

Sample ID: 258549 **Sample Dates: 6/4/2013 - 6/11/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.10E-02	0.00E+00	1.10E-02
Cs-134	<8.45E-03	0.00E+00	8.45E-03

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 201 [INDICATOR - NE @ 0.53 miles]

Sample ID:	258549	Sample Dates: 6/4/2013 - 6/11/2013	Nuclide	Activity	1 Sigma Error	LLD
			Cs-137	<1.48E-02	0.00E+00	1.48E-02
			Be-7	<5.20E-02	0.00E+00	5.20E-02
			K-40	8.22E-02	7.35E-02	1.00E-01
Sample ID:	259019	Sample Dates: 6/11/2013 - 6/18/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<2.29E-02	0.00E+00	2.29E-02
			Cs-134	<1.59E-02	0.00E+00	1.59E-02
			Cs-137	<9.74E-03	0.00E+00	9.74E-03
			Be-7	<1.55E-01	0.00E+00	1.55E-01
			K-40	<5.55E-01	0.00E+00	5.55E-01
Sample ID:	259567	Sample Dates: 6/18/2013 - 6/25/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.71E-02	0.00E+00	1.71E-02
			Cs-134	<1.01E-02	0.00E+00	1.01E-02
			Cs-137	<1.55E-02	0.00E+00	1.55E-02
			Be-7	<1.10E-01	0.00E+00	1.10E-01
			K-40	4.06E-01	9.85E-02	1.71E-01
Sample ID:	260201	Sample Dates: 6/25/2013 - 7/2/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.14E-02	0.00E+00	1.14E-02
			Cs-134	<6.79E-03	0.00E+00	6.79E-03
			Cs-137	<9.54E-03	0.00E+00	9.54E-03
			Be-7	<7.76E-02	0.00E+00	7.76E-02
			K-40	4.49E-01	7.49E-02	1.13E-01
Sample ID:	260661	Sample Dates: 7/2/2013 - 7/9/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<2.36E-02	0.00E+00	2.36E-02
			Cs-134	<2.01E-02	0.00E+00	2.01E-02
			Cs-137	<2.81E-02	0.00E+00	2.81E-02
			Be-7	<1.72E-01	0.00E+00	1.72E-01
			K-40	<5.00E-01	0.00E+00	5.00E-01
Sample ID:	261624	Sample Dates: 7/9/2013 - 7/16/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.44E-02	0.00E+00	1.44E-02
			Cs-134	<1.29E-02	0.00E+00	1.29E-02
			Cs-137	<8.53E-03	0.00E+00	8.53E-03
			Be-7	<9.10E-02	0.00E+00	9.10E-02
			K-40	4.48E-01	1.16E-01	1.92E-01
Sample ID:	262126	Sample Dates: 7/16/2013 - 7/23/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.50E-02	0.00E+00	1.50E-02
			Cs-134	<1.22E-02	0.00E+00	1.22E-02
			Cs-137	<1.46E-02	0.00E+00	1.46E-02
			Be-7	<1.64E-01	0.00E+00	1.64E-01
			K-40	4.85E-01	1.18E-01	7.72E-02
Sample ID:	263142	Sample Dates: 7/23/2013 - 7/30/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<2.24E-02	0.00E+00	2.24E-02
			Cs-134	<9.77E-03	0.00E+00	9.77E-03
			Cs-137	<1.98E-02	0.00E+00	1.98E-02
			Be-7	<1.57E-01	0.00E+00	1.57E-01
			K-40	4.61E-01	1.43E-01	2.16E-01
Sample ID:	263369	Sample Dates: 7/30/2013 - 8/6/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<2.31E-02	0.00E+00	2.31E-02
			Cs-134	<1.56E-02	0.00E+00	1.56E-02
			Cs-137	<2.34E-02	0.00E+00	2.34E-02
			Be-7	<1.15E-01	0.00E+00	1.15E-01
			K-40	4.59E-01	1.15E-01	7.76E-02
Sample ID:	264027	Sample Dates: 8/6/2013 - 8/13/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<2.15E-02	0.00E+00	2.15E-02
			Cs-134	<2.10E-02	0.00E+00	2.10E-02
			Cs-137	<1.69E-02	0.00E+00	1.69E-02
			Be-7	<1.02E-01	0.00E+00	1.02E-01
			K-40	5.70E-01	1.27E-01	3.14E-01
Sample ID:	265158	Sample Dates: 8/13/2013 - 8/20/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.84E-02	0.00E+00	1.84E-02
			Cs-134	<1.60E-02	0.00E+00	1.60E-02

CATAWBA Radiological Environmental Monitoring Analysis Report - 2013 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 201 [INDICATOR - NE @ 0.53 miles]

Sample ID: 265158 **Sample Dates: 8/13/2013 - 8/20/2013**

Nuclide	Activity	1 Sigma Error	LLD
Cs-137	<1.82E-02	0.00E+00	1.82E-02
Be-7	<1.93E-01	0.00E+00	1.93E-01
K-40	3.45E-01	1.25E-01	2.72E-01

Sample ID: 265467 **Sample Dates: 8/20/2013 - 8/27/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.30E-02	0.00E+00	1.30E-02
Cs-134	<1.08E-02	0.00E+00	1.08E-02
Cs-137	<1.06E-02	0.00E+00	1.06E-02
Be-7	<7.46E-02	0.00E+00	7.46E-02
K-40	<3.37E-01	0.00E+00	3.37E-01

Sample ID: 267153 **Sample Dates: 8/27/2013 - 9/4/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.68E-02	0.00E+00	1.68E-02
Cs-134	<1.62E-02	0.00E+00	1.62E-02
Cs-137	<1.68E-02	0.00E+00	1.68E-02
Be-7	<1.21E-01	0.00E+00	1.21E-01
K-40	<6.34E-01	0.00E+00	6.34E-01

Sample ID: 267603 **Sample Dates: 9/4/2013 - 9/10/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.41E-02	0.00E+00	1.41E-02
Cs-134	<1.57E-02	0.00E+00	1.57E-02
Cs-137	<1.63E-02	0.00E+00	1.63E-02
Be-7	<1.11E-01	0.00E+00	1.11E-01
K-40	<4.56E-01	0.00E+00	4.56E-01

Sample ID: 268458 **Sample Dates: 9/10/2013 - 9/17/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.25E-02	0.00E+00	1.25E-02
Cs-134	<1.18E-02	0.00E+00	1.18E-02
Cs-137	<8.45E-03	0.00E+00	8.45E-03
Be-7	<1.01E-01	0.00E+00	1.01E-01
K-40	<4.27E-01	0.00E+00	4.27E-01

Sample ID: 269581 **Sample Dates: 9/17/2013 - 9/24/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<2.03E-02	0.00E+00	2.03E-02
Cs-134	<1.92E-02	0.00E+00	1.92E-02
Cs-137	<1.85E-02	0.00E+00	1.85E-02
Be-7	<1.01E-01	0.00E+00	1.01E-01
K-40	4.88E-01	1.18E-01	3.19E-01

Sample ID: 270724 **Sample Dates: 9/24/2013 - 10/1/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<2.76E-02	0.00E+00	2.76E-02
Cs-134	<1.87E-02	0.00E+00	1.87E-02
Cs-137	<2.02E-02	0.00E+00	2.02E-02
Be-7	<1.45E-01	0.00E+00	1.45E-01
K-40	<6.56E-01	0.00E+00	6.56E-01

Sample ID: 271449 **Sample Dates: 10/1/2013 - 10/8/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.54E-02	0.00E+00	1.54E-02
Cs-134	<1.87E-02	0.00E+00	1.87E-02
Cs-137	<2.01E-02	0.00E+00	2.01E-02
Be-7	<1.27E-01	0.00E+00	1.27E-01
K-40	2.91E-01	1.60E-01	3.32E-01

Sample ID: 272056 **Sample Dates: 10/8/2013 - 10/15/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<2.49E-02	0.00E+00	2.49E-02
Cs-134	<2.00E-02	0.00E+00	2.00E-02
Cs-137	<1.46E-02	0.00E+00	1.46E-02
Be-7	<8.48E-02	0.00E+00	8.48E-02
K-40	5.72E-01	1.28E-01	3.29E-01

Sample ID: 272439 **Sample Dates: 10/15/2013 - 10/22/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.62E-02	0.00E+00	1.62E-02
Cs-134	<1.05E-02	0.00E+00	1.05E-02
Cs-137	<9.31E-03	0.00E+00	9.31E-03
Be-7	<8.69E-02	0.00E+00	8.69E-02
K-40	4.94E-01	1.03E-01	5.80E-02

Sample ID: 272840 **Sample Dates: 10/22/2013 - 10/29/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.47E-02	0.00E+00	1.47E-02
Cs-134	<1.32E-02	0.00E+00	1.32E-02

CATAWBA Radiological Environmental Monitoring Analysis Report - 2013 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 201 [INDICATOR - NE @ 0.53 miles]

Sample ID: 272840 **Sample Dates: 10/22/2013 - 10/29/2013**

Nuclide	Activity	1 Sigma Error	LLD
Cs-137	<2.21E-02	0.00E+00	2.21E-02
Be-7	<1.15E-01	0.00E+00	1.15E-01
K-40	<4.36E-01	0.00E+00	4.36E-01

Sample ID: 273932 **Sample Dates: 10/29/2013 - 11/5/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.59E-02	0.00E+00	1.59E-02
Cs-134	<1.23E-02	0.00E+00	1.23E-02
Cs-137	<1.29E-02	0.00E+00	1.29E-02
Be-7	<8.06E-02	0.00E+00	8.06E-02
K-40	4.45E-01	1.02E-01	1.94E-01

Sample ID: 274379 **Sample Dates: 11/5/2013 - 11/12/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<2.17E-02	0.00E+00	2.17E-02
Cs-134	<1.97E-02	0.00E+00	1.97E-02
Cs-137	<1.88E-02	0.00E+00	1.88E-02
Be-7	<1.60E-01	0.00E+00	1.60E-01
K-40	2.98E-01	1.27E-01	3.15E-01

Sample ID: 274893 **Sample Dates: 11/12/2013 - 11/19/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<2.41E-02	0.00E+00	2.41E-02
Cs-134	<1.31E-02	0.00E+00	1.31E-02
Cs-137	<1.80E-02	0.00E+00	1.80E-02
Be-7	<8.87E-02	0.00E+00	8.87E-02
K-40	<6.02E-01	0.00E+00	6.02E-01

Sample ID: 276447 **Sample Dates: 11/19/2013 - 11/25/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.31E-02	0.00E+00	1.31E-02
Cs-134	<1.25E-02	0.00E+00	1.25E-02
Cs-137	<1.30E-02	0.00E+00	1.30E-02
Be-7	<8.77E-02	0.00E+00	8.77E-02
K-40	8.77E-01	1.14E-01	1.06E-01

Sample ID: 278762 **Sample Dates: 11/26/2013 - 12/3/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.45E-02	0.00E+00	1.45E-02
Cs-134	<8.77E-03	0.00E+00	8.77E-03
Cs-137	<9.57E-03	0.00E+00	9.57E-03
Be-7	<8.31E-02	0.00E+00	8.31E-02
K-40	<3.96E-01	0.00E+00	3.96E-01

Sample ID: 278833 **Sample Dates: 12/3/2013 - 12/10/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<2.47E-02	0.00E+00	2.47E-02
Cs-134	<1.68E-02	0.00E+00	1.68E-02
Cs-137	<1.68E-02	0.00E+00	1.68E-02
Be-7	<1.70E-01	0.00E+00	1.70E-01
K-40	3.07E-01	1.17E-01	7.68E-02

Sample ID: 279073 **Sample Dates: 12/10/2013 - 12/17/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<2.69E-02	0.00E+00	2.69E-02
Cs-134	<1.08E-02	0.00E+00	1.08E-02
Cs-137	<2.16E-02	0.00E+00	2.16E-02
Be-7	<1.35E-01	0.00E+00	1.35E-01
K-40	5.20E-01	1.23E-01	3.03E-01

Sample ID: 279701 **Sample Dates: 12/17/2013 - 12/23/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<2.88E-02	0.00E+00	2.88E-02
Cs-134	<1.41E-02	0.00E+00	1.41E-02
Cs-137	<2.16E-02	0.00E+00	2.16E-02
Be-7	<1.80E-01	0.00E+00	1.80E-01
K-40	5.55E-01	1.35E-01	8.83E-02

Sample ID: 280190 **Sample Dates: 12/23/2013 - 12/31/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<2.16E-02	0.00E+00	2.16E-02
Cs-134	<1.67E-02	0.00E+00	1.67E-02
Cs-137	<2.06E-02	0.00E+00	2.06E-02
Be-7	<1.04E-01	0.00E+00	1.04E-01
K-40	<5.51E-01	0.00E+00	5.51E-01

CATAWBA Radiological Environmental Monitoring Analysis Report - 2013 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 205 [INDICATOR - SW @ 0.25 miles]

Sample ID:	250446	Sample Dates: 1/2/2013 - 1/8/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.43E-02	0.00E+00	1.43E-02
			Cs-134	<1.16E-02	0.00E+00	1.16E-02
			Cs-137	<1.05E-02	0.00E+00	1.05E-02
			Be-7	<8.36E-02	0.00E+00	8.36E-02
			K-40	2.60E-01	7.77E-02	2.02E-01
Sample ID:	250576	Sample Dates: 1/8/2013 - 1/15/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.85E-02	0.00E+00	1.85E-02
			Cs-134	<1.41E-02	0.00E+00	1.41E-02
			Cs-137	<1.27E-02	0.00E+00	1.27E-02
			Be-7	<9.66E-02	0.00E+00	9.66E-02
			K-40	4.02E-01	9.74E-02	2.47E-01
Sample ID:	250745	Sample Dates: 1/15/2013 - 1/22/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.30E-02	0.00E+00	1.30E-02
			Cs-134	<1.71E-02	0.00E+00	1.71E-02
			Cs-137	<1.69E-02	0.00E+00	1.69E-02
			Be-7	<6.21E-02	0.00E+00	6.21E-02
			K-40	5.74E-01	1.60E-01	2.46E-01
Sample ID:	250993	Sample Dates: 1/22/2013 - 1/29/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.78E-02	0.00E+00	1.78E-02
			Cs-134	<1.45E-02	0.00E+00	1.45E-02
			Cs-137	<1.49E-02	0.00E+00	1.49E-02
			Be-7	<1.03E-01	0.00E+00	1.03E-01
			K-40	3.08E-01	1.10E-01	2.20E-01
Sample ID:	251279	Sample Dates: 1/29/2013 - 2/5/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.12E-02	0.00E+00	1.12E-02
			Cs-134	<8.46E-03	0.00E+00	8.46E-03
			Cs-137	<9.43E-03	0.00E+00	9.43E-03
			Be-7	<7.82E-02	0.00E+00	7.82E-02
			K-40	4.38E-01	9.55E-02	5.63E-02
Sample ID:	251609	Sample Dates: 2/5/2013 - 2/12/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.08E-02	0.00E+00	1.08E-02
			Cs-134	<4.49E-03	0.00E+00	4.49E-03
			Cs-137	<1.30E-02	0.00E+00	1.30E-02
			Be-7	<6.35E-02	0.00E+00	6.35E-02
			K-40	3.22E-01	6.72E-02	1.02E-01
Sample ID:	252075	Sample Dates: 2/12/2013 - 2/19/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.05E-02	0.00E+00	1.05E-02
			Cs-134	<1.38E-02	0.00E+00	1.38E-02
			Cs-137	<1.18E-02	0.00E+00	1.18E-02
			Be-7	<7.41E-02	0.00E+00	7.41E-02
			K-40	5.32E-01	8.74E-02	1.06E-01
Sample ID:	252692	Sample Dates: 2/19/2013 - 2/26/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<8.35E-03	0.00E+00	8.35E-03
			Cs-134	<6.78E-03	0.00E+00	6.78E-03
			Cs-137	<1.00E-02	0.00E+00	1.00E-02
			Be-7	<5.86E-02	0.00E+00	5.86E-02
			K-40	4.59E-01	7.88E-02	9.67E-02
Sample ID:	253078	Sample Dates: 2/26/2013 - 3/5/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.18E-02	0.00E+00	1.18E-02
			Cs-134	<8.89E-03	0.00E+00	8.89E-03
			Cs-137	<9.82E-03	0.00E+00	9.82E-03
			Be-7	<8.08E-02	0.00E+00	8.08E-02
			K-40	2.96E-01	7.59E-02	1.19E-01
Sample ID:	253886	Sample Dates: 3/5/2013 - 3/12/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.86E-02	0.00E+00	1.86E-02
			Cs-134	<1.30E-02	0.00E+00	1.30E-02
			Cs-137	<9.46E-03	0.00E+00	9.46E-03
			Be-7	<1.26E-01	0.00E+00	1.26E-01
			K-40	<4.93E-01	0.00E+00	4.93E-01

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 205 [INDICATOR - SW @ 0.25 miles]

Sample ID:	254208	Sample Dates: 3/12/2013 - 3/19/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<9.71E-03	0.00E+00	9.71E-03
			Cs-134	<7.05E-03	0.00E+00	7.05E-03
			Cs-137	<8.00E-03	0.00E+00	8.00E-03
			Be-7	<8.82E-02	0.00E+00	8.82E-02
			K-40	6.33E-01	8.87E-02	9.11E-02
Sample ID:	254743	Sample Dates: 3/19/2013 - 3/26/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.29E-02	0.00E+00	1.29E-02
			Cs-134	<1.04E-02	0.00E+00	1.04E-02
			Cs-137	<7.29E-03	0.00E+00	7.29E-03
			Be-7	<6.67E-02	0.00E+00	6.67E-02
			K-40	1.20E-01	6.96E-02	8.91E-02
Sample ID:	255303	Sample Dates: 3/26/2013 - 4/2/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<9.14E-03	0.00E+00	9.14E-03
			Cs-134	<8.02E-03	0.00E+00	8.02E-03
			Cs-137	<8.90E-03	0.00E+00	8.90E-03
			Be-7	<7.20E-02	0.00E+00	7.20E-02
			K-40	4.54E-01	8.32E-02	1.05E-01
Sample ID:	255832	Sample Dates: 4/2/2013 - 4/9/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.91E-02	0.00E+00	1.91E-02
			Cs-134	<1.45E-02	0.00E+00	1.45E-02
			Cs-137	<1.94E-02	0.00E+00	1.94E-02
			Be-7	<1.24E-01	0.00E+00	1.24E-01
			K-40	5.25E-01	1.12E-01	1.72E-01
Sample ID:	256066	Sample Dates: 4/9/2013 - 4/16/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.57E-02	0.00E+00	1.57E-02
			Cs-134	<1.18E-02	0.00E+00	1.18E-02
			Cs-137	<1.20E-02	0.00E+00	1.20E-02
			Be-7	<9.16E-02	0.00E+00	9.16E-02
			K-40	2.69E-01	9.90E-02	2.56E-01
Sample ID:	256334	Sample Dates: 4/16/2013 - 4/23/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<9.98E-03	0.00E+00	9.98E-03
			Cs-134	<6.46E-03	0.00E+00	6.46E-03
			Cs-137	<8.92E-03	0.00E+00	8.92E-03
			Be-7	7.77E-02	2.75E-02	5.79E-02
			K-40	2.10E-01	7.99E-02	9.96E-02
Sample ID:	256601	Sample Dates: 4/23/2013 - 4/30/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.32E-02	0.00E+00	1.32E-02
			Cs-134	<9.33E-03	0.00E+00	9.33E-03
			Cs-137	<8.14E-03	0.00E+00	8.14E-03
			Be-7	<6.91E-02	0.00E+00	6.91E-02
			K-40	4.68E-01	8.39E-02	1.11E-01
Sample ID:	257124	Sample Dates: 4/30/2013 - 5/7/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<2.07E-02	0.00E+00	2.07E-02
			Cs-134	<1.67E-02	0.00E+00	1.67E-02
			Cs-137	<9.90E-03	0.00E+00	9.90E-03
			Be-7	<1.26E-01	0.00E+00	1.26E-01
			K-40	3.82E-01	9.55E-02	2.62E-01
Sample ID:	257277	Sample Dates: 5/7/2013 - 5/14/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.14E-02	0.00E+00	1.14E-02
			Cs-134	<1.02E-02	0.00E+00	1.02E-02
			Cs-137	<1.10E-02	0.00E+00	1.10E-02
			Be-7	<6.68E-02	0.00E+00	6.68E-02
			K-40	3.52E-01	8.75E-02	1.34E-01
Sample ID:	257724	Sample Dates: 5/14/2013 - 5/21/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.33E-02	0.00E+00	1.33E-02
			Cs-134	<1.05E-02	0.00E+00	1.05E-02
			Cs-137	<1.72E-02	0.00E+00	1.72E-02
			Be-7	<7.93E-02	0.00E+00	7.93E-02
			K-40	3.29E-01	8.50E-02	2.77E-01

CATAWBA Radiological Environmental Monitoring Analysis Report - 2013 (Appendix E)

Media Type: AIR RADIOIODINE ***Concentration (Activity): pCi/m3***

Sample Point 205 [INDICATOR - SW @ 0.25 miles]

Sample ID: 257968 **Sample Dates: 5/21/2013 - 5/29/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<2.45E-02	0.00E+00	2.45E-02
Cs-134	<1.33E-02	0.00E+00	1.33E-02
Cs-137	<9.91E-03	0.00E+00	9.91E-03
Be-7	<1.18E-01	0.00E+00	1.18E-01
K-40	5.87E-01	1.20E-01	2.10E-01

Sample ID: 258203 **Sample Dates: 5/29/2013 - 6/4/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<2.70E-02	0.00E+00	2.70E-02
Cs-134	<1.81E-02	0.00E+00	1.81E-02
Cs-137	<1.74E-02	0.00E+00	1.74E-02
Be-7	<1.61E-01	0.00E+00	1.61E-01
K-40	6.81E-01	1.52E-01	3.92E-01

Sample ID: 258550 **Sample Dates: 6/4/2013 - 6/11/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.47E-02	0.00E+00	1.47E-02
Cs-134	<1.06E-02	0.00E+00	1.06E-02
Cs-137	<1.32E-02	0.00E+00	1.32E-02
Be-7	<8.44E-02	0.00E+00	8.44E-02
K-40	6.99E-01	1.11E-01	1.31E-01

Sample ID: 259020 **Sample Dates: 6/11/2013 - 6/18/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<2.16E-02	0.00E+00	2.16E-02
Cs-134	<2.06E-02	0.00E+00	2.06E-02
Cs-137	<1.98E-02	0.00E+00	1.98E-02
Be-7	<1.23E-01	0.00E+00	1.23E-01
K-40	2.78E-01	1.30E-01	2.04E-01

Sample ID: 259568 **Sample Dates: 6/18/2013 - 6/25/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<9.25E-03	0.00E+00	9.25E-03
Cs-134	<8.39E-03	0.00E+00	8.39E-03
Cs-137	<8.17E-03	0.00E+00	8.17E-03
Be-7	<5.86E-02	0.00E+00	5.86E-02
K-40	4.83E-01	7.74E-02	1.12E-01

Sample ID: 260202 **Sample Dates: 6/25/2013 - 7/2/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.11E-02	0.00E+00	1.11E-02
Cs-134	<9.76E-03	0.00E+00	9.76E-03
Cs-137	<1.43E-02	0.00E+00	1.43E-02
Be-7	<8.99E-02	0.00E+00	8.99E-02
K-40	2.44E-01	7.05E-02	2.25E-01

Sample ID: 260662 **Sample Dates: 7/2/2013 - 7/9/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<2.31E-02	0.00E+00	2.31E-02
Cs-134	<1.56E-02	0.00E+00	1.56E-02
Cs-137	<4.28E-03	0.00E+00	4.28E-03
Be-7	<1.57E-01	0.00E+00	1.57E-01
K-40	<4.56E-01	0.00E+00	4.56E-01

Sample ID: 261625 **Sample Dates: 7/9/2013 - 7/16/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.01E-02	0.00E+00	1.01E-02
Cs-134	<8.82E-03	0.00E+00	8.82E-03
Cs-137	<8.38E-03	0.00E+00	8.38E-03
Be-7	<7.47E-02	0.00E+00	7.47E-02
K-40	4.95E-01	8.24E-02	1.27E-01

Sample ID: 262127 **Sample Dates: 7/16/2013 - 7/23/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<2.23E-02	0.00E+00	2.23E-02
Cs-134	<1.85E-02	0.00E+00	1.85E-02
Cs-137	<1.54E-02	0.00E+00	1.54E-02
Be-7	<1.47E-01	0.00E+00	1.47E-01
K-40	5.10E-01	1.20E-01	7.66E-02

Sample ID: 263143 **Sample Dates: 7/23/2013 - 7/30/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<2.34E-02	0.00E+00	2.34E-02
Cs-134	<2.19E-02	0.00E+00	2.19E-02
Cs-137	<2.01E-02	0.00E+00	2.01E-02
Be-7	<1.46E-01	0.00E+00	1.46E-01
K-40	<5.07E-01	0.00E+00	5.07E-01

CATAWBA Radiological Environmental Monitoring Analysis Report - 2013 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 205 [INDICATOR - SW @ 0.25 miles]

Sample ID: 263370 **Sample Dates: 7/30/2013 - 8/6/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.73E-02	0.00E+00	1.73E-02
Cs-134	<1.63E-02	0.00E+00	1.63E-02
Cs-137	<2.03E-02	0.00E+00	2.03E-02
Be-7	<1.23E-01	0.00E+00	1.23E-01
K-40	<5.37E-01	0.00E+00	5.37E-01

Sample ID: 264028 **Sample Dates: 8/6/2013 - 8/13/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<2.66E-02	0.00E+00	2.66E-02
Cs-134	<1.91E-02	0.00E+00	1.91E-02
Cs-137	<1.98E-02	0.00E+00	1.98E-02
Be-7	<1.62E-01	0.00E+00	1.62E-01
K-40	<5.89E-01	0.00E+00	5.89E-01

Sample ID: 265159 **Sample Dates: 8/13/2013 - 8/20/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<2.20E-02	0.00E+00	2.20E-02
Cs-134	<1.52E-02	0.00E+00	1.52E-02
Cs-137	<2.57E-02	0.00E+00	2.57E-02
Be-7	<1.51E-01	0.00E+00	1.51E-01
K-40	<5.87E-01	0.00E+00	5.87E-01

Sample ID: 265468 **Sample Dates: 8/20/2013 - 8/27/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<7.45E-03	0.00E+00	7.45E-03
Cs-134	<1.13E-02	0.00E+00	1.13E-02
Cs-137	<1.01E-02	0.00E+00	1.01E-02
Be-7	<8.82E-02	0.00E+00	8.82E-02
K-40	3.02E-01	8.07E-02	1.90E-01

Sample ID: 267154 **Sample Dates: 8/27/2013 - 9/4/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<9.51E-03	0.00E+00	9.51E-03
Cs-134	<7.25E-03	0.00E+00	7.25E-03
Cs-137	<8.82E-03	0.00E+00	8.82E-03
Be-7	<5.45E-02	0.00E+00	5.45E-02
K-40	3.36E-01	6.76E-02	9.44E-02

Sample ID: 267604 **Sample Dates: 9/4/2013 - 9/10/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<2.50E-02	0.00E+00	2.50E-02
Cs-134	<2.03E-02	0.00E+00	2.03E-02
Cs-137	<2.25E-02	0.00E+00	2.25E-02
Be-7	<1.70E-01	0.00E+00	1.70E-01
K-40	4.67E-01	1.25E-01	9.01E-02

Sample ID: 268459 **Sample Dates: 9/10/2013 - 9/17/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<2.54E-02	0.00E+00	2.54E-02
Cs-134	<1.66E-02	0.00E+00	1.66E-02
Cs-137	<1.45E-02	0.00E+00	1.45E-02
Be-7	<1.50E-01	0.00E+00	1.50E-01
K-40	<6.22E-01	0.00E+00	6.22E-01

Sample ID: 269582 **Sample Dates: 9/17/2013 - 9/24/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<2.44E-02	0.00E+00	2.44E-02
Cs-134	<1.71E-02	0.00E+00	1.71E-02
Cs-137	<1.90E-02	0.00E+00	1.90E-02
Be-7	<1.39E-01	0.00E+00	1.39E-01
K-40	4.02E-01	1.07E-01	3.56E-01

Sample ID: 270725 **Sample Dates: 9/24/2013 - 10/1/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<2.16E-02	0.00E+00	2.16E-02
Cs-134	<1.55E-02	0.00E+00	1.55E-02
Cs-137	<1.79E-02	0.00E+00	1.79E-02
Be-7	<1.09E-01	0.00E+00	1.09E-01
K-40	<3.43E-01	0.00E+00	3.43E-01

Sample ID: 271450 **Sample Dates: 10/1/2013 - 10/8/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.87E-02	0.00E+00	1.87E-02
Cs-134	<1.79E-02	0.00E+00	1.79E-02
Cs-137	<1.96E-02	0.00E+00	1.96E-02
Be-7	<1.65E-01	0.00E+00	1.65E-01
K-40	5.16E-01	1.22E-01	7.74E-02

CATAWBA Radiological Environmental Monitoring Analysis Report - 2013 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 205 [INDICATOR - SW @ 0.25 miles]

Sample ID: 272057 **Sample Dates: 10/8/2013 - 10/15/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<2.45E-02	0.00E+00	2.45E-02
Cs-134	<2.26E-02	0.00E+00	2.26E-02
Cs-137	<1.15E-02	0.00E+00	1.15E-02
Be-7	<1.39E-01	0.00E+00	1.39E-01
K-40	2.50E-01	1.36E-01	3.13E-01

Sample ID: 272440 **Sample Dates: 10/15/2013 - 10/22/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.75E-02	0.00E+00	1.75E-02
Cs-134	<2.43E-02	0.00E+00	2.43E-02
Cs-137	<2.16E-02	0.00E+00	2.16E-02
Be-7	<1.43E-01	0.00E+00	1.43E-01
K-40	5.14E-01	1.21E-01	2.13E-01

Sample ID: 272841 **Sample Dates: 10/22/2013 - 10/29/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.14E-02	0.00E+00	1.14E-02
Cs-134	<1.05E-02	0.00E+00	1.05E-02
Cs-137	<1.12E-02	0.00E+00	1.12E-02
Be-7	<4.95E-02	0.00E+00	4.95E-02
K-40	5.17E-01	9.03E-02	1.10E-01

Sample ID: 273933 **Sample Dates: 10/29/2013 - 11/5/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.24E-02	0.00E+00	1.24E-02
Cs-134	<9.78E-03	0.00E+00	9.78E-03
Cs-137	<1.25E-02	0.00E+00	1.25E-02
Be-7	<8.55E-02	0.00E+00	8.55E-02
K-40	3.49E-01	8.23E-02	1.41E-01

Sample ID: 274380 **Sample Dates: 11/5/2013 - 11/12/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.92E-02	0.00E+00	1.92E-02
Cs-134	<1.88E-02	0.00E+00	1.88E-02
Cs-137	<1.76E-02	0.00E+00	1.76E-02
Be-7	<1.31E-01	0.00E+00	1.31E-01
K-40	6.76E-01	1.38E-01	3.49E-01

Sample ID: 274894 **Sample Dates: 11/12/2013 - 11/19/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<2.25E-02	0.00E+00	2.25E-02
Cs-134	<2.03E-02	0.00E+00	2.03E-02
Cs-137	<2.11E-02	0.00E+00	2.11E-02
Be-7	<1.29E-01	0.00E+00	1.29E-01
K-40	3.20E-01	9.65E-02	3.40E-01

Sample ID: 276448 **Sample Dates: 11/19/2013 - 11/26/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<2.56E-02	0.00E+00	2.56E-02
Cs-134	<2.12E-02	0.00E+00	2.12E-02
Cs-137	<2.46E-02	0.00E+00	2.46E-02
Be-7	<1.95E-01	0.00E+00	1.95E-01
K-40	6.16E-01	1.41E-01	2.79E-01

Sample ID: 278763 **Sample Dates: 11/25/2013 - 12/3/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.25E-02	0.00E+00	1.25E-02
Cs-134	<8.19E-03	0.00E+00	8.19E-03
Cs-137	<9.75E-03	0.00E+00	9.75E-03
Be-7	<5.19E-02	0.00E+00	5.19E-02
K-40	4.44E-01	7.12E-02	1.09E-01

Sample ID: 278834 **Sample Dates: 12/3/2013 - 12/10/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<2.60E-02	0.00E+00	2.60E-02
Cs-134	<2.15E-02	0.00E+00	2.15E-02
Cs-137	<2.24E-02	0.00E+00	2.24E-02
Be-7	<1.52E-01	0.00E+00	1.52E-01
K-40	<6.14E-01	0.00E+00	6.14E-01

Sample ID: 279074 **Sample Dates: 12/10/2013 - 12/17/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<2.39E-02	0.00E+00	2.39E-02
Cs-134	<1.74E-02	0.00E+00	1.74E-02
Cs-137	<2.09E-02	0.00E+00	2.09E-02
Be-7	<1.81E-01	0.00E+00	1.81E-01
K-40	5.26E-01	1.64E-01	3.04E-01

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 205 [INDICATOR - SW @ 0.25 miles]

Sample ID:	279702	Sample Dates: 12/17/2013 - 12/23/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<2.80E-02	0.00E+00	2.80E-02
			Cs-134	<2.07E-02	0.00E+00	2.07E-02
			Cs-137	<2.51E-02	0.00E+00	2.51E-02
			Be-7	<1.60E-01	0.00E+00	1.60E-01
			K-40	4.94E-01	1.28E-01	3.00E-01

Sample ID:	280191	Sample Dates: 12/23/2013 - 12/31/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.61E-02	0.00E+00	1.61E-02
			Cs-134	<1.21E-02	0.00E+00	1.21E-02
			Cs-137	<1.31E-02	0.00E+00	1.31E-02
			Be-7	<1.36E-01	0.00E+00	1.36E-01
			K-40	6.12E-01	1.37E-01	1.57E-01

Sample Point 212 [INDICATOR - E @ 3.32 miles]

Sample ID:	250447	Sample Dates: 1/2/2013 - 1/8/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<8.31E-03	0.00E+00	8.31E-03
			Cs-134	<9.14E-03	0.00E+00	9.14E-03
			Cs-137	<1.23E-02	0.00E+00	1.23E-02
			Be-7	<6.31E-02	0.00E+00	6.31E-02
			K-40	5.15E-01	7.77E-02	3.17E-02

Sample ID:	250577	Sample Dates: 1/8/2013 - 1/15/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<2.06E-02	0.00E+00	2.06E-02
			Cs-134	<1.82E-02	0.00E+00	1.82E-02
			Cs-137	<1.44E-02	0.00E+00	1.44E-02
			Be-7	<8.98E-02	0.00E+00	8.98E-02
			K-40	1.90E-01	6.70E-02	6.41E-02

Sample ID:	250746	Sample Dates: 1/15/2013 - 1/22/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.01E-02	0.00E+00	1.01E-02
			Cs-134	<9.32E-03	0.00E+00	9.32E-03
			Cs-137	<1.42E-02	0.00E+00	1.42E-02
			Be-7	<7.53E-02	0.00E+00	7.53E-02
			K-40	<3.36E-01	0.00E+00	3.36E-01

Sample ID:	250994	Sample Dates: 1/22/2013 - 1/29/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.86E-02	0.00E+00	1.86E-02
			Cs-134	<1.50E-02	0.00E+00	1.50E-02
			Cs-137	<1.69E-02	0.00E+00	1.69E-02
			Be-7	<1.22E-01	0.00E+00	1.22E-01
			K-40	2.73E-01	1.08E-01	1.74E-01

Sample ID:	251280	Sample Dates: 1/29/2013 - 2/5/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.72E-02	0.00E+00	1.72E-02
			Cs-134	<1.62E-02	0.00E+00	1.62E-02
			Cs-137	<1.57E-02	0.00E+00	1.57E-02
			Be-7	<1.21E-01	0.00E+00	1.21E-01
			K-40	2.29E-01	1.19E-01	2.08E-01

Sample ID:	251610	Sample Dates: 2/5/2013 - 2/12/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.67E-02	0.00E+00	1.67E-02
			Cs-134	<1.47E-02	0.00E+00	1.47E-02
			Cs-137	<1.14E-02	0.00E+00	1.14E-02
			Be-7	<1.10E-01	0.00E+00	1.10E-01
			K-40	5.14E-01	1.07E-01	6.04E-02

Sample ID:	252076	Sample Dates: 2/12/2013 - 2/19/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<9.94E-03	0.00E+00	9.94E-03
			Cs-134	<8.71E-03	0.00E+00	8.71E-03
			Cs-137	<1.03E-02	0.00E+00	1.03E-02
			Be-7	<6.44E-02	0.00E+00	6.44E-02
			K-40	3.75E-01	7.22E-02	1.46E-01

Sample ID:	252693	Sample Dates: 2/19/2013 - 2/26/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.02E-02	0.00E+00	1.02E-02
			Cs-134	<7.89E-03	0.00E+00	7.89E-03
			Cs-137	<1.62E-02	0.00E+00	1.62E-02
			Be-7	<8.32E-02	0.00E+00	8.32E-02
			K-40	5.17E-01	1.10E-01	1.68E-01

CATAWBA Radiological Environmental Monitoring Analysis Report - 2013 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 212 [INDICATOR - E @ 3.32 miles]

Sample ID: 253079 **Sample Dates: 2/26/2013 - 3/5/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.54E-02	0.00E+00	1.54E-02
Cs-134	<1.40E-02	0.00E+00	1.40E-02
Cs-137	<1.64E-02	0.00E+00	1.64E-02
Be-7	<6.87E-02	0.00E+00	6.87E-02
K-40	5.26E-01	1.12E-01	2.62E-01

Sample ID: 253887 **Sample Dates: 3/5/2013 - 3/12/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.95E-02	0.00E+00	1.95E-02
Cs-134	<1.64E-02	0.00E+00	1.64E-02
Cs-137	<1.38E-02	0.00E+00	1.38E-02
Be-7	<1.08E-01	0.00E+00	1.08E-01
K-40	<3.96E-01	0.00E+00	3.96E-01

Sample ID: 254209 **Sample Dates: 3/12/2013 - 3/19/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<7.73E-03	0.00E+00	7.73E-03
Cs-134	<6.54E-03	0.00E+00	6.54E-03
Cs-137	<6.11E-03	0.00E+00	6.11E-03
Be-7	<4.92E-02	0.00E+00	4.92E-02
K-40	3.87E-01	5.67E-02	6.27E-02

Sample ID: 254744 **Sample Dates: 3/19/2013 - 3/26/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.15E-02	0.00E+00	1.15E-02
Cs-134	<1.43E-02	0.00E+00	1.43E-02
Cs-137	<1.18E-02	0.00E+00	1.18E-02
Be-7	<6.87E-02	0.00E+00	6.87E-02
K-40	<4.72E-01	0.00E+00	4.72E-01

Sample ID: 255304 **Sample Dates: 3/26/2013 - 4/2/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.48E-02	0.00E+00	1.48E-02
Cs-134	<1.60E-02	0.00E+00	1.60E-02
Cs-137	<9.74E-03	0.00E+00	9.74E-03
Be-7	<1.06E-01	0.00E+00	1.06E-01
K-40	3.53E-01	9.12E-02	1.77E-01

Sample ID: 255833 **Sample Dates: 4/2/2013 - 4/9/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.42E-02	0.00E+00	1.42E-02
Cs-134	<2.05E-02	0.00E+00	2.05E-02
Cs-137	<1.92E-02	0.00E+00	1.92E-02
Be-7	<1.11E-01	0.00E+00	1.11E-01
K-40	3.39E-01	1.18E-01	2.80E-01

Sample ID: 256067 **Sample Dates: 4/9/2013 - 4/16/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.02E-02	0.00E+00	1.02E-02
Cs-134	<6.56E-03	0.00E+00	6.56E-03
Cs-137	<1.70E-02	0.00E+00	1.70E-02
Be-7	<8.55E-02	0.00E+00	8.55E-02
K-40	4.80E-01	9.80E-02	5.41E-02

Sample ID: 256335 **Sample Dates: 4/16/2013 - 4/23/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.19E-02	0.00E+00	1.19E-02
Cs-134	<1.41E-02	0.00E+00	1.41E-02
Cs-137	<1.78E-02	0.00E+00	1.78E-02
Be-7	<1.19E-01	0.00E+00	1.19E-01
K-40	3.37E-01	8.71E-02	6.08E-02

Sample ID: 256602 **Sample Dates: 4/23/2013 - 4/30/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.12E-02	0.00E+00	1.12E-02
Cs-134	<5.97E-03	0.00E+00	5.97E-03
Cs-137	<9.50E-03	0.00E+00	9.50E-03
Be-7	<6.03E-02	0.00E+00	6.03E-02
K-40	2.31E-01	5.60E-02	9.61E-02

Sample ID: 257125 **Sample Dates: 4/30/2013 - 5/7/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.56E-02	0.00E+00	1.56E-02
Cs-134	<1.59E-02	0.00E+00	1.59E-02
Cs-137	<1.55E-02	0.00E+00	1.55E-02
Be-7	<1.14E-01	0.00E+00	1.14E-01
K-40	3.34E-01	1.10E-01	3.04E-01

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 212 [INDICATOR - E @ 3.32 miles]

Sample ID:	257278	Sample Dates: 5/7/2013 - 5/14/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.35E-02	0.00E+00	1.35E-02
			Cs-134	<1.50E-02	0.00E+00	1.50E-02
			Cs-137	<1.81E-02	0.00E+00	1.81E-02
			Be-7	<1.20E-01	0.00E+00	1.20E-01
			K-40	4.77E-01	1.30E-01	1.74E-01
Sample ID:	257725	Sample Dates: 5/14/2013 - 5/21/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.18E-02	0.00E+00	1.18E-02
			Cs-134	<8.16E-03	0.00E+00	8.16E-03
			Cs-137	<1.27E-02	0.00E+00	1.27E-02
			Be-7	<8.59E-02	0.00E+00	8.59E-02
			K-40	5.46E-01	1.05E-01	1.46E-01
Sample ID:	257969	Sample Dates: 5/21/2013 - 5/29/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.79E-02	0.00E+00	1.79E-02
			Cs-134	<7.40E-03	0.00E+00	7.40E-03
			Cs-137	<2.05E-02	0.00E+00	2.05E-02
			Be-7	<1.59E-01	0.00E+00	1.59E-01
			K-40	4.14E-01	1.00E-01	2.20E-01
Sample ID:	258204	Sample Dates: 5/29/2013 - 6/4/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<2.28E-02	0.00E+00	2.28E-02
			Cs-134	<2.29E-02	0.00E+00	2.29E-02
			Cs-137	<2.65E-02	0.00E+00	2.65E-02
			Be-7	<1.56E-01	0.00E+00	1.56E-01
			K-40	8.18E-01	1.67E-01	3.78E-01
Sample ID:	258551	Sample Dates: 6/4/2013 - 6/11/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.34E-02	0.00E+00	1.34E-02
			Cs-134	<1.03E-02	0.00E+00	1.03E-02
			Cs-137	<1.58E-02	0.00E+00	1.58E-02
			Be-7	<1.12E-01	0.00E+00	1.12E-01
			K-40	3.29E-01	1.12E-01	6.58E-02
Sample ID:	259021	Sample Dates: 6/11/2013 - 6/18/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.92E-02	0.00E+00	1.92E-02
			Cs-134	<1.74E-02	0.00E+00	1.74E-02
			Cs-137	<1.93E-02	0.00E+00	1.93E-02
			Be-7	<7.72E-02	0.00E+00	7.72E-02
			K-40	5.40E-01	1.24E-01	2.04E-01
Sample ID:	259569	Sample Dates: 6/18/2013 - 6/25/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<8.31E-03	0.00E+00	8.31E-03
			Cs-134	<1.08E-02	0.00E+00	1.08E-02
			Cs-137	<1.15E-02	0.00E+00	1.15E-02
			Be-7	<8.18E-02	0.00E+00	8.18E-02
			K-40	<3.78E-01	0.00E+00	3.78E-01
Sample ID:	260203	Sample Dates: 6/25/2013 - 7/2/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<9.42E-03	0.00E+00	9.42E-03
			Cs-134	<8.86E-03	0.00E+00	8.86E-03
			Cs-137	<1.17E-02	0.00E+00	1.17E-02
			Be-7	<5.43E-02	0.00E+00	5.43E-02
			K-40	4.59E-01	7.99E-02	1.25E-01
Sample ID:	260663	Sample Dates: 7/2/2013 - 7/9/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<2.13E-02	0.00E+00	2.13E-02
			Cs-134	<1.33E-02	0.00E+00	1.33E-02
			Cs-137	<1.89E-02	0.00E+00	1.89E-02
			Be-7	<1.71E-01	0.00E+00	1.71E-01
			K-40	6.06E-01	1.32E-01	2.75E-01
Sample ID:	261626	Sample Dates: 7/9/2013 - 7/16/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.12E-02	0.00E+00	1.12E-02
			Cs-134	<1.04E-02	0.00E+00	1.04E-02
			Cs-137	<1.17E-02	0.00E+00	1.17E-02
			Be-7	5.54E-02	2.68E-02	6.93E-02
			K-40	4.82E-01	8.76E-02	1.30E-01

CATAWBA Radiological Environmental Monitoring Analysis Report - 2013 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 212 [INDICATOR - E @ 3.32 miles]

Sample ID: 262128 **Sample Dates: 7/16/2013 - 7/23/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<2.21E-02	0.00E+00	2.21E-02
Cs-134	<1.42E-02	0.00E+00	1.42E-02
Cs-137	<1.95E-02	0.00E+00	1.95E-02
Be-7	<1.79E-01	0.00E+00	1.79E-01
K-40	<5.50E-01	0.00E+00	5.50E-01

Sample ID: 263144 **Sample Dates: 7/23/2013 - 7/30/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<2.29E-02	0.00E+00	2.29E-02
Cs-134	<1.83E-02	0.00E+00	1.83E-02
Cs-137	<2.64E-02	0.00E+00	2.64E-02
Be-7	<1.42E-01	0.00E+00	1.42E-01
K-40	<5.65E-01	0.00E+00	5.65E-01

Sample ID: 263371 **Sample Dates: 7/30/2013 - 8/6/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.78E-02	0.00E+00	1.78E-02
Cs-134	<1.52E-02	0.00E+00	1.52E-02
Cs-137	<1.34E-02	0.00E+00	1.34E-02
Be-7	<1.30E-01	0.00E+00	1.30E-01
K-40	5.70E-01	1.27E-01	7.70E-02

Sample ID: 264029 **Sample Dates: 8/6/2013 - 8/13/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<2.23E-02	0.00E+00	2.23E-02
Cs-134	<1.95E-02	0.00E+00	1.95E-02
Cs-137	<1.46E-02	0.00E+00	1.46E-02
Be-7	<1.54E-01	0.00E+00	1.54E-01
K-40	<4.68E-01	0.00E+00	4.68E-01

Sample ID: 265160 **Sample Dates: 8/13/2013 - 8/20/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<2.70E-02	0.00E+00	2.70E-02
Cs-134	<2.17E-02	0.00E+00	2.17E-02
Cs-137	<2.22E-02	0.00E+00	2.22E-02
Be-7	<1.78E-01	0.00E+00	1.78E-01
K-40	4.15E-01	1.36E-01	2.13E-01

Sample ID: 265469 **Sample Dates: 8/20/2013 - 8/27/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.86E-02	0.00E+00	1.86E-02
Cs-134	<1.69E-02	0.00E+00	1.69E-02
Cs-137	<2.25E-02	0.00E+00	2.25E-02
Be-7	<1.62E-01	0.00E+00	1.62E-01
K-40	<5.05E-01	0.00E+00	5.05E-01

Sample ID: 267155 **Sample Dates: 8/27/2013 - 9/4/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<2.30E-02	0.00E+00	2.30E-02
Cs-134	<1.42E-02	0.00E+00	1.42E-02
Cs-137	<2.26E-02	0.00E+00	2.26E-02
Be-7	<1.38E-01	0.00E+00	1.38E-01
K-40	<5.00E-01	0.00E+00	5.00E-01

Sample ID: 267605 **Sample Dates: 9/4/2013 - 9/10/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.09E-02	0.00E+00	1.09E-02
Cs-134	<1.46E-02	0.00E+00	1.46E-02
Cs-137	<1.60E-02	0.00E+00	1.60E-02
Be-7	<1.20E-01	0.00E+00	1.20E-01
K-40	3.50E-01	9.37E-02	6.77E-02

Sample ID: 268460 **Sample Dates: 9/10/2013 - 9/17/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.05E-02	0.00E+00	1.05E-02
Cs-134	<1.26E-02	0.00E+00	1.26E-02
Cs-137	<1.06E-02	0.00E+00	1.06E-02
Be-7	<9.25E-02	0.00E+00	9.25E-02
K-40	3.84E-01	9.06E-02	5.77E-02

Sample ID: 269583 **Sample Dates: 9/17/2013 - 9/24/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<2.14E-02	0.00E+00	2.14E-02
Cs-134	<1.45E-02	0.00E+00	1.45E-02
Cs-137	<1.72E-02	0.00E+00	1.72E-02
Be-7	<1.58E-01	0.00E+00	1.58E-01
K-40	3.48E-01	1.00E-01	2.78E-01

CATAWBA Radiological Environmental Monitoring Analysis Report - 2013 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 212 [INDICATOR - E @ 3.32 miles]

Sample ID: 270726 **Sample Dates: 9/24/2013 - 10/1/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<2.00E-02	0.00E+00	2.00E-02
Cs-134	<2.18E-02	0.00E+00	2.18E-02
Cs-137	<2.01E-02	0.00E+00	2.01E-02
Be-7	<1.35E-01	0.00E+00	1.35E-01
K-40	3.85E-01	1.51E-01	2.60E-01

Sample ID: 271451 **Sample Dates: 10/1/2013 - 10/8/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<2.03E-02	0.00E+00	2.03E-02
Cs-134	<1.83E-02	0.00E+00	1.83E-02
Cs-137	<1.89E-02	0.00E+00	1.89E-02
Be-7	<1.50E-01	0.00E+00	1.50E-01
K-40	4.30E-01	1.11E-01	2.17E-01

Sample ID: 272058 **Sample Dates: 10/8/2013 - 10/15/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<2.41E-02	0.00E+00	2.41E-02
Cs-134	<1.12E-02	0.00E+00	1.12E-02
Cs-137	<2.76E-02	0.00E+00	2.76E-02
Be-7	<1.47E-01	0.00E+00	1.47E-01
K-40	5.61E-01	1.26E-01	2.50E-01

Sample ID: 272441 **Sample Dates: 10/15/2013 - 10/22/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.07E-02	0.00E+00	1.07E-02
Cs-134	<1.11E-02	0.00E+00	1.11E-02
Cs-137	<9.79E-03	0.00E+00	9.79E-03
Be-7	<9.40E-02	0.00E+00	9.40E-02
K-40	5.29E-01	9.00E-02	8.90E-02

Sample ID: 272842 **Sample Dates: 10/22/2013 - 10/29/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.30E-02	0.00E+00	1.30E-02
Cs-134	<1.15E-02	0.00E+00	1.15E-02
Cs-137	<1.06E-02	0.00E+00	1.06E-02
Be-7	<1.03E-01	0.00E+00	1.03E-01
K-40	5.84E-01	1.12E-01	1.58E-01

Sample ID: 273934 **Sample Dates: 10/29/2013 - 11/5/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<2.53E-02	0.00E+00	2.53E-02
Cs-134	<1.32E-02	0.00E+00	1.32E-02
Cs-137	<2.15E-02	0.00E+00	2.15E-02
Be-7	<1.81E-01	0.00E+00	1.81E-01
K-40	7.44E-01	1.46E-01	2.06E-01

Sample ID: 274381 **Sample Dates: 11/5/2013 - 11/12/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.90E-02	0.00E+00	1.90E-02
Cs-134	<1.85E-02	0.00E+00	1.85E-02
Cs-137	<2.01E-02	0.00E+00	2.01E-02
Be-7	<1.43E-01	0.00E+00	1.43E-01
K-40	2.79E-01	1.37E-01	3.10E-01

Sample ID: 274895 **Sample Dates: 11/12/2013 - 11/19/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.50E-02	0.00E+00	1.50E-02
Cs-134	<1.91E-02	0.00E+00	1.91E-02
Cs-137	<2.21E-02	0.00E+00	2.21E-02
Be-7	<1.21E-01	0.00E+00	1.21E-01
K-40	4.68E-01	1.41E-01	3.08E-01

Sample ID: 276449 **Sample Dates: 11/19/2013 - 11/25/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.46E-02	0.00E+00	1.46E-02
Cs-134	<1.59E-02	0.00E+00	1.59E-02
Cs-137	<9.06E-03	0.00E+00	9.06E-03
Be-7	<1.43E-01	0.00E+00	1.43E-01
K-40	5.07E-01	1.16E-01	1.92E-01

Sample ID: 278764 **Sample Dates: 11/25/2013 - 12/3/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<2.07E-02	0.00E+00	2.07E-02
Cs-134	<9.82E-03	0.00E+00	9.82E-03
Cs-137	<1.50E-02	0.00E+00	1.50E-02
Be-7	<1.61E-01	0.00E+00	1.61E-01
K-40	<4.41E-01	0.00E+00	4.41E-01

CATAWBA Radiological Environmental Monitoring Analysis Report - 2013 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 212 [INDICATOR - E @ 3.32 miles]

Sample ID:	278835	Sample Dates: 12/3/2013 - 12/10/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<2.39E-02	0.00E+00	2.39E-02
			Cs-134	<2.08E-02	0.00E+00	2.08E-02
			Cs-137	<2.01E-02	0.00E+00	2.01E-02
			Be-7	<1.58E-01	0.00E+00	1.58E-01
			K-40	5.56E-01	1.24E-01	2.64E-01
Sample ID:	279075	Sample Dates: 12/10/2013 - 12/17/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.16E-02	0.00E+00	1.16E-02
			Cs-134	<8.59E-03	0.00E+00	8.59E-03
			Cs-137	<1.09E-02	0.00E+00	1.09E-02
			Be-7	<8.42E-02	0.00E+00	8.42E-02
			K-40	6.81E-01	9.18E-02	3.35E-02
Sample ID:	279703	Sample Dates: 12/17/2013 - 12/23/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<2.42E-02	0.00E+00	2.42E-02
			Cs-134	<2.06E-02	0.00E+00	2.06E-02
			Cs-137	<2.14E-02	0.00E+00	2.14E-02
			Be-7	<1.35E-01	0.00E+00	1.35E-01
			K-40	4.86E-01	1.26E-01	8.76E-02
Sample ID:	280192	Sample Dates: 12/23/2013 - 12/31/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<2.24E-02	0.00E+00	2.24E-02
			Cs-134	<1.75E-02	0.00E+00	1.75E-02
			Cs-137	<1.28E-02	0.00E+00	1.28E-02
			Be-7	<1.38E-01	0.00E+00	1.38E-01
			K-40	5.24E-01	1.14E-01	1.80E-01

Sample Point 258 [CONTROL - W @ 9.84 miles]

Sample ID:	250448	Sample Dates: 1/2/2013 - 1/8/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<6.86E-03	0.00E+00	6.86E-03
			Cs-134	<7.21E-03	0.00E+00	7.21E-03
			Cs-137	<9.16E-03	0.00E+00	9.16E-03
			Be-7	<4.20E-02	0.00E+00	4.20E-02
			K-40	3.23E-01	7.35E-02	8.94E-02
Sample ID:	250578	Sample Dates: 1/8/2013 - 1/15/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.62E-02	0.00E+00	1.62E-02
			Cs-134	<1.01E-02	0.00E+00	1.01E-02
			Cs-137	<1.54E-02	0.00E+00	1.54E-02
			Be-7	<1.23E-01	0.00E+00	1.23E-01
			K-40	3.51E-01	9.05E-02	2.72E-01
Sample ID:	250747	Sample Dates: 1/15/2013 - 1/22/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.22E-02	0.00E+00	1.22E-02
			Cs-134	<9.60E-03	0.00E+00	9.60E-03
			Cs-137	<1.14E-02	0.00E+00	1.14E-02
			Be-7	<6.33E-02	0.00E+00	6.33E-02
			K-40	3.39E-01	8.94E-02	1.47E-01
Sample ID:	250995	Sample Dates: 1/22/2013 - 1/29/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.68E-02	0.00E+00	1.68E-02
			Cs-134	<1.58E-02	0.00E+00	1.58E-02
			Cs-137	<1.50E-02	0.00E+00	1.50E-02
			Be-7	<1.26E-01	0.00E+00	1.26E-01
			K-40	<5.23E-01	0.00E+00	5.23E-01
Sample ID:	251281	Sample Dates: 1/29/2013 - 2/5/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<9.32E-03	0.00E+00	9.32E-03
			Cs-134	<1.11E-02	0.00E+00	1.11E-02
			Cs-137	<1.24E-02	0.00E+00	1.24E-02
			Be-7	<3.49E-02	0.00E+00	3.49E-02
			K-40	3.37E-01	8.43E-02	1.79E-01
Sample ID:	251611	Sample Dates: 2/5/2013 - 2/12/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<8.83E-03	0.00E+00	8.83E-03
			Cs-134	<1.06E-02	0.00E+00	1.06E-02
			Cs-137	<1.62E-02	0.00E+00	1.62E-02
			Be-7	<5.83E-02	0.00E+00	5.83E-02
			K-40	4.28E-01	9.35E-02	5.51E-02

CATAWBA Radiological Environmental Monitoring Analysis Report - 2013 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 258 [CONTROL - W @ 9.84 miles]

Sample ID: 252077 **Sample Dates: 2/12/2013 - 2/19/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<9.46E-03	0.00E+00	9.46E-03
Cs-134	<2.78E-03	0.00E+00	2.78E-03
Cs-137	<1.10E-02	0.00E+00	1.10E-02
Be-7	<1.05E-01	0.00E+00	1.05E-01
K-40	3.09E-01	8.25E-02	5.96E-02

Sample ID: 252694 **Sample Dates: 2/19/2013 - 2/26/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.02E-02	0.00E+00	1.02E-02
Cs-134	<1.23E-02	0.00E+00	1.23E-02
Cs-137	<1.09E-02	0.00E+00	1.09E-02
Be-7	<6.51E-02	0.00E+00	6.51E-02
K-40	<4.29E-01	0.00E+00	4.29E-01

Sample ID: 253080 **Sample Dates: 2/26/2013 - 3/5/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.26E-02	0.00E+00	1.26E-02
Cs-134	<7.45E-03	0.00E+00	7.45E-03
Cs-137	<1.17E-02	0.00E+00	1.17E-02
Be-7	<8.87E-02	0.00E+00	8.87E-02
K-40	4.66E-01	1.02E-01	1.79E-01

Sample ID: 253888 **Sample Dates: 3/5/2013 - 3/12/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.69E-02	0.00E+00	1.69E-02
Cs-134	<1.41E-02	0.00E+00	1.41E-02
Cs-137	<1.36E-02	0.00E+00	1.36E-02
Be-7	<8.80E-02	0.00E+00	8.80E-02
K-40	4.68E-01	1.34E-01	1.73E-01

Sample ID: 254210 **Sample Dates: 3/12/2013 - 3/19/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.92E-02	0.00E+00	1.92E-02
Cs-134	<1.43E-02	0.00E+00	1.43E-02
Cs-137	<1.69E-02	0.00E+00	1.69E-02
Be-7	<1.10E-01	0.00E+00	1.10E-01
K-40	<5.18E-01	0.00E+00	5.18E-01

Sample ID: 254745 **Sample Dates: 3/19/2013 - 3/26/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.38E-02	0.00E+00	1.38E-02
Cs-134	<1.22E-02	0.00E+00	1.22E-02
Cs-137	<1.09E-02	0.00E+00	1.09E-02
Be-7	<6.42E-02	0.00E+00	6.42E-02
K-40	3.35E-01	9.48E-02	1.33E-01

Sample ID: 255305 **Sample Dates: 3/26/2013 - 4/2/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.34E-02	0.00E+00	1.34E-02
Cs-134	<8.07E-03	0.00E+00	8.07E-03
Cs-137	<1.35E-02	0.00E+00	1.35E-02
Be-7	<7.16E-02	0.00E+00	7.16E-02
K-40	4.36E-01	9.28E-02	1.00E-01

Sample ID: 255834 **Sample Dates: 4/2/2013 - 4/9/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<2.37E-02	0.00E+00	2.37E-02
Cs-134	<1.16E-02	0.00E+00	1.16E-02
Cs-137	<1.38E-02	0.00E+00	1.38E-02
Be-7	<1.09E-01	0.00E+00	1.09E-01
K-40	<4.90E-01	0.00E+00	4.90E-01

Sample ID: 256068 **Sample Dates: 4/9/2013 - 4/16/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<8.80E-03	0.00E+00	8.80E-03
Cs-134	<6.29E-03	0.00E+00	6.29E-03
Cs-137	<7.70E-03	0.00E+00	7.70E-03
Be-7	<5.70E-02	0.00E+00	5.70E-02
K-40	4.16E-01	6.75E-02	8.00E-02

Sample ID: 256336 **Sample Dates: 4/16/2013 - 4/23/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.12E-02	0.00E+00	1.12E-02
Cs-134	<8.89E-03	0.00E+00	8.89E-03
Cs-137	<1.26E-02	0.00E+00	1.26E-02
Be-7	<8.55E-02	0.00E+00	8.55E-02
K-40	5.01E-01	9.75E-02	9.69E-02

CATAWBA Radiological Environmental Monitoring Analysis Report - 2013 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 258 [CONTROL - W @ 9.84 miles]

Sample ID: 256603 **Sample Dates: 4/23/2013 - 4/30/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.68E-02	0.00E+00	1.68E-02
Cs-134	<1.10E-02	0.00E+00	1.10E-02
Cs-137	<1.59E-02	0.00E+00	1.59E-02
Be-7	<9.57E-02	0.00E+00	9.57E-02
K-40	<4.13E-01	0.00E+00	4.13E-01

Sample ID: 257126 **Sample Dates: 4/30/2013 - 5/7/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.91E-02	0.00E+00	1.91E-02
Cs-134	<1.51E-02	0.00E+00	1.51E-02
Cs-137	<1.20E-02	0.00E+00	1.20E-02
Be-7	<1.21E-01	0.00E+00	1.21E-01
K-40	3.78E-01	1.14E-01	1.70E-01

Sample ID: 257279 **Sample Dates: 5/7/2013 - 5/14/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.08E-02	0.00E+00	1.08E-02
Cs-134	<1.25E-02	0.00E+00	1.25E-02
Cs-137	<8.19E-03	0.00E+00	8.19E-03
Be-7	<7.43E-02	0.00E+00	7.43E-02
K-40	4.24E-01	9.23E-02	1.16E-01

Sample ID: 257726 **Sample Dates: 5/14/2013 - 5/21/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<9.74E-03	0.00E+00	9.74E-03
Cs-134	<9.36E-03	0.00E+00	9.36E-03
Cs-137	<1.05E-02	0.00E+00	1.05E-02
Be-7	<7.53E-02	0.00E+00	7.53E-02
K-40	3.45E-01	6.89E-02	1.47E-01

Sample ID: 257970 **Sample Dates: 5/21/2013 - 5/29/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<2.28E-02	0.00E+00	2.28E-02
Cs-134	<1.97E-02	0.00E+00	1.97E-02
Cs-137	<1.01E-02	0.00E+00	1.01E-02
Be-7	<1.32E-01	0.00E+00	1.32E-01
K-40	2.87E-01	1.20E-01	2.75E-01

Sample ID: 258205 **Sample Dates: 5/29/2013 - 6/4/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<2.46E-02	0.00E+00	2.46E-02
Cs-134	<2.62E-02	0.00E+00	2.62E-02
Cs-137	<2.83E-02	0.00E+00	2.83E-02
Be-7	<1.93E-01	0.00E+00	1.93E-01
K-40	5.34E-01	1.34E-01	2.52E-01

Sample ID: 258552 **Sample Dates: 6/4/2013 - 6/11/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<2.53E-02	0.00E+00	2.53E-02
Cs-134	<2.00E-02	0.00E+00	2.00E-02
Cs-137	<2.59E-02	0.00E+00	2.59E-02
Be-7	<9.30E-02	0.00E+00	9.30E-02
K-40	<5.74E-01	0.00E+00	5.74E-01

Sample ID: 259022 **Sample Dates: 6/11/2013 - 6/18/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<2.24E-02	0.00E+00	2.24E-02
Cs-134	<1.60E-02	0.00E+00	1.60E-02
Cs-137	<2.77E-02	0.00E+00	2.77E-02
Be-7	<1.86E-01	0.00E+00	1.86E-01
K-40	<5.13E-01	0.00E+00	5.13E-01

Sample ID: 259570 **Sample Dates: 6/18/2013 - 6/25/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.08E-02	0.00E+00	1.08E-02
Cs-134	<8.96E-03	0.00E+00	8.96E-03
Cs-137	<8.49E-03	0.00E+00	8.49E-03
Be-7	<4.19E-02	0.00E+00	4.19E-02
K-40	3.13E-01	7.74E-02	1.28E-01

Sample ID: 260204 **Sample Dates: 6/25/2013 - 7/2/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.38E-02	0.00E+00	1.38E-02
Cs-134	<8.26E-03	0.00E+00	8.26E-03
Cs-137	<9.96E-03	0.00E+00	9.96E-03
Be-7	<8.82E-02	0.00E+00	8.82E-02
K-40	4.86E-01	8.09E-02	9.60E-02

CATAWBA Radiological Environmental Monitoring Analysis Report - 2013 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 258 [CONTROL - W @ 9.84 miles]

Sample ID:	260664	Sample Dates: 7/2/2013 - 7/9/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<2.01E-02	0.00E+00	2.01E-02
			Cs-134	<1.27E-02	0.00E+00	1.27E-02
			Cs-137	<1.79E-02	0.00E+00	1.79E-02
			Be-7	<1.80E-01	0.00E+00	1.80E-01
			K-40	3.73E-01	1.04E-01	2.74E-01
Sample ID:	261627	Sample Dates: 7/9/2013 - 7/16/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.35E-02	0.00E+00	1.35E-02
			Cs-134	<1.10E-02	0.00E+00	1.10E-02
			Cs-137	<1.29E-02	0.00E+00	1.29E-02
			Be-7	<8.21E-02	0.00E+00	8.21E-02
			K-40	2.48E-01	9.01E-02	1.58E-01
Sample ID:	262129	Sample Dates: 7/16/2013 - 7/23/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<2.40E-02	0.00E+00	2.40E-02
			Cs-134	<1.74E-02	0.00E+00	1.74E-02
			Cs-137	<1.16E-02	0.00E+00	1.16E-02
			Be-7	<1.38E-01	0.00E+00	1.38E-01
			K-40	4.00E-01	1.07E-01	3.29E-01
Sample ID:	263145	Sample Dates: 7/23/2013 - 7/30/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<2.72E-02	0.00E+00	2.72E-02
			Cs-134	<1.87E-02	0.00E+00	1.87E-02
			Cs-137	<2.29E-02	0.00E+00	2.29E-02
			Be-7	<1.48E-01	0.00E+00	1.48E-01
			K-40	<5.37E-01	0.00E+00	5.37E-01
Sample ID:	263372	Sample Dates: 7/30/2013 - 8/6/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<2.01E-02	0.00E+00	2.01E-02
			Cs-134	<2.17E-02	0.00E+00	2.17E-02
			Cs-137	<2.45E-02	0.00E+00	2.45E-02
			Be-7	<1.15E-01	0.00E+00	1.15E-01
			K-40	<5.58E-01	0.00E+00	5.58E-01
Sample ID:	264030	Sample Dates: 8/6/2013 - 8/13/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<2.24E-02	0.00E+00	2.24E-02
			Cs-134	<9.70E-03	0.00E+00	9.70E-03
			Cs-137	<1.99E-02	0.00E+00	1.99E-02
			Be-7	<1.62E-01	0.00E+00	1.62E-01
			K-40	5.10E-01	1.20E-01	2.04E-01
Sample ID:	265161	Sample Dates: 8/13/2013 - 8/20/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<2.37E-02	0.00E+00	2.37E-02
			Cs-134	<1.24E-02	0.00E+00	1.24E-02
			Cs-137	<1.40E-02	0.00E+00	1.40E-02
			Be-7	<1.75E-01	0.00E+00	1.75E-01
			K-40	6.00E-01	1.31E-01	7.73E-02
Sample ID:	265470	Sample Dates: 8/20/2013 - 8/27/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.11E-02	0.00E+00	1.11E-02
			Cs-134	<9.95E-03	0.00E+00	9.95E-03
			Cs-137	<1.08E-02	0.00E+00	1.08E-02
			Be-7	<9.20E-02	0.00E+00	9.20E-02
			K-40	<4.34E-01	0.00E+00	4.34E-01
Sample ID:	267156	Sample Dates: 8/27/2013 - 9/4/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<2.26E-02	0.00E+00	2.26E-02
			Cs-134	<1.55E-02	0.00E+00	1.55E-02
			Cs-137	<1.48E-02	0.00E+00	1.48E-02
			Be-7	<1.48E-01	0.00E+00	1.48E-01
			K-40	3.50E-01	9.37E-02	6.77E-02
Sample ID:	267606	Sample Dates: 9/4/2013 - 9/10/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<2.08E-02	0.00E+00	2.08E-02
			Cs-134	<1.78E-02	0.00E+00	1.78E-02
			Cs-137	<1.96E-02	0.00E+00	1.96E-02
			Be-7	<1.73E-01	0.00E+00	1.73E-01
			K-40	4.31E-01	1.20E-01	2.51E-01

CATAWBA Radiological Environmental Monitoring Analysis Report - 2013 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 258 [CONTROL - W @ 9.84 miles]

Sample ID: 268461 **Sample Dates: 9/10/2013 - 9/17/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<2.12E-02	0.00E+00	2.12E-02
Cs-134	<1.11E-02	0.00E+00	1.11E-02
Cs-137	<1.46E-02	0.00E+00	1.46E-02
Be-7	<1.41E-01	0.00E+00	1.41E-01
K-40	<6.39E-01	0.00E+00	6.39E-01

Sample ID: 269584 **Sample Dates: 9/17/2013 - 9/24/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<2.05E-02	0.00E+00	2.05E-02
Cs-134	<2.38E-02	0.00E+00	2.38E-02
Cs-137	<1.70E-02	0.00E+00	1.70E-02
Be-7	<1.11E-01	0.00E+00	1.11E-01
K-40	2.86E-01	1.15E-01	2.74E-01

Sample ID: 270727 **Sample Dates: 9/24/2013 - 10/1/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<2.40E-02	0.00E+00	2.40E-02
Cs-134	<2.08E-02	0.00E+00	2.08E-02
Cs-137	<1.64E-02	0.00E+00	1.64E-02
Be-7	<1.55E-01	0.00E+00	1.55E-01
K-40	4.86E-01	1.18E-01	7.73E-02

Sample ID: 271452 **Sample Dates: 10/1/2013 - 10/8/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<2.32E-02	0.00E+00	2.32E-02
Cs-134	<1.70E-02	0.00E+00	1.70E-02
Cs-137	<2.04E-02	0.00E+00	2.04E-02
Be-7	<1.03E-01	0.00E+00	1.03E-01
K-40	5.71E-01	1.28E-01	2.16E-01

Sample ID: 272059 **Sample Dates: 10/8/2013 - 10/15/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<2.52E-02	0.00E+00	2.52E-02
Cs-134	<1.53E-02	0.00E+00	1.53E-02
Cs-137	<2.47E-02	0.00E+00	2.47E-02
Be-7	<1.47E-01	0.00E+00	1.47E-01
K-40	4.91E-01	1.40E-01	2.55E-01

Sample ID: 272442 **Sample Dates: 10/15/2013 - 10/22/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.39E-02	0.00E+00	1.39E-02
Cs-134	<1.24E-02	0.00E+00	1.24E-02
Cs-137	<1.52E-02	0.00E+00	1.52E-02
Be-7	<9.60E-02	0.00E+00	9.60E-02
K-40	3.19E-01	1.01E-01	1.83E-01

Sample ID: 272843 **Sample Dates: 10/22/2013 - 10/29/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.24E-02	0.00E+00	1.24E-02
Cs-134	<9.51E-03	0.00E+00	9.51E-03
Cs-137	<1.13E-02	0.00E+00	1.13E-02
Be-7	<7.85E-02	0.00E+00	7.85E-02
K-40	6.14E-01	8.95E-02	3.53E-02

Sample ID: 273935 **Sample Dates: 10/29/2013 - 11/5/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<2.07E-02	0.00E+00	2.07E-02
Cs-134	<1.98E-02	0.00E+00	1.98E-02
Cs-137	<1.56E-02	0.00E+00	1.56E-02
Be-7	<9.10E-02	0.00E+00	9.10E-02
K-40	4.57E-01	1.14E-01	7.72E-02

Sample ID: 274382 **Sample Dates: 11/5/2013 - 11/12/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.85E-02	0.00E+00	1.85E-02
Cs-134	<1.98E-02	0.00E+00	1.98E-02
Cs-137	<1.45E-02	0.00E+00	1.45E-02
Be-7	<1.30E-01	0.00E+00	1.30E-01
K-40	3.10E-01	1.32E-01	2.14E-01

Sample ID: 274896 **Sample Dates: 11/12/2013 - 11/19/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<2.06E-02	0.00E+00	2.06E-02
Cs-134	<1.34E-02	0.00E+00	1.34E-02
Cs-137	<1.34E-02	0.00E+00	1.34E-02
Be-7	<1.21E-01	0.00E+00	1.21E-01
K-40	<5.46E-01	0.00E+00	5.46E-01

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3
Sample Point 258 [CONTROL - W @ 9.84 miles]

Sample ID:	276450	Sample Dates: 11/19/2013 - 11/25/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.49E-02	0.00E+00	1.49E-02
			Cs-134	<1.32E-02	0.00E+00	1.32E-02
			Cs-137	<1.64E-02	0.00E+00	1.64E-02
			Be-7	<9.34E-02	0.00E+00	9.34E-02
			K-40	6.54E-01	9.86E-02	1.06E-01
Sample ID:	278765	Sample Dates: 11/25/2013 - 12/3/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.16E-02	0.00E+00	1.16E-02
			Cs-134	<7.62E-03	0.00E+00	7.62E-03
			Cs-137	<1.08E-02	0.00E+00	1.08E-02
			Be-7	<6.74E-02	0.00E+00	6.74E-02
			K-40	6.14E-01	9.60E-02	8.72E-02
Sample ID:	278836	Sample Dates: 12/3/2013 - 12/10/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.90E-02	0.00E+00	1.90E-02
			Cs-134	<9.71E-03	0.00E+00	9.71E-03
			Cs-137	<2.48E-02	0.00E+00	2.48E-02
			Be-7	<1.22E-01	0.00E+00	1.22E-01
			K-40	3.21E-01	1.20E-01	2.13E-01
Sample ID:	279076	Sample Dates: 12/10/2013 - 12/17/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.39E-02	0.00E+00	1.39E-02
			Cs-134	<1.07E-02	0.00E+00	1.07E-02
			Cs-137	<3.18E-03	0.00E+00	3.18E-03
			Be-7	<1.09E-01	0.00E+00	1.09E-01
			K-40	<4.35E-01	0.00E+00	4.35E-01
Sample ID:	279704	Sample Dates: 12/17/2013 - 12/23/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<2.63E-02	0.00E+00	2.63E-02
			Cs-134	<1.98E-02	0.00E+00	1.98E-02
			Cs-137	<1.96E-02	0.00E+00	1.96E-02
			Be-7	<2.49E-01	0.00E+00	2.49E-01
			K-40	<6.21E-01	0.00E+00	6.21E-01
Sample ID:	280193	Sample Dates: 12/23/2013 - 12/31/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.20E-02	0.00E+00	1.20E-02
			Cs-134	<9.88E-03	0.00E+00	9.88E-03
			Cs-137	<9.83E-03	0.00E+00	9.83E-03
			Be-7	<6.51E-02	0.00E+00	6.51E-02
			K-40	<3.56E-01	0.00E+00	3.56E-01

Media Type: CROPS Concentration (Activity): pCi/kg
Sample Point 260 [INDICATOR - SSE @ 2 miles]

Sample ID:	250201	Sample Dates: 1/2/2013 - 1/2/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.73E+01	0.00E+00	1.73E+01
			Cs-134	<1.96E+01	0.00E+00	1.96E+01
			Cs-137	<2.28E+01	0.00E+00	2.28E+01
			Be-7	3.84E+02	1.06E+02	2.16E+02
			K-40	2.49E+03	2.76E+02	3.16E+02
Sample ID:	251131	Sample Dates: 2/5/2013 - 2/5/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.86E+01	0.00E+00	1.86E+01
			Cs-134	<1.69E+01	0.00E+00	1.69E+01
			Cs-137	<1.51E+01	0.00E+00	1.51E+01
			Be-7	4.34E+02	7.69E+01	1.21E+02
			K-40	4.22E+03	2.65E+02	1.64E+02
Sample ID:	256665	Sample Dates: 5/7/2013 - 5/7/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.54E+01	0.00E+00	1.54E+01
			Cs-134	<1.92E+01	0.00E+00	1.92E+01
			Cs-137	<2.27E+01	0.00E+00	2.27E+01
			Be-7	2.75E+02	7.80E+01	1.73E+02
			K-40	3.83E+03	2.89E+02	2.53E+02
Sample ID:	258104	Sample Dates: 6/4/2013 - 6/4/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.34E+01	0.00E+00	1.34E+01
			Cs-134	<1.58E+01	0.00E+00	1.58E+01
			Cs-137	<1.37E+01	0.00E+00	1.37E+01
			Be-7	<1.33E+02	0.00E+00	1.33E+02

CATAWBA Radiological Environmental Monitoring Analysis Report - 2013 (Appendix E)

Media Type: CROPS Concentration (Activity): pCi/kg

Sample Point 260 [INDICATOR - SSE @ 2 miles]

Sample ID:	258104	Sample Dates: 6/4/2013 - 6/4/2013	Nuclide	Activity	1 Sigma Error	LLD
			K-40	2.69E+03	1.96E+02	1.55E+02
Sample ID:	260172	Sample Dates: 7/2/2013 - 7/2/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<8.47E+00	0.00E+00	8.47E+00
			Cs-134	<1.07E+01	0.00E+00	1.07E+01
			Cs-137	<1.17E+01	0.00E+00	1.17E+01
			Be-7	<9.74E+01	0.00E+00	9.74E+01
			K-40	2.21E+03	1.36E+02	9.85E+01
Sample ID:	263217	Sample Dates: 8/6/2013 - 8/6/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.44E+01	0.00E+00	1.44E+01
			Cs-134	<1.12E+01	0.00E+00	1.12E+01
			Cs-137	<1.75E+01	0.00E+00	1.75E+01
			Be-7	<1.10E+02	0.00E+00	1.10E+02
			K-40	1.93E+03	1.94E+02	1.93E+02
Sample ID:	266737	Sample Dates: 9/4/2013 - 9/4/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.36E+01	0.00E+00	1.36E+01
			Cs-134	<1.42E+01	0.00E+00	1.42E+01
			Cs-137	<1.15E+01	0.00E+00	1.15E+01
			Be-7	<1.20E+02	0.00E+00	1.20E+02
			K-40	3.06E+03	1.72E+02	1.74E+02
Sample ID:	270658	Sample Dates: 10/1/2013 - 10/1/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<9.90E+00	0.00E+00	9.90E+00
			Cs-134	<8.50E+00	0.00E+00	8.50E+00
			Cs-137	<9.47E+00	0.00E+00	9.47E+00
			Be-7	1.13E+02	2.97E+01	6.16E+01
			K-40	2.09E+03	1.14E+02	7.95E+01
Sample ID:	272877	Sample Dates: 11/5/2013 - 11/5/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.88E+01	0.00E+00	1.88E+01
			Cs-134	<1.61E+01	0.00E+00	1.61E+01
			Cs-137	<2.22E+01	0.00E+00	2.22E+01
			Be-7	1.51E+02	7.12E+01	1.38E+02
			K-40	3.63E+03	3.18E+02	3.42E+02
Sample ID:	276931	Sample Dates: 12/3/2013 - 12/3/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<2.76E+01	0.00E+00	2.76E+01
			Cs-134	<2.46E+01	0.00E+00	2.46E+01
			Cs-137	<3.28E+01	0.00E+00	3.28E+01
			Be-7	4.78E+02	1.34E+02	2.18E+02
			K-40	4.14E+03	3.36E+02	3.19E+02

Media Type: DRINKING WATER Concentration (Activity): pCi/l

Sample Point 214 [INDICATOR - SSE @ 7.3 miles]

Sample ID:	250617	Sample Dates: 12/11/2012 - 1/8/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.99E+00	4.15E-01	1.27E+00
			Mn-54	<3.41E+00	0.00E+00	3.41E+00
			Co-58	<3.49E+00	0.00E+00	3.49E+00
			Fe-59	<7.67E+00	0.00E+00	7.67E+00
			Co-60	<3.62E+00	0.00E+00	3.62E+00
			Zn-65	<8.66E+00	0.00E+00	8.66E+00
			Zr-95	<7.27E+00	0.00E+00	7.27E+00
			Nb-95	<4.77E+00	0.00E+00	4.77E+00
			I-131	<1.23E+01	0.00E+00	1.23E+01
			Cs-134	<3.53E+00	0.00E+00	3.53E+00
			Cs-137	<4.47E+00	0.00E+00	4.47E+00
			BaLa-140	<7.83E+00	0.00E+00	7.83E+00
			Be-7	<3.49E+01	0.00E+00	3.49E+01
			K-40	<4.95E+01	0.00E+00	4.95E+01
Sample ID:	251674	Sample Dates: 1/8/2013 - 2/5/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.68E+00	3.92E-01	1.20E+00
			Mn-54	<3.73E+00	0.00E+00	3.73E+00
			Co-58	<6.54E+00	0.00E+00	6.54E+00
			Fe-59	<1.40E+01	0.00E+00	1.40E+01
			Co-60	<7.00E+00	0.00E+00	7.00E+00
			Zn-65	<1.05E+01	0.00E+00	1.05E+01

CATAWBA Radiological Environmental Monitoring Analysis Report - 2013 (Appendix E)

Media Type: DRINKING WATER Concentration (Activity): pCi/l

Sample Point 214 [INDICATOR - SSE @ 7.3 miles]

Sample ID: 251674 **Sample Dates: 1/8/2013 - 2/5/2013**

Nuclide	Activity	1 Sigma Error	LLD
Zr-95	<1.02E+01	0.00E+00	1.02E+01
Nb-95	<6.62E+00	0.00E+00	6.62E+00
I-131	<1.43E+01	0.00E+00	1.43E+01
Cs-134	<5.40E+00	0.00E+00	5.40E+00
Cs-137	<6.08E+00	0.00E+00	6.08E+00
BaLa-140	<8.71E+00	0.00E+00	8.71E+00
Be-7	<4.20E+01	0.00E+00	4.20E+01
K-40	6.60E+01	2.10E+01	4.77E+01

Sample ID: 253084 **Sample Dates: 12/11/2012 - 3/5/2013**

Nuclide	Activity	1 Sigma Error	LLD
H3DW	8.90E+02	6.41E+01	1.63E+02

Sample ID: 253945 **Sample Dates: 2/5/2013 - 3/5/2013**

Nuclide	Activity	1 Sigma Error	LLD
Beta	8.88E-01	4.50E-01	1.48E+00
Mn-54	<4.29E+00	0.00E+00	4.29E+00
Co-58	<4.34E+00	0.00E+00	4.34E+00
Fe-59	<1.03E+01	0.00E+00	1.03E+01
Co-60	<5.28E+00	0.00E+00	5.28E+00
Zn-65	<7.78E+00	0.00E+00	7.78E+00
Zr-95	<8.56E+00	0.00E+00	8.56E+00
Nb-95	<5.09E+00	0.00E+00	5.09E+00
I-131	<1.34E+01	0.00E+00	1.34E+01
Cs-134	<3.11E+00	0.00E+00	3.11E+00
Cs-137	<4.21E+00	0.00E+00	4.21E+00
BaLa-140	<6.05E+00	0.00E+00	6.05E+00
Be-7	<3.49E+01	0.00E+00	3.49E+01
K-40	7.74E+01	2.53E+01	4.85E+01

Sample ID: 255945 **Sample Dates: 3/5/2013 - 4/2/2013**

Nuclide	Activity	1 Sigma Error	LLD
Beta	1.38E+00	4.07E-01	1.29E+00
Mn-54	<2.44E+00	0.00E+00	2.44E+00
Co-58	<6.22E+00	0.00E+00	6.22E+00
Fe-59	<1.14E+01	0.00E+00	1.14E+01
Co-60	<7.08E+00	0.00E+00	7.08E+00
Zn-65	<1.15E+01	0.00E+00	1.15E+01
Zr-95	<9.07E+00	0.00E+00	9.07E+00
Nb-95	<5.80E+00	0.00E+00	5.80E+00
I-131	<1.43E+01	0.00E+00	1.43E+01
Cs-134	<3.87E+00	0.00E+00	3.87E+00
Cs-137	<4.74E+00	0.00E+00	4.74E+00
BaLa-140	<1.41E+01	0.00E+00	1.41E+01
Be-7	<3.86E+01	0.00E+00	3.86E+01
K-40	5.92E+01	1.74E+01	4.67E+01

Sample ID: 257197 **Sample Dates: 4/2/2013 - 4/30/2013**

Nuclide	Activity	1 Sigma Error	LLD
Beta	2.03E+00	4.25E-01	1.30E+00
Mn-54	<3.88E+00	0.00E+00	3.88E+00
Co-58	<4.78E+00	0.00E+00	4.78E+00
Fe-59	<9.39E+00	0.00E+00	9.39E+00
Co-60	<4.62E+00	0.00E+00	4.62E+00
Zn-65	<1.11E+01	0.00E+00	1.11E+01
Zr-95	<6.57E+00	0.00E+00	6.57E+00
Nb-95	<4.35E+00	0.00E+00	4.35E+00
I-131	<1.17E+01	0.00E+00	1.17E+01
Cs-134	<3.72E+00	0.00E+00	3.72E+00
Cs-137	<4.08E+00	0.00E+00	4.08E+00
BaLa-140	<1.04E+01	0.00E+00	1.04E+01
Be-7	<3.19E+01	0.00E+00	3.19E+01
K-40	<7.38E+01	0.00E+00	7.38E+01

Sample ID: 258173 **Sample Dates: 3/5/2013 - 5/29/2013**

Nuclide	Activity	1 Sigma Error	LLD
H3DW	5.69E+02	6.31E+01	1.77E+02

Sample ID: 258325 **Sample Dates: 4/30/2013 - 5/29/2013**

Nuclide	Activity	1 Sigma Error	LLD
Beta	1.15E+00	4.45E-01	1.43E+00
Mn-54	<3.78E+00	0.00E+00	3.78E+00
Co-58	<4.38E+00	0.00E+00	4.38E+00
Fe-59	<8.09E+00	0.00E+00	8.09E+00
Co-60	<4.67E+00	0.00E+00	4.67E+00
Zn-65	<7.83E+00	0.00E+00	7.83E+00

Media Type: DRINKING WATER Concentration (Activity): pCi/l

Sample Point 214 [INDICATOR - SSE @ 7.3 miles]

Sample ID: 258325 Sample Dates: 4/30/2013 - 5/29/2013

Nuclide	Activity	1 Sigma Error	LLD
Zr-95	<9.07E+00	0.00E+00	9.07E+00
Nb-95	<5.06E+00	0.00E+00	5.06E+00
I-131	<1.42E+01	0.00E+00	1.42E+01
Cs-134	<3.66E+00	0.00E+00	3.66E+00
Cs-137	<5.05E+00	0.00E+00	5.05E+00
BaLa-140	<9.08E+00	0.00E+00	9.08E+00
Be-7	<4.01E+01	0.00E+00	4.01E+01
K-40	1.85E+02	2.77E+01	2.75E+01

Sample ID: 260429 Sample Dates: 5/29/2013 - 6/25/2013

Nuclide	Activity	1 Sigma Error	LLD
Beta	1.46E+00	3.89E-01	1.22E+00
Mn-54	<4.26E+00	0.00E+00	4.26E+00
Co-58	<4.28E+00	0.00E+00	4.28E+00
Fe-59	<9.17E+00	0.00E+00	9.17E+00
Co-60	<5.16E+00	0.00E+00	5.16E+00
Zn-65	<9.46E+00	0.00E+00	9.46E+00
Zr-95	<7.16E+00	0.00E+00	7.16E+00
Nb-95	<5.84E+00	0.00E+00	5.84E+00
I-131	<1.31E+01	0.00E+00	1.31E+01
Cs-134	<3.88E+00	0.00E+00	3.88E+00
Cs-137	<5.27E+00	0.00E+00	5.27E+00
BaLa-140	<1.35E+01	0.00E+00	1.35E+01
Be-7	<3.49E+01	0.00E+00	3.49E+01
K-40	1.99E+02	2.57E+01	3.89E+01

Sample ID: 263226 Sample Dates: 6/25/2013 - 7/23/2013

Nuclide	Activity	1 Sigma Error	LLD
Beta	2.13E+00	4.05E-01	1.21E+00
Mn-54	<3.44E+00	0.00E+00	3.44E+00
Co-58	<3.54E+00	0.00E+00	3.54E+00
Fe-59	<5.83E+00	0.00E+00	5.83E+00
Co-60	<2.68E+00	0.00E+00	2.68E+00
Zn-65	<7.38E+00	0.00E+00	7.38E+00
Zr-95	<7.24E+00	0.00E+00	7.24E+00
Nb-95	<4.40E+00	0.00E+00	4.40E+00
I-131	<1.11E+01	0.00E+00	1.11E+01
Cs-134	<3.41E+00	0.00E+00	3.41E+00
Cs-137	<3.69E+00	0.00E+00	3.69E+00
BaLa-140	<6.80E+00	0.00E+00	6.80E+00
Be-7	<3.04E+01	0.00E+00	3.04E+01
K-40	7.73E+01	1.33E+01	2.02E+01

Sample ID: 266736 Sample Dates: 7/23/2013 - 8/20/2013

Nuclide	Activity	1 Sigma Error	LLD
Beta	2.56E+00	4.21E-01	1.24E+00
Mn-54	<3.46E+00	0.00E+00	3.46E+00
Co-58	<4.43E+00	0.00E+00	4.43E+00
Fe-59	<8.92E+00	0.00E+00	8.92E+00
Co-60	<4.62E+00	0.00E+00	4.62E+00
Zn-65	<6.44E+00	0.00E+00	6.44E+00
Zr-95	<8.69E+00	0.00E+00	8.69E+00
Nb-95	<4.22E+00	0.00E+00	4.22E+00
I-131	<1.37E+01	0.00E+00	1.37E+01
Cs-134	<3.25E+00	0.00E+00	3.25E+00
Cs-137	<4.40E+00	0.00E+00	4.40E+00
BaLa-140	<8.55E+00	0.00E+00	8.55E+00
Be-7	<3.14E+01	0.00E+00	3.14E+01
K-40	1.67E+02	2.59E+01	3.10E+01

Sample ID: 267117 Sample Dates: 5/29/2013 - 8/20/2013

Nuclide	Activity	1 Sigma Error	LLD
H3DW	2.33E+02	5.22E+01	1.58E+02

Sample ID: 269856 Sample Dates: 8/20/2013 - 9/17/2013

Nuclide	Activity	1 Sigma Error	LLD
Beta	1.53E+00	4.12E-01	1.28E+00
Mn-54	<3.56E+00	0.00E+00	3.56E+00
Co-58	<3.98E+00	0.00E+00	3.98E+00
Fe-59	<8.18E+00	0.00E+00	8.18E+00
Co-60	<4.78E+00	0.00E+00	4.78E+00
Zn-65	<8.87E+00	0.00E+00	8.87E+00
Zr-95	<7.37E+00	0.00E+00	7.37E+00
Nb-95	<3.94E+00	0.00E+00	3.94E+00

Media Type: DRINKING WATER Concentration (Activity): pCi/l

Sample Point 214 [INDICATOR - SSE @ 7.3 miles]

Sample ID:	269856	Sample Dates: 8/20/2013 - 9/17/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.44E+01	0.00E+00	1.44E+01
			Cs-134	<3.51E+00	0.00E+00	3.51E+00
			Cs-137	<4.01E+00	0.00E+00	4.01E+00
			BaLa-140	<8.73E+00	0.00E+00	8.73E+00
			Be-7	<3.75E+01	0.00E+00	3.75E+01
			K-40	2.04E+02	2.53E+01	4.24E+01

Sample ID:	272545	Sample Dates: 9/17/2013 - 10/15/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	3.03E+00	4.41E-01	1.28E+00
			Mn-54	<4.90E+00	0.00E+00	4.90E+00
			Co-58	<4.65E+00	0.00E+00	4.65E+00
			Fe-59	<7.19E+00	0.00E+00	7.19E+00
			Co-60	<4.63E+00	0.00E+00	4.63E+00
			Zn-65	<8.17E+00	0.00E+00	8.17E+00
			Zr-95	<6.32E+00	0.00E+00	6.32E+00
			Nb-95	<4.91E+00	0.00E+00	4.91E+00
			I-131	<1.20E+01	0.00E+00	1.20E+01
			Cs-134	<3.72E+00	0.00E+00	3.72E+00
			Cs-137	<4.06E+00	0.00E+00	4.06E+00
			BaLa-140	<1.10E+01	0.00E+00	1.10E+01
			Be-7	<3.61E+01	0.00E+00	3.61E+01
			K-40	<6.82E+01	0.00E+00	6.82E+01

Sample ID:	274975	Sample Dates: 10/15/2013 - 11/12/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.64E+00	4.10E-01	1.27E+00
			Mn-54	<4.63E+00	0.00E+00	4.63E+00
			Co-58	<4.34E+00	0.00E+00	4.34E+00
			Fe-59	<6.84E+00	0.00E+00	6.84E+00
			Co-60	<3.66E+00	0.00E+00	3.66E+00
			Zn-65	<9.34E+00	0.00E+00	9.34E+00
			Zr-95	<8.28E+00	0.00E+00	8.28E+00
			Nb-95	<5.62E+00	0.00E+00	5.62E+00
			I-131	<1.40E+01	0.00E+00	1.40E+01
			Cs-134	<4.41E+00	0.00E+00	4.41E+00
			Cs-137	<3.62E+00	0.00E+00	3.62E+00
			BaLa-140	<1.39E+01	0.00E+00	1.39E+01
			Be-7	<3.68E+01	0.00E+00	3.68E+01
			K-40	8.85E+01	2.07E+01	4.44E+01

Sample ID:	277099	Sample Dates: 8/20/2013 - 12/10/2013	Nuclide	Activity	1 Sigma Error	LLD
			H3DW	7.94E+02	8.41E+01	2.42E+02

Sample ID:	279122	Sample Dates: 11/12/2013 - 12/10/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.84E+00	4.09E-01	1.25E+00
			Mn-54	<3.82E+00	0.00E+00	3.82E+00
			Co-58	<3.88E+00	0.00E+00	3.88E+00
			Fe-59	<1.01E+01	0.00E+00	1.01E+01
			Co-60	<3.70E+00	0.00E+00	3.70E+00
			Zn-65	<7.45E+00	0.00E+00	7.45E+00
			Zr-95	<6.78E+00	0.00E+00	6.78E+00
			Nb-95	<4.91E+00	0.00E+00	4.91E+00
			I-131	<1.42E+01	0.00E+00	1.42E+01
			Cs-134	<4.02E+00	0.00E+00	4.02E+00
			Cs-137	<3.36E+00	0.00E+00	3.36E+00
			BaLa-140	<1.00E+01	0.00E+00	1.00E+01
			Be-7	<3.64E+01	0.00E+00	3.64E+01
			K-40	1.98E+02	2.52E+01	3.91E+01

Sample Point 218 [CONTROL - NNE @ 13.5 miles]

Sample ID:	250618	Sample Dates: 12/11/2012 - 1/8/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	2.30E+00	4.18E-01	1.25E+00
			Mn-54	<4.27E+00	0.00E+00	4.27E+00
			Co-58	<5.07E+00	0.00E+00	5.07E+00
			Fe-59	<8.32E+00	0.00E+00	8.32E+00
			Co-60	<5.74E+00	0.00E+00	5.74E+00
			Zn-65	<8.12E+00	0.00E+00	8.12E+00
			Zr-95	<7.86E+00	0.00E+00	7.86E+00
			Nb-95	<5.77E+00	0.00E+00	5.77E+00
			I-131	<1.44E+01	0.00E+00	1.44E+01

Sample ID:	250618	Sample Dates: 12/11/2012 - 1/8/2013	Nuclide	Activity	1 Sigma Error	LLD
			Cs-134	<2.95E+00	0.00E+00	2.95E+00
			Cs-137	<4.91E+00	0.00E+00	4.91E+00
			BaLa-140	<1.17E+01	0.00E+00	1.17E+01
			Be-7	<3.81E+01	0.00E+00	3.81E+01
			K-40	<8.59E+01	0.00E+00	8.59E+01

Sample ID:	251669	Sample Dates: 1/8/2013 - 2/5/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	2.24E+00	4.03E-01	1.19E+00
			Mn-54	<3.57E+00	0.00E+00	3.57E+00
			Co-58	<3.28E+00	0.00E+00	3.28E+00
			Fe-59	<8.94E+00	0.00E+00	8.94E+00
			Co-60	<4.72E+00	0.00E+00	4.72E+00
			Zn-65	<6.90E+00	0.00E+00	6.90E+00
			Zr-95	<6.70E+00	0.00E+00	6.70E+00
			Nb-95	<4.67E+00	0.00E+00	4.67E+00
			I-131	<1.15E+01	0.00E+00	1.15E+01
			Cs-134	<2.97E+00	0.00E+00	2.97E+00
			Cs-137	<3.67E+00	0.00E+00	3.67E+00
			BaLa-140	<7.55E+00	0.00E+00	7.55E+00
			Be-7	<3.21E+01	0.00E+00	3.21E+01
			K-40	8.94E+01	1.60E+01	3.50E+01

Sample ID:	253085	Sample Dates: 12/11/2012 - 3/5/2013	Nuclide	Activity	1 Sigma Error	LLD
			H3DW	6.72E+02	6.14E+01	1.65E+02

Sample ID:	253940	Sample Dates: 2/5/2013 - 3/5/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.46E+00	4.62E-01	1.48E+00
			Mn-54	<4.79E+00	0.00E+00	4.79E+00
			Co-58	<4.60E+00	0.00E+00	4.60E+00
			Fe-59	<1.09E+01	0.00E+00	1.09E+01
			Co-60	<9.66E+00	0.00E+00	9.66E+00
			Zn-65	<1.06E+01	0.00E+00	1.06E+01
			Zr-95	<1.09E+01	0.00E+00	1.09E+01
			Nb-95	<7.05E+00	0.00E+00	7.05E+00
			I-131	<1.42E+01	0.00E+00	1.42E+01
			Cs-134	<4.86E+00	0.00E+00	4.86E+00
			Cs-137	<4.91E+00	0.00E+00	4.91E+00
			BaLa-140	<1.13E+01	0.00E+00	1.13E+01
			Be-7	<4.95E+01	0.00E+00	4.95E+01
			K-40	<8.20E+01	0.00E+00	8.20E+01

Sample ID:	255939	Sample Dates: 3/5/2013 - 4/2/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.94E+00	4.17E-01	1.27E+00
			Mn-54	<3.09E+00	0.00E+00	3.09E+00
			Co-58	<4.16E+00	0.00E+00	4.16E+00
			Fe-59	<7.67E+00	0.00E+00	7.67E+00
			Co-60	<4.69E+00	0.00E+00	4.69E+00
			Zn-65	<5.24E+00	0.00E+00	5.24E+00
			Zr-95	<6.48E+00	0.00E+00	6.48E+00
			Nb-95	<4.77E+00	0.00E+00	4.77E+00
			I-131	<1.23E+01	0.00E+00	1.23E+01
			Cs-134	<3.37E+00	0.00E+00	3.37E+00
			Cs-137	<3.58E+00	0.00E+00	3.58E+00
			BaLa-140	<7.71E+00	0.00E+00	7.71E+00
			Be-7	<3.11E+01	0.00E+00	3.11E+01
			K-40	4.93E+01	2.05E+01	3.74E+01

Sample ID:	257192	Sample Dates: 4/2/2013 - 4/30/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.41E+00	4.08E-01	1.28E+00
			Mn-54	<3.30E+00	0.00E+00	3.30E+00
			Co-58	<4.83E+00	0.00E+00	4.83E+00
			Fe-59	<1.07E+01	0.00E+00	1.07E+01
			Co-60	<6.02E+00	0.00E+00	6.02E+00
			Zn-65	<6.61E+00	0.00E+00	6.61E+00
			Zr-95	<7.74E+00	0.00E+00	7.74E+00
			Nb-95	<5.41E+00	0.00E+00	5.41E+00
			I-131	<9.89E+00	0.00E+00	9.89E+00
			Cs-134	<3.69E+00	0.00E+00	3.69E+00
			Cs-137	<4.48E+00	0.00E+00	4.48E+00

CATAWBA Radiological Environmental Monitoring Analysis Report - 2013 (Appendix E)

Media Type: DRINKING WATER Concentration (Activity): pCi/l

Sample Point 218 [CONTROL - NNE @ 13.5 miles]

Sample ID: 257192 **Sample Dates: 4/2/2013 - 4/30/2013**

Nuclide	Activity	1 Sigma Error	LLD
BaLa-140	<1.32E+01	0.00E+00	1.32E+01
Be-7	<3.18E+01	0.00E+00	3.18E+01
K-40	6.86E+01	1.76E+01	3.67E+01

Sample ID: 258172 **Sample Dates: 3/5/2013 - 5/29/2013**

Nuclide	Activity	1 Sigma Error	LLD
H3DW	6.56E+02	6.45E+01	1.77E+02

Sample ID: 258320 **Sample Dates: 4/30/2013 - 5/29/2013**

Nuclide	Activity	1 Sigma Error	LLD
Beta	7.31E-01	4.34E-01	1.42E+00
Mn-54	<3.86E+00	0.00E+00	3.86E+00
Co-58	<4.37E+00	0.00E+00	4.37E+00
Fe-59	<1.15E+01	0.00E+00	1.15E+01
Co-60	<4.81E+00	0.00E+00	4.81E+00
Zn-65	<9.04E+00	0.00E+00	9.04E+00
Zr-95	<7.39E+00	0.00E+00	7.39E+00
Nb-95	<5.36E+00	0.00E+00	5.36E+00
I-131	<1.38E+01	0.00E+00	1.38E+01
Cs-134	<3.74E+00	0.00E+00	3.74E+00
Cs-137	<4.12E+00	0.00E+00	4.12E+00
BaLa-140	<1.16E+01	0.00E+00	1.16E+01
Be-7	<3.63E+01	0.00E+00	3.63E+01
K-40	<7.99E+01	0.00E+00	7.99E+01

Sample ID: 260423 **Sample Dates: 5/29/2013 - 6/25/2013**

Nuclide	Activity	1 Sigma Error	LLD
Beta	1.24E+00	3.83E-01	1.21E+00
Mn-54	<3.07E+00	0.00E+00	3.07E+00
Co-58	<4.12E+00	0.00E+00	4.12E+00
Fe-59	<8.71E+00	0.00E+00	8.71E+00
Co-60	<3.15E+00	0.00E+00	3.15E+00
Zn-65	<8.09E+00	0.00E+00	8.09E+00
Zr-95	<7.18E+00	0.00E+00	7.18E+00
Nb-95	<5.22E+00	0.00E+00	5.22E+00
I-131	<1.27E+01	0.00E+00	1.27E+01
Cs-134	<3.44E+00	0.00E+00	3.44E+00
Cs-137	<4.24E+00	0.00E+00	4.24E+00
BaLa-140	<8.38E+00	0.00E+00	8.38E+00
Be-7	<3.40E+01	0.00E+00	3.40E+01
K-40	1.81E+02	2.49E+01	3.82E+01

Sample ID: 263220 **Sample Dates: 6/25/2013 - 7/23/2013**

Nuclide	Activity	1 Sigma Error	LLD
Beta	1.84E+00	3.98E-01	1.21E+00
Mn-54	<3.65E+00	0.00E+00	3.65E+00
Co-58	<3.60E+00	0.00E+00	3.60E+00
Fe-59	<8.70E+00	0.00E+00	8.70E+00
Co-60	<3.70E+00	0.00E+00	3.70E+00
Zn-65	<7.41E+00	0.00E+00	7.41E+00
Zr-95	<5.33E+00	0.00E+00	5.33E+00
Nb-95	<4.00E+00	0.00E+00	4.00E+00
I-131	<1.20E+01	0.00E+00	1.20E+01
Cs-134	<3.18E+00	0.00E+00	3.18E+00
Cs-137	<4.48E+00	0.00E+00	4.48E+00
BaLa-140	<1.15E+01	0.00E+00	1.15E+01
Be-7	<3.14E+01	0.00E+00	3.14E+01
K-40	1.67E+02	2.18E+01	3.40E+01

Sample ID: 266731 **Sample Dates: 7/23/2013 - 8/20/2013**

Nuclide	Activity	1 Sigma Error	LLD
Beta	1.46E+00	3.95E-01	1.23E+00
Mn-54	<3.48E+00	0.00E+00	3.48E+00
Co-58	<4.39E+00	0.00E+00	4.39E+00
Fe-59	<7.52E+00	0.00E+00	7.52E+00
Co-60	<5.73E+00	0.00E+00	5.73E+00
Zn-65	<1.03E+01	0.00E+00	1.03E+01
Zr-95	<8.79E+00	0.00E+00	8.79E+00
Nb-95	<5.46E+00	0.00E+00	5.46E+00
I-131	<1.36E+01	0.00E+00	1.36E+01
Cs-134	<3.17E+00	0.00E+00	3.17E+00
Cs-137	<4.30E+00	0.00E+00	4.30E+00
BaLa-140	<1.36E+01	0.00E+00	1.36E+01
Be-7	<3.84E+01	0.00E+00	3.84E+01

CATAWBA Radiological Environmental Monitoring Analysis Report - 2013 (Appendix E)

Media Type: DRINKING WATER Concentration (Activity): pCi/l

Sample Point 218 [CONTROL - NNE @ 13.5 miles]

Sample ID:	266731	Sample Dates: 7/23/2013 - 8/20/2013	Nuclide	Activity	1 Sigma Error	LLD
			K-40	8.62E+01	2.19E+01	5.86E+01
Sample ID:	267116	Sample Dates: 5/29/2013 - 8/20/2013	Nuclide	Activity	1 Sigma Error	LLD
			H3DW	<1.13E+02	0.00E+00	1.56E+02
Sample ID:	269850	Sample Dates: 8/20/2013 - 9/17/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.08E+00	4.00E-01	1.28E+00
			Mn-54	<3.36E+00	0.00E+00	3.36E+00
			Co-58	<4.79E+00	0.00E+00	4.79E+00
			Fe-59	<1.03E+01	0.00E+00	1.03E+01
			Co-60	<6.67E+00	0.00E+00	6.67E+00
			Zn-65	<7.70E+00	0.00E+00	7.70E+00
			Zr-95	<7.81E+00	0.00E+00	7.81E+00
			Nb-95	<5.37E+00	0.00E+00	5.37E+00
			I-131	<1.24E+01	0.00E+00	1.24E+01
			Cs-134	<3.54E+00	0.00E+00	3.54E+00
			Cs-137	<3.72E+00	0.00E+00	3.72E+00
			BaLa-140	<3.99E+00	0.00E+00	3.99E+00
			Be-7	<3.34E+01	0.00E+00	3.34E+01
			K-40	5.98E+01	2.40E+01	5.28E+01
Sample ID:	272546	Sample Dates: 9/17/2013 - 10/15/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.63E+00	4.09E-01	1.27E+00
			Mn-54	<4.02E+00	0.00E+00	4.02E+00
			Co-58	<3.53E+00	0.00E+00	3.53E+00
			Fe-59	<7.49E+00	0.00E+00	7.49E+00
			Co-60	<3.84E+00	0.00E+00	3.84E+00
			Zn-65	<7.32E+00	0.00E+00	7.32E+00
			Zr-95	<7.62E+00	0.00E+00	7.62E+00
			Nb-95	<4.58E+00	0.00E+00	4.58E+00
			I-131	<1.42E+01	0.00E+00	1.42E+01
			Cs-134	<3.30E+00	0.00E+00	3.30E+00
			Cs-137	<3.72E+00	0.00E+00	3.72E+00
			BaLa-140	<6.74E+00	0.00E+00	6.74E+00
			Be-7	<4.04E+01	0.00E+00	4.04E+01
			K-40	1.87E+02	2.03E+01	3.67E+01
Sample ID:	274970	Sample Dates: 10/15/2013 - 11/12/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.64E+00	4.04E-01	1.25E+00
			Mn-54	<3.30E+00	0.00E+00	3.30E+00
			Co-58	<4.08E+00	0.00E+00	4.08E+00
			Fe-59	<8.35E+00	0.00E+00	8.35E+00
			Co-60	<3.60E+00	0.00E+00	3.60E+00
			Zn-65	<8.49E+00	0.00E+00	8.49E+00
			Zr-95	<7.21E+00	0.00E+00	7.21E+00
			Nb-95	<6.31E+00	0.00E+00	6.31E+00
			I-131	<1.36E+01	0.00E+00	1.36E+01
			Cs-134	<3.68E+00	0.00E+00	3.68E+00
			Cs-137	<3.77E+00	0.00E+00	3.77E+00
			BaLa-140	<1.09E+01	0.00E+00	1.09E+01
			Be-7	<3.31E+01	0.00E+00	3.31E+01
			K-40	1.71E+02	2.98E+01	2.87E+01
Sample ID:	277098	Sample Dates: 8/20/2013 - 12/10/2013	Nuclide	Activity	1 Sigma Error	LLD
			H3DW	<-6.1E+01	0.00E+00	2.42E+02
Sample ID:	279116	Sample Dates: 11/12/2013 - 12/10/2013	Nuclide	Activity	1 Sigma Error	LLD
			Beta	1.73E+00	4.05E-01	1.25E+00
			Mn-54	<2.50E+00	0.00E+00	2.50E+00
			Co-58	<3.82E+00	0.00E+00	3.82E+00
			Fe-59	<8.73E+00	0.00E+00	8.73E+00
			Co-60	<3.99E+00	0.00E+00	3.99E+00
			Zn-65	<6.48E+00	0.00E+00	6.48E+00
			Zr-95	<8.13E+00	0.00E+00	8.13E+00
			Nb-95	<5.79E+00	0.00E+00	5.79E+00
			I-131	<1.38E+01	0.00E+00	1.38E+01
			Cs-134	<2.98E+00	0.00E+00	2.98E+00
			Cs-137	<3.15E+00	0.00E+00	3.15E+00
			BaLa-140	<1.05E+01	0.00E+00	1.05E+01
			Be-7	<3.58E+01	0.00E+00	3.58E+01

Media Type: DRINKING WATER Concentration (Activity): pCi/l

Sample Point 218 [CONTROL - NNE @ 13.5 miles]

Sample ID:	279116	Sample Dates: 11/12/2013 - 12/10/2013	Nuclide	Activity	1 Sigma Error	LLD
			K-40	5.82E+01	1.49E+01	2.85E+01

Media Type: FISH_BTMFEEDER Concentration (Activity): pCi/kg

Sample Point 208 [INDICATOR - S @ 0.45 miles]

Sample ID:	255048	Sample Dates: 4/8/2013 - 4/8/2013	Nuclide	Activity	1 Sigma Error	LLD
			Mn-54	<2.05E+01	0.00E+00	2.05E+01
			Co-58	<1.48E+01	0.00E+00	1.48E+01
			Fe-59	<3.07E+01	0.00E+00	3.07E+01
			Co-60	<2.54E+01	0.00E+00	2.54E+01
			Zn-65	<2.50E+01	0.00E+00	2.50E+01
			Nb-95	<1.69E+01	0.00E+00	1.69E+01
			I-131	<1.97E+01	0.00E+00	1.97E+01
			Cs-134	<1.35E+01	0.00E+00	1.35E+01
			Cs-137	<2.24E+01	0.00E+00	2.24E+01
			Be-7	<1.41E+02	0.00E+00	1.41E+02
			K-40	2.49E+03	2.60E+02	2.51E+02
			Ag-110M	<1.96E+01	0.00E+00	1.96E+01
			Sb-122	<2.68E+01	0.00E+00	2.68E+01
			Sb-125	<4.71E+01	0.00E+00	4.71E+01
Sample ID:	269599	Sample Dates: 10/7/2013 - 10/7/2013	Nuclide	Activity	1 Sigma Error	LLD
			Mn-54	<2.05E+01	0.00E+00	2.05E+01
			Co-58	<2.15E+01	0.00E+00	2.15E+01
			Fe-59	<5.06E+01	0.00E+00	5.06E+01
			Co-60	<2.90E+01	0.00E+00	2.90E+01
			Zn-65	<5.52E+01	0.00E+00	5.52E+01
			Nb-95	<2.63E+01	0.00E+00	2.63E+01
			I-131	<2.13E+01	0.00E+00	2.13E+01
			Cs-134	<2.29E+01	0.00E+00	2.29E+01
			Cs-137	<1.73E+01	0.00E+00	1.73E+01
			Be-7	<1.43E+02	0.00E+00	1.43E+02
			K-40	2.50E+03	2.43E+02	2.61E+02
			Ag-110M	<1.58E+01	0.00E+00	1.58E+01
			Sb-122	<5.83E+01	0.00E+00	5.83E+01
			Sb-125	<3.80E+01	0.00E+00	3.80E+01

Sample Point 216 [CONTROL - NNE @ 4.19 miles]

Sample ID:	255049	Sample Dates: 4/8/2013 - 4/8/2013	Nuclide	Activity	1 Sigma Error	LLD
			Mn-54	<7.61E+00	0.00E+00	7.61E+00
			Co-58	<9.50E+00	0.00E+00	9.50E+00
			Fe-59	<2.45E+01	0.00E+00	2.45E+01
			Co-60	<1.20E+01	0.00E+00	1.20E+01
			Zn-65	<2.02E+01	0.00E+00	2.02E+01
			Nb-95	<9.95E+00	0.00E+00	9.95E+00
			I-131	<1.07E+01	0.00E+00	1.07E+01
			Cs-134	<7.58E+00	0.00E+00	7.58E+00
			Cs-137	<1.15E+01	0.00E+00	1.15E+01
			Be-7	<6.92E+01	0.00E+00	6.92E+01
			K-40	3.02E+03	1.57E+02	1.04E+02
			Ag-110M	<8.48E+00	0.00E+00	8.48E+00
			Sb-122	<1.54E+01	0.00E+00	1.54E+01
			Sb-125	<2.59E+01	0.00E+00	2.59E+01
Sample ID:	269600	Sample Dates: 10/7/2013 - 10/7/2013	Nuclide	Activity	1 Sigma Error	LLD
			Mn-54	<1.65E+01	0.00E+00	1.65E+01
			Co-58	<1.28E+01	0.00E+00	1.28E+01
			Fe-59	<3.42E+01	0.00E+00	3.42E+01
			Co-60	<2.41E+01	0.00E+00	2.41E+01
			Zn-65	<3.82E+01	0.00E+00	3.82E+01
			Nb-95	<1.80E+01	0.00E+00	1.80E+01
			I-131	<1.87E+01	0.00E+00	1.87E+01
			Cs-134	<1.58E+01	0.00E+00	1.58E+01
			Cs-137	<1.48E+01	0.00E+00	1.48E+01
			Be-7	<1.25E+02	0.00E+00	1.25E+02
			K-40	2.39E+03	2.06E+02	1.78E+02
			Ag-110M	<9.17E+00	0.00E+00	9.17E+00
			Sb-122	<3.32E+01	0.00E+00	3.32E+01

Media Type: FISH_BTMFEEDER Concentration (Activity): pCi/kg

Sample Point 216 [CONTROL - NNE @ 4.19 miles]

Sample ID:	269600	Sample Dates: 10/7/2013 - 10/7/2013	Nuclide	Activity	1 Sigma Error	LLD
			Sb-125	<3.83E+01	0.00E+00	3.83E+01

Media Type: FISH_FORAGER Concentration (Activity): pCi/kg

Sample Point 208 [INDICATOR - S @ 0.45 miles]

Sample ID:	255050	Sample Dates: 4/8/2013 - 4/8/2013	Nuclide	Activity	1 Sigma Error	LLD
			Mn-54	<1.72E+01	0.00E+00	1.72E+01
			Co-58	<1.39E+01	0.00E+00	1.39E+01
			Fe-59	<2.92E+01	0.00E+00	2.92E+01
			Co-60	<2.39E+01	0.00E+00	2.39E+01
			Zn-65	<3.94E+01	0.00E+00	3.94E+01
			Nb-95	<1.48E+01	0.00E+00	1.48E+01
			I-131	<1.40E+01	0.00E+00	1.40E+01
			Cs-134	<1.12E+01	0.00E+00	1.12E+01
			Cs-137	<1.77E+01	0.00E+00	1.77E+01
			Be-7	<1.06E+02	0.00E+00	1.06E+02
			K-40	2.74E+03	1.87E+02	1.28E+02
			Ag-110M	<1.12E+01	0.00E+00	1.12E+01
			Sb-122	<2.15E+01	0.00E+00	2.15E+01
			Sb-125	<3.54E+01	0.00E+00	3.54E+01
Sample ID:	269601	Sample Dates: 10/7/2013 - 10/7/2013	Nuclide	Activity	1 Sigma Error	LLD
			Mn-54	<2.06E+01	0.00E+00	2.06E+01
			Co-58	<1.49E+01	0.00E+00	1.49E+01
			Fe-59	<2.61E+01	0.00E+00	2.61E+01
			Co-60	<1.91E+01	0.00E+00	1.91E+01
			Zn-65	<4.10E+01	0.00E+00	4.10E+01
			Nb-95	<1.33E+01	0.00E+00	1.33E+01
			I-131	<1.45E+01	0.00E+00	1.45E+01
			Cs-134	<1.52E+01	0.00E+00	1.52E+01
			Cs-137	<1.76E+01	0.00E+00	1.76E+01
			Be-7	<1.07E+02	0.00E+00	1.07E+02
			K-40	1.99E+03	1.75E+02	1.64E+02
			Ag-110M	<1.66E+01	0.00E+00	1.66E+01
			Sb-122	<2.97E+01	0.00E+00	2.97E+01
			Sb-125	<3.83E+01	0.00E+00	3.83E+01

Sample Point 216 [CONTROL - NNE @ 4.19 miles]

Sample ID:	255051	Sample Dates: 4/8/2013 - 4/8/2013	Nuclide	Activity	1 Sigma Error	LLD
			Mn-54	<1.02E+01	0.00E+00	1.02E+01
			Co-58	<1.13E+01	0.00E+00	1.13E+01
			Fe-59	<1.70E+01	0.00E+00	1.70E+01
			Co-60	<1.53E+01	0.00E+00	1.53E+01
			Zn-65	<3.08E+01	0.00E+00	3.08E+01
			Nb-95	<1.09E+01	0.00E+00	1.09E+01
			I-131	<1.16E+01	0.00E+00	1.16E+01
			Cs-134	<9.44E+00	0.00E+00	9.44E+00
			Cs-137	<1.44E+01	0.00E+00	1.44E+01
			Be-7	<9.30E+01	0.00E+00	9.30E+01
			K-40	3.05E+03	1.72E+02	1.03E+02
			Ag-110M	<1.08E+01	0.00E+00	1.08E+01
			Sb-122	<1.24E+01	0.00E+00	1.24E+01
			Sb-125	<2.34E+01	0.00E+00	2.34E+01
Sample ID:	269602	Sample Dates: 10/7/2013 - 10/7/2013	Nuclide	Activity	1 Sigma Error	LLD
			Mn-54	<6.28E+00	0.00E+00	6.28E+00
			Co-58	<6.94E+00	0.00E+00	6.94E+00
			Fe-59	<1.56E+01	0.00E+00	1.56E+01
			Co-60	<6.69E+00	0.00E+00	6.69E+00
			Zn-65	<1.21E+01	0.00E+00	1.21E+01
			Nb-95	<7.67E+00	0.00E+00	7.67E+00
			I-131	<1.87E+01	0.00E+00	1.87E+01
			Cs-134	<5.50E+00	0.00E+00	5.50E+00
			Cs-137	<6.15E+00	0.00E+00	6.15E+00
			Be-7	<5.22E+01	0.00E+00	5.22E+01
			K-40	3.29E+03	9.38E+01	5.21E+01
			Ag-110M	<5.68E+00	0.00E+00	5.68E+00
			Sb-122	<3.02E+02	0.00E+00	3.02E+02

Media Type: FISH_FORAGER Concentration (Activity): pCi/kg
Sample Point 216 [CONTROL - NNE @ 4.19 miles]

Sample ID:	269602	Sample Dates: 10/7/2013 - 10/7/2013	Nuclide	Activity	1 Sigma Error	LLD
			Sb-125	<1.40E+01	0.00E+00	1.40E+01

Media Type: FISH_PREDATOR Concentration (Activity): pCi/kg
Sample Point 208 [INDICATOR - S @ 0.45 miles]

Sample ID:	255052	Sample Dates: 4/8/2013 - 4/8/2013	Nuclide	Activity	1 Sigma Error	LLD
			Mn-54	<2.05E+01	0.00E+00	2.05E+01
			Co-58	<2.09E+01	0.00E+00	2.09E+01
			Fe-59	<4.24E+01	0.00E+00	4.24E+01
			Co-60	<2.36E+01	0.00E+00	2.36E+01
			Zn-65	<4.28E+01	0.00E+00	4.28E+01
			Nb-95	<2.03E+01	0.00E+00	2.03E+01
			I-131	<1.80E+01	0.00E+00	1.80E+01
			Cs-134	<1.80E+01	0.00E+00	1.80E+01
			Cs-137	<2.07E+01	0.00E+00	2.07E+01
			Be-7	<1.48E+02	0.00E+00	1.48E+02
			K-40	5.63E+03	3.02E+02	1.73E+02
			Ag-110M	<1.74E+01	0.00E+00	1.74E+01
			Sb-122	<3.29E+01	0.00E+00	3.29E+01
			Sb-125	<4.91E+01	0.00E+00	4.91E+01
Sample ID:	269603	Sample Dates: 10/7/2013 - 10/7/2013	Nuclide	Activity	1 Sigma Error	LLD
			Mn-54	<1.18E+01	0.00E+00	1.18E+01
			Co-58	<1.36E+01	0.00E+00	1.36E+01
			Fe-59	<2.70E+01	0.00E+00	2.70E+01
			Co-60	<1.94E+01	0.00E+00	1.94E+01
			Zn-65	<3.61E+01	0.00E+00	3.61E+01
			Nb-95	<1.43E+01	0.00E+00	1.43E+01
			I-131	<1.62E+01	0.00E+00	1.62E+01
			Cs-134	<1.56E+01	0.00E+00	1.56E+01
			Cs-137	<1.58E+01	0.00E+00	1.58E+01
			Be-7	<1.05E+02	0.00E+00	1.05E+02
			K-40	2.40E+03	1.61E+02	1.27E+02
			Ag-110M	<1.32E+01	0.00E+00	1.32E+01
			Sb-122	<2.35E+01	0.00E+00	2.35E+01
			Sb-125	<4.18E+01	0.00E+00	4.18E+01

Sample Point 216 [CONTROL - NNE @ 4.19 miles]

Sample ID:	255053	Sample Dates: 4/8/2013 - 4/8/2013	Nuclide	Activity	1 Sigma Error	LLD
			Mn-54	<8.73E+00	0.00E+00	8.73E+00
			Co-58	<1.22E+01	0.00E+00	1.22E+01
			Fe-59	<2.21E+01	0.00E+00	2.21E+01
			Co-60	<1.72E+01	0.00E+00	1.72E+01
			Zn-65	<3.17E+01	0.00E+00	3.17E+01
			Nb-95	<1.36E+01	0.00E+00	1.36E+01
			I-131	<1.07E+01	0.00E+00	1.07E+01
			Cs-134	<1.12E+01	0.00E+00	1.12E+01
			Cs-137	<1.47E+01	0.00E+00	1.47E+01
			Be-7	<8.75E+01	0.00E+00	8.75E+01
			K-40	3.10E+03	1.60E+02	1.15E+02
			Ag-110M	<1.01E+01	0.00E+00	1.01E+01
			Sb-122	<1.83E+01	0.00E+00	1.83E+01
			Sb-125	<2.46E+01	0.00E+00	2.46E+01
Sample ID:	269604	Sample Dates: 10/7/2013 - 10/7/2013	Nuclide	Activity	1 Sigma Error	LLD
			Mn-54	<1.49E+01	0.00E+00	1.49E+01
			Co-58	<1.62E+01	0.00E+00	1.62E+01
			Fe-59	<2.71E+01	0.00E+00	2.71E+01
			Co-60	<2.55E+01	0.00E+00	2.55E+01
			Zn-65	<4.43E+01	0.00E+00	4.43E+01
			Nb-95	<1.91E+01	0.00E+00	1.91E+01
			I-131	<1.19E+01	0.00E+00	1.19E+01
			Cs-134	<1.21E+01	0.00E+00	1.21E+01
			Cs-137	<7.24E+00	0.00E+00	7.24E+00
			Be-7	<1.39E+02	0.00E+00	1.39E+02
			K-40	2.60E+03	2.01E+02	1.71E+02
			Ag-110M	<1.49E+01	0.00E+00	1.49E+01
			Sb-122	<3.41E+01	0.00E+00	3.41E+01

Media Type: FISH_PREDATOR Concentration (Activity): pCi/kg
Sample Point 216 [CONTROL - NNE @ 4.19 miles]

Sample ID:	269604	Sample Dates: 10/7/2013 - 10/7/2013	Nuclide	Activity	1 Sigma Error	LLD
			Sb-125	<3.29E+01	0.00E+00	3.29E+01

Media Type: GROUND WATER Concentration (Activity): pCi/l
Sample Point 254 [INDICATOR - N @ 0.82 miles]

Sample ID:	250623	Sample Dates: 3/5/2013 - 3/5/2013	Nuclide	Activity	1 Sigma Error	LLD
			Mn-54	<7.64E+00	0.00E+00	7.64E+00
			Co-58	<7.64E+00	0.00E+00	7.64E+00
			Fe-59	<1.39E+01	0.00E+00	1.39E+01
			Co-60	<7.90E+00	0.00E+00	7.90E+00
			Zn-65	<1.56E+01	0.00E+00	1.56E+01
			Zr-95	<1.35E+01	0.00E+00	1.35E+01
			Nb-95	<8.53E+00	0.00E+00	8.53E+00
			I-131	<8.80E+00	0.00E+00	8.80E+00
			Cs-134	<7.41E+00	0.00E+00	7.41E+00
			Cs-137	<7.41E+00	0.00E+00	7.41E+00
			BaLa-140	<1.05E+01	0.00E+00	1.05E+01
			Be-7	<6.03E+01	0.00E+00	6.03E+01
			K-40	2.19E+02	4.18E+01	6.68E+01
			H3GW	<4.51E+00	0.00E+00	1.69E+02
Sample ID:	269855	Sample Dates: 9/17/2013 - 9/17/2013	Nuclide	Activity	1 Sigma Error	LLD
			Mn-54	<7.26E+00	0.00E+00	7.26E+00
			Co-58	<7.28E+00	0.00E+00	7.28E+00
			Fe-59	<1.41E+01	0.00E+00	1.41E+01
			Co-60	<9.15E+00	0.00E+00	9.15E+00
			Zn-65	<1.73E+01	0.00E+00	1.73E+01
			Zr-95	<1.43E+01	0.00E+00	1.43E+01
			Nb-95	<8.81E+00	0.00E+00	8.81E+00
			I-131	<8.22E+00	0.00E+00	8.22E+00
			Cs-134	<7.43E+00	0.00E+00	7.43E+00
			Cs-137	<7.33E+00	0.00E+00	7.33E+00
			BaLa-140	<1.04E+01	0.00E+00	1.04E+01
			Be-7	<6.22E+01	0.00E+00	6.22E+01
			K-40	1.02E+02	4.76E+01	8.85E+01
			H3GW	<-3.8E+01	0.00E+00	1.54E+02
Sample ID:	279121	Sample Dates: 12/10/2013 - 12/10/2013	Nuclide	Activity	1 Sigma Error	LLD
			Mn-54	<6.49E+00	0.00E+00	6.49E+00
			Co-58	<6.47E+00	0.00E+00	6.47E+00
			Fe-59	<1.18E+01	0.00E+00	1.18E+01
			Co-60	<9.99E+00	0.00E+00	9.99E+00
			Zn-65	<1.88E+01	0.00E+00	1.88E+01
			Zr-95	<1.43E+01	0.00E+00	1.43E+01
			Nb-95	<7.29E+00	0.00E+00	7.29E+00
			I-131	<1.16E+01	0.00E+00	1.16E+01
			Cs-134	<5.76E+00	0.00E+00	5.76E+00
			Cs-137	<6.61E+00	0.00E+00	6.61E+00
			BaLa-140	<7.00E+00	0.00E+00	7.00E+00
			Be-7	<6.38E+01	0.00E+00	6.38E+01
			K-40	2.94E+02	4.45E+01	3.98E+01
			H3GW	<2.37E+01	0.00E+00	2.31E+02

Media Type: MILK Concentration (Activity): pCi/l
Sample Point 221 [CONTROL - NW @ 14.5 miles]

Sample ID:	250462	Sample Dates: 1/2/2013 - 1/2/2013	Nuclide	Activity	1 Sigma Error	LLD
			Be-7	<4.13E+00	0.00E+00	4.13E+00
			K-40	2.44E+01	4.22E+00	7.81E+00
			LLI-131	<5.98E-01	0.00E+00	5.98E-01
			I-131	<7.22E+00	0.00E+00	7.22E+00
			Cs-134	<6.98E+00	0.00E+00	6.98E+00
			Cs-137	<9.54E+00	0.00E+00	9.54E+00
			BaLa-140	<2.71E+00	0.00E+00	2.71E+00
			Be-7	<5.95E+01	0.00E+00	5.95E+01
			K-40	1.84E+03	1.36E+02	1.11E+02
Sample ID:	250761	Sample Dates: 1/15/2013 - 1/15/2013	Nuclide	Activity	1 Sigma Error	LLD
			Be-7	<5.00E+00	0.00E+00	5.00E+00

Media Type: MILK Concentration (Activity): pCi/l

Sample Point 221 [CONTROL - NW @ 14.5 miles]

Sample ID:	250761	Sample Dates: 1/15/2013 - 1/15/2013	Nuclide	Activity	1 Sigma Error	LLD
			K-40	4.29E+01	5.35E+00	6.70E+00
			LLI-131	<6.46E-01	0.00E+00	6.46E-01
			I-131	<8.14E+00	0.00E+00	8.14E+00
			Cs-134	<7.81E+00	0.00E+00	7.81E+00
			Cs-137	<8.26E+00	0.00E+00	8.26E+00
			BaLa-140	<1.30E+01	0.00E+00	1.30E+01
			Be-7	<6.41E+01	0.00E+00	6.41E+01
			K-40	1.80E+03	1.20E+02	1.07E+02
Sample ID:	251295	Sample Dates: 1/29/2013 - 1/29/2013	Nuclide	Activity	1 Sigma Error	LLD
			Be-7	<7.09E+00	0.00E+00	7.09E+00
			K-40	9.02E+00	4.66E+00	1.24E+01
			LLI-131	<6.42E-01	0.00E+00	6.42E-01
			I-131	<6.73E+00	0.00E+00	6.73E+00
			Cs-134	<7.33E+00	0.00E+00	7.33E+00
			Cs-137	<1.10E+01	0.00E+00	1.10E+01
			BaLa-140	<9.86E+00	0.00E+00	9.86E+00
			Be-7	<5.47E+01	0.00E+00	5.47E+01
			K-40	1.67E+03	1.17E+02	8.01E+01
Sample ID:	252109	Sample Dates: 2/12/2013 - 2/12/2013	Nuclide	Activity	1 Sigma Error	LLD
			Be-7	<5.22E+00	0.00E+00	5.22E+00
			K-40	4.97E+01	4.70E+00	7.29E+00
			LLI-131	<6.17E-01	0.00E+00	6.17E-01
			I-131	<9.18E+00	0.00E+00	9.18E+00
			Cs-134	<8.01E+00	0.00E+00	8.01E+00
			Cs-137	<9.29E+00	0.00E+00	9.29E+00
			BaLa-140	<4.99E+00	0.00E+00	4.99E+00
			Be-7	<7.96E+01	0.00E+00	7.96E+01
			K-40	1.58E+03	1.14E+02	1.06E+02
Sample ID:	253118	Sample Dates: 2/26/2013 - 2/26/2013	Nuclide	Activity	1 Sigma Error	LLD
			Be-7	<4.36E+00	0.00E+00	4.36E+00
			K-40	2.25E+00	3.14E+00	4.47E+00
			LLI-131	<6.31E-01	0.00E+00	6.31E-01
			I-131	<7.90E+00	0.00E+00	7.90E+00
			Cs-134	<8.20E+00	0.00E+00	8.20E+00
			Cs-137	<1.12E+01	0.00E+00	1.12E+01
			BaLa-140	<7.64E+00	0.00E+00	7.64E+00
			Be-7	<7.34E+01	0.00E+00	7.34E+01
			K-40	1.48E+03	1.23E+02	1.04E+02
Sample ID:	254243	Sample Dates: 3/12/2013 - 3/12/2013	Nuclide	Activity	1 Sigma Error	LLD
			Be-7	<5.04E+00	0.00E+00	5.04E+00
			K-40	1.79E+01	3.97E+00	1.02E+01
			LLI-131	<6.09E-01	0.00E+00	6.09E-01
			I-131	<7.08E+00	0.00E+00	7.08E+00
			Cs-134	<5.58E+00	0.00E+00	5.58E+00
			Cs-137	<9.09E+00	0.00E+00	9.09E+00
			BaLa-140	<8.79E+00	0.00E+00	8.79E+00
			Be-7	<5.80E+01	0.00E+00	5.80E+01
			K-40	1.60E+03	1.11E+02	6.90E+01
Sample ID:	255339	Sample Dates: 3/26/2013 - 3/26/2013	Nuclide	Activity	1 Sigma Error	LLD
			Be-7	<4.30E+00	0.00E+00	4.30E+00
			K-40	1.76E+01	4.53E+00	8.74E+00
			LLI-131	<6.48E-01	0.00E+00	6.48E-01
			I-131	<6.43E+00	0.00E+00	6.43E+00
			Cs-134	<7.40E+00	0.00E+00	7.40E+00
			Cs-137	<6.67E+00	0.00E+00	6.67E+00
			BaLa-140	<4.26E+00	0.00E+00	4.26E+00
			Be-7	<5.55E+01	0.00E+00	5.55E+01
			K-40	1.63E+03	1.17E+02	9.91E+01
Sample ID:	256096	Sample Dates: 4/9/2013 - 4/9/2013	Nuclide	Activity	1 Sigma Error	LLD
			Be-7	<4.45E+00	0.00E+00	4.45E+00
			K-40	2.07E+01	4.78E+00	7.89E+00
			LLI-131	<6.10E-01	0.00E+00	6.10E-01

CATAWBA Radiological Environmental Monitoring Analysis Report - 2013 (Appendix E)

Media Type: MILK Concentration (Activity): pCi/l

Sample Point 221 [CONTROL - NW @ 14.5 miles]

Sample ID:	256656	Sample Dates: 4/23/2013 - 4/23/2013	Nuclide	Activity	1 Sigma Error	LLD
			Be-7	<5.24E+00	0.00E+00	5.24E+00
			K-40	1.18E+01	4.53E+00	6.12E+00
			LLI-131	<6.10E-01	0.00E+00	6.10E-01
			I-131	<6.00E+00	0.00E+00	6.00E+00
			Cs-134	<4.54E+00	0.00E+00	4.54E+00
			Cs-137	<5.57E+00	0.00E+00	5.57E+00
			BaLa-140	<3.89E+00	0.00E+00	3.89E+00
			Be-7	<4.61E+01	0.00E+00	4.61E+01
			K-40	1.87E+03	8.80E+01	5.22E+01
Sample ID:	257335	Sample Dates: 5/7/2013 - 5/7/2013	Nuclide	Activity	1 Sigma Error	LLD
			Be-7	<5.33E+00	0.00E+00	5.33E+00
			K-40	4.27E+01	5.15E+00	7.77E+00
			LLI-131	<6.45E-01	0.00E+00	6.45E-01
			I-131	<5.57E+00	0.00E+00	5.57E+00
			Cs-134	<5.52E+00	0.00E+00	5.52E+00
			Cs-137	<6.14E+00	0.00E+00	6.14E+00
			BaLa-140	<6.93E+00	0.00E+00	6.93E+00
			Be-7	<4.06E+01	0.00E+00	4.06E+01
			K-40	1.78E+03	8.80E+01	5.19E+01
Sample ID:	258026	Sample Dates: 5/21/2013 - 5/21/2013	Nuclide	Activity	1 Sigma Error	LLD
			Be-7	<4.52E+00	0.00E+00	4.52E+00
			K-40	4.74E+01	4.54E+00	4.18E+00
			LLI-131	<6.50E-01	0.00E+00	6.50E-01
			I-131	<5.20E+00	0.00E+00	5.20E+00
			Cs-134	<4.84E+00	0.00E+00	4.84E+00
			Cs-137	<5.66E+00	0.00E+00	5.66E+00
			BaLa-140	<5.98E+00	0.00E+00	5.98E+00
			Be-7	<4.28E+01	0.00E+00	4.28E+01
			K-40	1.46E+03	8.70E+01	5.65E+01
Sample ID:	258608	Sample Dates: 6/4/2013 - 6/4/2013	Nuclide	Activity	1 Sigma Error	LLD
			Be-7	<5.05E+00	0.00E+00	5.05E+00
			K-40	5.43E+01	5.47E+00	6.42E+00
			LLI-131	<6.47E-01	0.00E+00	6.47E-01
			I-131	<4.98E+00	0.00E+00	4.98E+00
			Cs-134	<4.59E+00	0.00E+00	4.59E+00
			Cs-137	<6.33E+00	0.00E+00	6.33E+00
			BaLa-140	<6.17E+00	0.00E+00	6.17E+00
			Be-7	<3.76E+01	0.00E+00	3.76E+01
			K-40	1.81E+03	8.90E+01	4.54E+01
Sample ID:	259629	Sample Dates: 6/18/2013 - 6/18/2013	Nuclide	Activity	1 Sigma Error	LLD
			Be-7	<4.58E+00	0.00E+00	4.58E+00
			K-40	2.31E+01	4.42E+00	7.44E+00
			LLI-131	<5.78E-01	0.00E+00	5.78E-01
			I-131	<3.76E+00	0.00E+00	3.76E+00
			Cs-134	<3.13E+00	0.00E+00	3.13E+00
			Cs-137	<3.98E+00	0.00E+00	3.98E+00
			BaLa-140	<4.41E+00	0.00E+00	4.41E+00
			Be-7	<3.21E+01	0.00E+00	3.21E+01
			K-40	1.66E+03	6.26E+01	3.27E+01
Sample ID:	260750	Sample Dates: 7/2/2013 - 7/2/2013	Nuclide	Activity	1 Sigma Error	LLD
			Be-7	<5.59E+00	0.00E+00	5.59E+00
			K-40	2.31E+01	4.81E+00	7.98E+00
			LLI-131	<6.43E-01	0.00E+00	6.43E-01
			I-131	<5.49E+00	0.00E+00	5.49E+00
			Cs-134	<5.38E+00	0.00E+00	5.38E+00
			Cs-137	<5.97E+00	0.00E+00	5.97E+00
			BaLa-140	<4.53E+00	0.00E+00	4.53E+00
			Be-7	<3.95E+01	0.00E+00	3.95E+01
			K-40	1.79E+03	9.10E+01	6.46E+01
Sample ID:	262199	Sample Dates: 7/16/2013 - 7/16/2013	Nuclide	Activity	1 Sigma Error	LLD
			Be-7	<5.25E+00	0.00E+00	5.25E+00
			K-40	1.48E+01	4.90E+00	8.71E+00
			LLI-131	<6.37E-01	0.00E+00	6.37E-01
			I-131	<4.78E+00	0.00E+00	4.78E+00

CATAWBA Radiological Environmental Monitoring Analysis Report - 2013 (Appendix E)

Media Type: MILK Concentration (Activity): pCi/l

Sample Point 221 [CONTROL - NW @ 14.5 miles]

Sample ID: 262199 **Sample Dates: 7/16/2013 - 7/16/2013**

Nuclide	Activity	1 Sigma Error	LLD
Cs-134	<5.30E+00	0.00E+00	5.30E+00
Cs-137	<7.45E+00	0.00E+00	7.45E+00
BaLa-140	<7.33E+00	0.00E+00	7.33E+00
Be-7	<4.55E+01	0.00E+00	4.55E+01
K-40	1.82E+03	9.29E+01	5.71E+01

Sample ID: 263432 **Sample Dates: 7/30/2013 - 7/30/2013**

Nuclide	Activity	1 Sigma Error	LLD
Be-7	<4.89E+00	0.00E+00	4.89E+00
K-40	2.97E+01	5.14E+00	9.47E+00
LLI-131	<6.49E-01	0.00E+00	6.49E-01
I-131	<5.33E+00	0.00E+00	5.33E+00
Cs-134	<5.63E+00	0.00E+00	5.63E+00
Cs-137	<6.97E+00	0.00E+00	6.97E+00
BaLa-140	<6.00E+00	0.00E+00	6.00E+00
Be-7	<4.36E+01	0.00E+00	4.36E+01
K-40	1.86E+03	8.94E+01	4.48E+01

Sample ID: 265221 **Sample Dates: 8/13/2013 - 8/13/2013**

Nuclide	Activity	1 Sigma Error	LLD
Be-7	<3.62E+00	0.00E+00	3.62E+00
K-40	1.74E+01	3.26E+00	5.69E+00
LLI-131	<5.91E-01	0.00E+00	5.91E-01
I-131	<6.45E+00	0.00E+00	6.45E+00
Cs-134	<5.51E+00	0.00E+00	5.51E+00
Cs-137	<7.29E+00	0.00E+00	7.29E+00
BaLa-140	<5.29E+00	0.00E+00	5.29E+00
Be-7	<4.19E+01	0.00E+00	4.19E+01
K-40	1.82E+03	8.40E+01	1.05E+01

Sample ID: 267216 **Sample Dates: 8/27/2013 - 8/27/2013**

Nuclide	Activity	1 Sigma Error	LLD
Be-7	<4.18E+00	0.00E+00	4.18E+00
K-40	1.17E+01	4.44E+00	6.55E+00
LLI-131	<5.81E-01	0.00E+00	5.81E-01
I-131	<5.25E+00	0.00E+00	5.25E+00
Cs-134	<7.37E+00	0.00E+00	7.37E+00
Cs-137	<1.04E+01	0.00E+00	1.04E+01
BaLa-140	<1.11E+01	0.00E+00	1.11E+01
Be-7	<6.16E+01	0.00E+00	6.16E+01
K-40	1.60E+03	1.10E+02	7.07E+01

Sample ID: 268526 **Sample Dates: 9/10/2013 - 9/10/2013**

Nuclide	Activity	1 Sigma Error	LLD
Be-7	<4.45E+00	0.00E+00	4.45E+00
K-40	1.35E+01	3.90E+00	7.08E+00
LLI-131	<6.35E-01	0.00E+00	6.35E-01
I-131	<7.03E+00	0.00E+00	7.03E+00
Cs-134	<3.22E+00	0.00E+00	3.22E+00
Cs-137	<3.94E+00	0.00E+00	3.94E+00
BaLa-140	<5.28E+00	0.00E+00	5.28E+00
Be-7	<2.80E+01	0.00E+00	2.80E+01
K-40	1.40E+03	5.73E+01	3.87E+01

Sample ID: 270805 **Sample Dates: 9/24/2013 - 9/24/2013**

Nuclide	Activity	1 Sigma Error	LLD
Be-7	<4.35E+00	0.00E+00	4.35E+00
K-40	2.46E+01	3.45E+00	4.23E+00
LLI-131	<5.68E-01	0.00E+00	5.68E-01
I-131	<4.73E+00	0.00E+00	4.73E+00
Cs-134	<5.21E+00	0.00E+00	5.21E+00
Cs-137	<5.78E+00	0.00E+00	5.78E+00
BaLa-140	<6.92E+00	0.00E+00	6.92E+00
Be-7	<4.50E+01	0.00E+00	4.50E+01
K-40	1.56E+03	8.43E+01	5.56E+01

Sample ID: 272123 **Sample Dates: 10/8/2013 - 10/8/2013**

Nuclide	Activity	1 Sigma Error	LLD
Be-7	<4.40E+00	0.00E+00	4.40E+00
K-40	5.64E+01	4.73E+00	6.43E+00
LLI-131	<6.30E-01	0.00E+00	6.30E-01
I-131	<8.77E+00	0.00E+00	8.77E+00
Cs-134	<9.98E+00	0.00E+00	9.98E+00
Cs-137	<9.74E+00	0.00E+00	9.74E+00
BaLa-140	<2.90E+00	0.00E+00	2.90E+00
Be-7	<7.98E+01	0.00E+00	7.98E+01

Media Type: MILK Concentration (Activity): pCi/l

Sample Point 221 [CONTROL - NW @ 14.5 miles]

Sample ID:	272123	Sample Dates: 10/8/2013 - 10/8/2013	Nuclide	Activity	1 Sigma Error	LLD
			K-40	1.39E+03	1.11E+02	9.14E+01
Sample ID:	272906	Sample Dates: 10/22/2013 - 10/22/2013	Nuclide	Activity	1 Sigma Error	LLD
			Be-7	<3.75E+00	0.00E+00	3.75E+00
			K-40	4.20E+01	4.67E+00	6.11E+00
			LLI-131	<5.42E-01	0.00E+00	5.42E-01
			I-131	<6.24E+00	0.00E+00	6.24E+00
			Cs-134	<5.90E+00	0.00E+00	5.90E+00
			Cs-137	<7.69E+00	0.00E+00	7.69E+00
			BaLa-140	<9.23E+00	0.00E+00	9.23E+00
			Be-7	<5.29E+01	0.00E+00	5.29E+01
			K-40	1.73E+03	8.47E+01	5.15E+01
Sample ID:	274444	Sample Dates: 11/5/2013 - 11/5/2013	Nuclide	Activity	1 Sigma Error	LLD
			Be-7	<4.95E+00	0.00E+00	4.95E+00
			K-40	5.61E+01	5.82E+00	7.61E+00
			LLI-131	<6.35E-01	0.00E+00	6.35E-01
			I-131	<5.59E+00	0.00E+00	5.59E+00
			Cs-134	<5.62E+00	0.00E+00	5.62E+00
			Cs-137	<7.16E+00	0.00E+00	7.16E+00
			BaLa-140	<5.61E+00	0.00E+00	5.61E+00
			Be-7	<4.41E+01	0.00E+00	4.41E+01
			K-40	1.45E+03	7.92E+01	3.97E+01
Sample ID:	276512	Sample Dates: 11/19/2013 - 11/19/2013	Nuclide	Activity	1 Sigma Error	LLD
			Be-7	<4.41E+00	0.00E+00	4.41E+00
			K-40	5.30E+01	5.16E+00	6.24E+00
			LLI-131	<5.60E-01	0.00E+00	5.60E-01
			I-131	<9.01E+00	0.00E+00	9.01E+00
			Cs-134	<1.00E+01	0.00E+00	1.00E+01
			Cs-137	<1.01E+01	0.00E+00	1.01E+01
			BaLa-140	<8.98E+00	0.00E+00	8.98E+00
			Be-7	<7.49E+01	0.00E+00	7.49E+01
			K-40	1.50E+03	1.22E+02	1.12E+02
Sample ID:	278816	Sample Dates: 12/3/2013 - 12/3/2013	Nuclide	Activity	1 Sigma Error	LLD
			Be-7	<2.99E+00	0.00E+00	2.99E+00
			K-40	2.04E+01	3.29E+00	3.96E+00
			LLI-131	<6.15E-01	0.00E+00	6.15E-01
			I-131	<9.23E+00	0.00E+00	9.23E+00
			Cs-134	<9.59E+00	0.00E+00	9.59E+00
			Cs-137	<8.89E+00	0.00E+00	8.89E+00
			BaLa-140	<6.38E+00	0.00E+00	6.38E+00
			Be-7	<5.20E+01	0.00E+00	5.20E+01
			K-40	1.48E+03	1.29E+02	1.12E+02
Sample ID:	279664	Sample Dates: 12/17/2013 - 12/17/2013	Nuclide	Activity	1 Sigma Error	LLD
			Be-7	<4.32E+00	0.00E+00	4.32E+00
			K-40	4.03E+01	4.62E+00	7.12E+00
			LLI-131	<6.13E-01	0.00E+00	6.13E-01
			I-131	<8.52E+00	0.00E+00	8.52E+00
			Cs-134	<9.58E+00	0.00E+00	9.58E+00
			Cs-137	<1.04E+01	0.00E+00	1.04E+01
			BaLa-140	<7.91E+00	0.00E+00	7.91E+00
			Be-7	<6.16E+01	0.00E+00	6.16E+01
			K-40	1.49E+03	1.18E+02	7.93E+01
Sample ID:	280691	Sample Dates: 12/31/2013 - 12/31/2013	Nuclide	Activity	1 Sigma Error	LLD
			Be-7	<3.16E+00	0.00E+00	3.16E+00
			K-40	1.02E+01	2.13E+00	3.90E+00
			LLI-131	<5.98E-01	0.00E+00	5.98E-01
			I-131	<7.46E+00	0.00E+00	7.46E+00
			Cs-134	<6.15E+00	0.00E+00	6.15E+00
			Cs-137	<7.11E+00	0.00E+00	7.11E+00
			BaLa-140	<7.00E+00	0.00E+00	7.00E+00
			Be-7	<4.09E+01	0.00E+00	4.09E+01
			K-40	1.68E+03	8.42E+01	6.16E+01

Media Type: SEDIMENT_SHORE Concentration (Activity): pCi/kg

Sample Point 208 [INDICATOR - S @ 0.45 miles]

Sample ID:	255063	Sample Dates: 4/16/2013 - 4/16/2013	Nuclide	Activity	1 Sigma Error	LLD
			Mn-54	<2.56E+01	0.00E+00	2.56E+01
			Co-58	<2.47E+01	0.00E+00	2.47E+01
			Fe-59	<5.53E+01	0.00E+00	5.53E+01
			Co-60	<3.54E+01	0.00E+00	3.54E+01
			Zn-65	<6.10E+01	0.00E+00	6.10E+01
			Zr-95	<3.91E+01	0.00E+00	3.91E+01
			Nb-95	<2.04E+01	0.00E+00	2.04E+01
			I-131	<1.90E+01	0.00E+00	1.90E+01
			Cs-134	<2.04E+01	0.00E+00	2.04E+01
			Cs-137	<2.55E+01	0.00E+00	2.55E+01
			Be-7	2.34E+02	8.93E+01	1.52E+02
			K-40	1.36E+04	4.52E+02	2.05E+02
			Co-57	<1.36E+01	0.00E+00	1.36E+01
			Mo-99	<2.09E+02	0.00E+00	2.09E+02
			Ag-110M	<1.85E+01	0.00E+00	1.85E+01
			Sb-122	<3.29E+01	0.00E+00	3.29E+01
			Sb-125	<4.87E+01	0.00E+00	4.87E+01
Sample ID:	269614	Sample Dates: 10/22/2013 - 10/22/2013	Nuclide	Activity	1 Sigma Error	LLD
			Mn-54	<2.46E+01	0.00E+00	2.46E+01
			Co-58	<2.55E+01	0.00E+00	2.55E+01
			Fe-59	<5.51E+01	0.00E+00	5.51E+01
			Co-60	<3.83E+01	0.00E+00	3.83E+01
			Zn-65	<6.08E+01	0.00E+00	6.08E+01
			Zr-95	<3.62E+01	0.00E+00	3.62E+01
			Nb-95	<2.50E+01	0.00E+00	2.50E+01
			I-131	<2.80E+01	0.00E+00	2.80E+01
			Cs-134	<1.96E+01	0.00E+00	1.96E+01
			Cs-137	<2.64E+01	0.00E+00	2.64E+01
			Be-7	2.21E+02	8.29E+01	1.44E+02
			K-40	1.44E+04	4.49E+02	2.00E+02
			Co-57	<1.33E+01	0.00E+00	1.33E+01
			Mo-99	<7.26E+02	0.00E+00	7.26E+02
			Ag-110M	<2.10E+01	0.00E+00	2.10E+01
			Sb-122	<1.11E+02	0.00E+00	1.11E+02
			Sb-125	<5.65E+01	0.00E+00	5.65E+01

Sample Point 210 [INDICATOR - SE @ 2.31 miles]

Sample ID:	255064	Sample Dates: 4/16/2013 - 4/16/2013	Nuclide	Activity	1 Sigma Error	LLD
			Mn-54	<1.34E+01	0.00E+00	1.34E+01
			Co-58	<1.25E+01	0.00E+00	1.25E+01
			Fe-59	<2.71E+01	0.00E+00	2.71E+01
			Co-60	<1.76E+01	0.00E+00	1.76E+01
			Zn-65	<3.35E+01	0.00E+00	3.35E+01
			Zr-95	<1.94E+01	0.00E+00	1.94E+01
			Nb-95	<1.26E+01	0.00E+00	1.26E+01
			I-131	<1.16E+01	0.00E+00	1.16E+01
			Cs-134	<1.04E+01	0.00E+00	1.04E+01
			Cs-137	<1.25E+01	0.00E+00	1.25E+01
			Be-7	1.28E+02	3.32E+01	7.96E+01
			K-40	8.87E+03	2.69E+02	1.10E+02
			Co-57	<8.76E+00	0.00E+00	8.76E+00
			Mo-99	<1.15E+02	0.00E+00	1.15E+02
			Ag-110M	<1.21E+01	0.00E+00	1.21E+01
			Sb-122	<1.85E+01	0.00E+00	1.85E+01
			Sb-125	<2.93E+01	0.00E+00	2.93E+01
Sample ID:	269615	Sample Dates: 10/22/2013 - 10/22/2013	Nuclide	Activity	1 Sigma Error	LLD
			Mn-54	<1.84E+01	0.00E+00	1.84E+01
			Co-58	<1.79E+01	0.00E+00	1.79E+01
			Fe-59	<3.95E+01	0.00E+00	3.95E+01
			Co-60	<2.26E+01	0.00E+00	2.26E+01
			Zn-65	<4.93E+01	0.00E+00	4.93E+01
			Zr-95	<3.06E+01	0.00E+00	3.06E+01
			Nb-95	<1.83E+01	0.00E+00	1.83E+01
			I-131	<2.58E+01	0.00E+00	2.58E+01
			Cs-134	<1.67E+01	0.00E+00	1.67E+01
			Cs-137	<1.85E+01	0.00E+00	1.85E+01

Media Type: SEDIMENT_SHORE Concentration (Activity): pCi/kg

Sample Point 210 [INDICATOR - SE @ 2.31 miles]

Sample ID:	269615	Sample Dates: 10/22/2013 - 10/22/2013	Nuclide	Activity	1 Sigma Error	LLD
			Be-7	<1.63E+02	0.00E+00	1.63E+02
			K-40	8.11E+03	3.28E+02	2.02E+02
			Co-57	<1.53E+01	0.00E+00	1.53E+01
			Mo-99	<5.53E+02	0.00E+00	5.53E+02
			Ag-110M	<1.64E+01	0.00E+00	1.64E+01
			Sb-122	<1.07E+02	0.00E+00	1.07E+02
			Sb-125	<4.14E+01	0.00E+00	4.14E+01

Sample Point 215 [CONTROL - NNE @ 4.21 miles]

Sample ID:	255065	Sample Dates: 4/16/2013 - 4/16/2013	Nuclide	Activity	1 Sigma Error	LLD
			Mn-54	<2.66E+01	0.00E+00	2.66E+01
			Co-58	<2.26E+01	0.00E+00	2.26E+01
			Fe-59	<6.34E+01	0.00E+00	6.34E+01
			Co-60	<3.04E+01	0.00E+00	3.04E+01
			Zn-65	<7.07E+01	0.00E+00	7.07E+01
			Zr-95	<3.73E+01	0.00E+00	3.73E+01
			Nb-95	<2.87E+01	0.00E+00	2.87E+01
			I-131	<3.08E+01	0.00E+00	3.08E+01
			Cs-134	<1.92E+01	0.00E+00	1.92E+01
			Cs-137	<2.40E+01	0.00E+00	2.40E+01
			Be-7	1.84E+02	6.77E+01	1.92E+02
			K-40	1.85E+04	5.11E+02	2.61E+02
			Co-57	<1.57E+01	0.00E+00	1.57E+01
			Mo-99	<8.28E+02	0.00E+00	8.28E+02
			Ag-110M	<2.22E+01	0.00E+00	2.22E+01
			Sb-122	<1.48E+02	0.00E+00	1.48E+02
			Sb-125	<5.36E+01	0.00E+00	5.36E+01
Sample ID:	269616	Sample Dates: 10/22/2013 - 10/22/2013	Nuclide	Activity	1 Sigma Error	LLD
			Mn-54	<1.36E+01	0.00E+00	1.36E+01
			Co-58	<1.44E+01	0.00E+00	1.44E+01
			Fe-59	<3.86E+01	0.00E+00	3.86E+01
			Co-60	<1.77E+01	0.00E+00	1.77E+01
			Zn-65	<3.96E+01	0.00E+00	3.96E+01
			Zr-95	<2.66E+01	0.00E+00	2.66E+01
			Nb-95	<1.76E+01	0.00E+00	1.76E+01
			I-131	<2.12E+01	0.00E+00	2.12E+01
			Cs-134	<1.24E+01	0.00E+00	1.24E+01
			Cs-137	<1.38E+01	0.00E+00	1.38E+01
			Be-7	<1.15E+02	0.00E+00	1.15E+02
			K-40	1.64E+04	3.13E+02	1.17E+02
			Co-57	<1.17E+01	0.00E+00	1.17E+01
			Mo-99	<4.74E+02	0.00E+00	4.74E+02
			Ag-110M	<1.36E+01	0.00E+00	1.36E+01
			Sb-122	<7.30E+01	0.00E+00	7.30E+01
			Sb-125	<3.50E+01	0.00E+00	3.50E+01

Media Type: SURFACE WATER Concentration (Activity): pCi/l

Sample Point 208 [INDICATOR - S @ 0.45 miles]

Sample ID:	250619	Sample Dates: 12/11/2012 - 1/8/2013	Nuclide	Activity	1 Sigma Error	LLD
			Mn-54	<2.37E+00	0.00E+00	2.37E+00
			Co-58	<2.41E+00	0.00E+00	2.41E+00
			Fe-59	<5.70E+00	0.00E+00	5.70E+00
			Co-60	<3.56E+00	0.00E+00	3.56E+00
			Zn-65	<4.74E+00	0.00E+00	4.74E+00
			Zr-95	<4.67E+00	0.00E+00	4.67E+00
			Nb-95	<2.98E+00	0.00E+00	2.98E+00
			I-131	<8.70E+00	0.00E+00	8.70E+00
			Cs-134	<2.32E+00	0.00E+00	2.32E+00
			Cs-137	<2.72E+00	0.00E+00	2.72E+00
			BaLa-140	<6.35E+00	0.00E+00	6.35E+00
			Be-7	<2.10E+01	0.00E+00	2.10E+01
			K-40	8.78E+01	1.16E+01	2.56E+01
Sample ID:	251670	Sample Dates: 1/8/2013 - 2/5/2013	Nuclide	Activity	1 Sigma Error	LLD
			Mn-54	<5.05E+00	0.00E+00	5.05E+00
			Co-58	<5.05E+00	0.00E+00	5.05E+00

CATAWBA Radiological Environmental Monitoring Analysis Report - 2013 (Appendix E)

Media Type: SURFACE WATER Concentration (Activity): pCi/l

Sample Point 208 [INDICATOR - S @ 0.45 miles]

Sample ID: 251670 **Sample Dates: 1/8/2013 - 2/5/2013**

Nuclide	Activity	1 Sigma Error	LLD
Fe-59	<1.18E+01	0.00E+00	1.18E+01
Co-60	<7.23E+00	0.00E+00	7.23E+00
Zn-65	<1.45E+01	0.00E+00	1.45E+01
Zr-95	<8.88E+00	0.00E+00	8.88E+00
Nb-95	<5.51E+00	0.00E+00	5.51E+00
I-131	<1.43E+01	0.00E+00	1.43E+01
Cs-134	<4.00E+00	0.00E+00	4.00E+00
Cs-137	<5.64E+00	0.00E+00	5.64E+00
BaLa-140	<1.22E+01	0.00E+00	1.22E+01
Be-7	<4.20E+01	0.00E+00	4.20E+01
K-40	6.20E+01	1.90E+01	5.45E+01

Sample ID: 253086 **Sample Dates: 12/11/2012 - 3/5/2013**

Nuclide	Activity	1 Sigma Error	LLD
H3SW	5.18E+03	1.11E+02	1.64E+02

Sample ID: 253941 **Sample Dates: 2/5/2013 - 3/5/2013**

Nuclide	Activity	1 Sigma Error	LLD
Mn-54	<4.30E+00	0.00E+00	4.30E+00
Co-58	<4.29E+00	0.00E+00	4.29E+00
Fe-59	<9.57E+00	0.00E+00	9.57E+00
Co-60	<4.32E+00	0.00E+00	4.32E+00
Zn-65	<8.45E+00	0.00E+00	8.45E+00
Zr-95	<8.32E+00	0.00E+00	8.32E+00
Nb-95	<5.15E+00	0.00E+00	5.15E+00
I-131	<1.39E+01	0.00E+00	1.39E+01
Cs-134	<3.97E+00	0.00E+00	3.97E+00
Cs-137	<4.26E+00	0.00E+00	4.26E+00
BaLa-140	<9.51E+00	0.00E+00	9.51E+00
Be-7	<3.91E+01	0.00E+00	3.91E+01
K-40	1.43E+02	3.04E+01	4.60E+01

Sample ID: 255940 **Sample Dates: 3/5/2013 - 4/2/2013**

Nuclide	Activity	1 Sigma Error	LLD
Mn-54	<3.88E+00	0.00E+00	3.88E+00
Co-58	<4.59E+00	0.00E+00	4.59E+00
Fe-59	<1.08E+01	0.00E+00	1.08E+01
Co-60	<4.90E+00	0.00E+00	4.90E+00
Zn-65	<9.94E+00	0.00E+00	9.94E+00
Zr-95	<9.45E+00	0.00E+00	9.45E+00
Nb-95	<4.48E+00	0.00E+00	4.48E+00
I-131	<1.30E+01	0.00E+00	1.30E+01
Cs-134	<3.93E+00	0.00E+00	3.93E+00
Cs-137	<5.14E+00	0.00E+00	5.14E+00
BaLa-140	<8.63E+00	0.00E+00	8.63E+00
Be-7	<3.95E+01	0.00E+00	3.95E+01
K-40	3.92E+01	1.89E+01	4.56E+01

Sample ID: 257193 **Sample Dates: 4/2/2013 - 4/30/2013**

Nuclide	Activity	1 Sigma Error	LLD
Mn-54	<3.57E+00	0.00E+00	3.57E+00
Co-58	<3.25E+00	0.00E+00	3.25E+00
Fe-59	<8.32E+00	0.00E+00	8.32E+00
Co-60	<3.05E+00	0.00E+00	3.05E+00
Zn-65	<6.04E+00	0.00E+00	6.04E+00
Zr-95	<6.55E+00	0.00E+00	6.55E+00
Nb-95	<4.20E+00	0.00E+00	4.20E+00
I-131	<1.34E+01	0.00E+00	1.34E+01
Cs-134	<2.59E+00	0.00E+00	2.59E+00
Cs-137	<3.33E+00	0.00E+00	3.33E+00
BaLa-140	<7.86E+00	0.00E+00	7.86E+00
Be-7	<3.44E+01	0.00E+00	3.44E+01
K-40	1.56E+02	1.94E+01	3.19E+01

Sample ID: 258169 **Sample Dates: 3/5/2013 - 5/29/2013**

Nuclide	Activity	1 Sigma Error	LLD
H3SW	4.49E+03	1.08E+02	1.77E+02

Sample ID: 258321 **Sample Dates: 4/30/2013 - 5/29/2013**

Nuclide	Activity	1 Sigma Error	LLD
Mn-54	<2.79E+00	0.00E+00	2.79E+00
Co-58	<3.25E+00	0.00E+00	3.25E+00
Fe-59	<8.24E+00	0.00E+00	8.24E+00
Co-60	<4.87E+00	0.00E+00	4.87E+00
Zn-65	<6.23E+00	0.00E+00	6.23E+00
Zr-95	<5.41E+00	0.00E+00	5.41E+00

Media Type: SURFACE WATER Concentration (Activity): pCi/l

Sample Point 208 [INDICATOR - S @ 0.45 miles]

Sample ID: 258321 Sample Dates: 4/30/2013 - 5/29/2013

Nuclide	Activity	1 Sigma Error	LLD
Nb-95	<3.78E+00	0.00E+00	3.78E+00
I-131	<1.03E+01	0.00E+00	1.03E+01
Cs-134	<3.07E+00	0.00E+00	3.07E+00
Cs-137	<3.08E+00	0.00E+00	3.08E+00
BaLa-140	<7.02E+00	0.00E+00	7.02E+00
Be-7	<3.07E+01	0.00E+00	3.07E+01
K-40	8.63E+01	1.53E+01	3.17E+01

Sample ID: 260424 Sample Dates: 5/29/2013 - 6/25/2013

Nuclide	Activity	1 Sigma Error	LLD
Mn-54	<4.28E+00	0.00E+00	4.28E+00
Co-58	<3.83E+00	0.00E+00	3.83E+00
Fe-59	<9.14E+00	0.00E+00	9.14E+00
Co-60	<5.58E+00	0.00E+00	5.58E+00
Zn-65	<5.99E+00	0.00E+00	5.99E+00
Zr-95	<6.88E+00	0.00E+00	6.88E+00
Nb-95	<4.81E+00	0.00E+00	4.81E+00
I-131	<1.37E+01	0.00E+00	1.37E+01
Cs-134	<4.00E+00	0.00E+00	4.00E+00
Cs-137	<4.27E+00	0.00E+00	4.27E+00
BaLa-140	<7.54E+00	0.00E+00	7.54E+00
Be-7	<4.39E+01	0.00E+00	4.39E+01
K-40	1.32E+02	1.80E+01	3.44E+01

Sample ID: 263221 Sample Dates: 6/25/2013 - 7/23/2013

Nuclide	Activity	1 Sigma Error	LLD
Mn-54	<3.34E+00	0.00E+00	3.34E+00
Co-58	<3.97E+00	0.00E+00	3.97E+00
Fe-59	<7.10E+00	0.00E+00	7.10E+00
Co-60	<3.90E+00	0.00E+00	3.90E+00
Zn-65	<6.43E+00	0.00E+00	6.43E+00
Zr-95	<6.32E+00	0.00E+00	6.32E+00
Nb-95	<5.34E+00	0.00E+00	5.34E+00
I-131	<1.40E+01	0.00E+00	1.40E+01
Cs-134	<3.54E+00	0.00E+00	3.54E+00
Cs-137	<4.06E+00	0.00E+00	4.06E+00
BaLa-140	<9.08E+00	0.00E+00	9.08E+00
Be-7	<3.84E+01	0.00E+00	3.84E+01
K-40	1.47E+02	2.43E+01	4.12E+01

Sample ID: 266732 Sample Dates: 7/23/2013 - 8/20/2013

Nuclide	Activity	1 Sigma Error	LLD
Mn-54	<4.08E+00	0.00E+00	4.08E+00
Co-58	<5.28E+00	0.00E+00	5.28E+00
Fe-59	<9.53E+00	0.00E+00	9.53E+00
Co-60	<5.32E+00	0.00E+00	5.32E+00
Zn-65	<6.22E+00	0.00E+00	6.22E+00
Zr-95	<7.30E+00	0.00E+00	7.30E+00
Nb-95	<5.59E+00	0.00E+00	5.59E+00
I-131	<1.40E+01	0.00E+00	1.40E+01
Cs-134	<3.50E+00	0.00E+00	3.50E+00
Cs-137	<4.78E+00	0.00E+00	4.78E+00
BaLa-140	<1.32E+01	0.00E+00	1.32E+01
Be-7	<4.88E+01	0.00E+00	4.88E+01
K-40	2.12E+02	2.73E+01	3.54E+01

Sample ID: 267113 Sample Dates: 5/29/2013 - 8/20/2013

Nuclide	Activity	1 Sigma Error	LLD
H3SW	9.99E+03	1.42E+02	1.58E+02

Sample ID: 269851 Sample Dates: 8/20/2013 - 9/17/2013

Nuclide	Activity	1 Sigma Error	LLD
Mn-54	<5.52E+00	0.00E+00	5.52E+00
Co-58	<5.03E+00	0.00E+00	5.03E+00
Fe-59	<1.05E+01	0.00E+00	1.05E+01
Co-60	<1.00E+01	0.00E+00	1.00E+01
Zn-65	<1.12E+01	0.00E+00	1.12E+01
Zr-95	<7.29E+00	0.00E+00	7.29E+00
Nb-95	<6.05E+00	0.00E+00	6.05E+00
I-131	<1.43E+01	0.00E+00	1.43E+01
Cs-134	<3.91E+00	0.00E+00	3.91E+00
Cs-137	<5.88E+00	0.00E+00	5.88E+00
BaLa-140	<1.42E+01	0.00E+00	1.42E+01
Be-7	<5.29E+01	0.00E+00	5.29E+01

CATAWBA Radiological Environmental Monitoring Analysis Report - 2013 (Appendix E)

Media Type: SURFACE WATER Concentration (Activity): pCi/l

Sample Point 208 [INDICATOR - S @ 0.45 miles]

Sample ID:	269851	Sample Dates: 8/20/2013 - 9/17/2013	Nuclide	Activity	1 Sigma Error	LLD
			K-40	<7.86E+01	0.00E+00	7.86E+01
Sample ID:	272547	Sample Dates: 9/17/2013 - 10/15/2013	Nuclide	Activity	1 Sigma Error	LLD
			Mn-54	<1.96E+00	0.00E+00	1.96E+00
			Co-58	<2.54E+00	0.00E+00	2.54E+00
			Fe-59	<4.68E+00	0.00E+00	4.68E+00
			Co-60	<3.63E+00	0.00E+00	3.63E+00
			Zn-65	<3.83E+00	0.00E+00	3.83E+00
			Zr-95	<3.65E+00	0.00E+00	3.65E+00
			Nb-95	<2.98E+00	0.00E+00	2.98E+00
			I-131	<8.35E+00	0.00E+00	8.35E+00
			Cs-134	<2.11E+00	0.00E+00	2.11E+00
			Cs-137	<2.56E+00	0.00E+00	2.56E+00
			BaLa-140	<3.47E+00	0.00E+00	3.47E+00
			Be-7	<2.33E+01	0.00E+00	2.33E+01
			K-40	9.36E+01	1.29E+01	1.87E+01
Sample ID:	274971	Sample Dates: 10/15/2013 - 11/12/2013	Nuclide	Activity	1 Sigma Error	LLD
			Mn-54	<3.72E+00	0.00E+00	3.72E+00
			Co-58	<4.34E+00	0.00E+00	4.34E+00
			Fe-59	<9.11E+00	0.00E+00	9.11E+00
			Co-60	<3.04E+00	0.00E+00	3.04E+00
			Zn-65	<6.80E+00	0.00E+00	6.80E+00
			Zr-95	<6.16E+00	0.00E+00	6.16E+00
			Nb-95	<5.31E+00	0.00E+00	5.31E+00
			I-131	<1.42E+01	0.00E+00	1.42E+01
			Cs-134	<3.56E+00	0.00E+00	3.56E+00
			Cs-137	<4.32E+00	0.00E+00	4.32E+00
			BaLa-140	<6.00E+00	0.00E+00	6.00E+00
			Be-7	<4.05E+01	0.00E+00	4.05E+01
			K-40	2.06E+02	2.16E+01	3.32E+01
Sample ID:	277095	Sample Dates: 8/20/2013 - 12/10/2013	Nuclide	Activity	1 Sigma Error	LLD
			H3SW	1.48E+04	1.91E+02	2.41E+02
Sample ID:	279117	Sample Dates: 11/12/2013 - 12/10/2013	Nuclide	Activity	1 Sigma Error	LLD
			Mn-54	<3.83E+00	0.00E+00	3.83E+00
			Co-58	<4.01E+00	0.00E+00	4.01E+00
			Fe-59	<7.77E+00	0.00E+00	7.77E+00
			Co-60	<5.23E+00	0.00E+00	5.23E+00
			Zn-65	<8.14E+00	0.00E+00	8.14E+00
			Zr-95	<6.35E+00	0.00E+00	6.35E+00
			Nb-95	<4.67E+00	0.00E+00	4.67E+00
			I-131	<1.20E+01	0.00E+00	1.20E+01
			Cs-134	<3.23E+00	0.00E+00	3.23E+00
			Cs-137	<4.18E+00	0.00E+00	4.18E+00
			BaLa-140	<1.37E+01	0.00E+00	1.37E+01
			Be-7	<3.82E+01	0.00E+00	3.82E+01
			K-40	7.14E+01	1.40E+01	3.88E+01

Sample Point 211 [INDICATOR - ESE @ 4.06 miles]

Sample ID:	250620	Sample Dates: 12/11/2012 - 1/8/2013	Nuclide	Activity	1 Sigma Error	LLD
			Mn-54	<4.23E+00	0.00E+00	4.23E+00
			Co-58	<5.60E+00	0.00E+00	5.60E+00
			Fe-59	<1.00E+01	0.00E+00	1.00E+01
			Co-60	<5.97E+00	0.00E+00	5.97E+00
			Zn-65	<8.02E+00	0.00E+00	8.02E+00
			Zr-95	<8.33E+00	0.00E+00	8.33E+00
			Nb-95	<6.66E+00	0.00E+00	6.66E+00
			I-131	<1.39E+01	0.00E+00	1.39E+01
			Cs-134	<3.37E+00	0.00E+00	3.37E+00
			Cs-137	<5.05E+00	0.00E+00	5.05E+00
			BaLa-140	<8.98E+00	0.00E+00	8.98E+00
			Be-7	<3.47E+01	0.00E+00	3.47E+01
			K-40	1.28E+02	2.00E+01	4.93E+01
Sample ID:	251671	Sample Dates: 1/8/2013 - 2/5/2013	Nuclide	Activity	1 Sigma Error	LLD
			Mn-54	<4.25E+00	0.00E+00	4.25E+00
			Co-58	<4.05E+00	0.00E+00	4.05E+00

CATAWBA Radiological Environmental Monitoring Analysis Report - 2013 (Appendix E)

Media Type: SURFACE WATER Concentration (Activity): pCi/l

Sample Point 211 [INDICATOR - ESE @ 4.06 miles]

Sample ID:	251671	Sample Dates: 1/8/2013 - 2/5/2013	Nuclide	Activity	1 Sigma Error	LLD
			Fe-59	<1.00E+01	0.00E+00	1.00E+01
			Co-60	<5.06E+00	0.00E+00	5.06E+00
			Zn-65	<9.21E+00	0.00E+00	9.21E+00
			Zr-95	<6.96E+00	0.00E+00	6.96E+00
			Nb-95	<5.79E+00	0.00E+00	5.79E+00
			I-131	<1.25E+01	0.00E+00	1.25E+01
			Cs-134	<3.49E+00	0.00E+00	3.49E+00
			Cs-137	<4.34E+00	0.00E+00	4.34E+00
			BaLa-140	<1.09E+01	0.00E+00	1.09E+01
			Be-7	<3.69E+01	0.00E+00	3.69E+01
			K-40	<6.07E+01	0.00E+00	6.07E+01
Sample ID:	253087	Sample Dates: 12/11/2012 - 3/5/2013	Nuclide	Activity	1 Sigma Error	LLD
			H3SW	9.23E+02	6.52E+01	1.65E+02
Sample ID:	253942	Sample Dates: 2/5/2013 - 3/5/2013	Nuclide	Activity	1 Sigma Error	LLD
			Mn-54	<3.78E+00	0.00E+00	3.78E+00
			Co-58	<4.48E+00	0.00E+00	4.48E+00
			Fe-59	<9.58E+00	0.00E+00	9.58E+00
			Co-60	<5.26E+00	0.00E+00	5.26E+00
			Zn-65	<8.24E+00	0.00E+00	8.24E+00
			Zr-95	<7.05E+00	0.00E+00	7.05E+00
			Nb-95	<4.40E+00	0.00E+00	4.40E+00
			I-131	<1.28E+01	0.00E+00	1.28E+01
			Cs-134	<3.92E+00	0.00E+00	3.92E+00
			Cs-137	<3.96E+00	0.00E+00	3.96E+00
			BaLa-140	<1.02E+01	0.00E+00	1.02E+01
			Be-7	<3.83E+01	0.00E+00	3.83E+01
			K-40	6.91E+01	1.89E+01	4.32E+01
Sample ID:	255941	Sample Dates: 3/5/2013 - 4/2/2013	Nuclide	Activity	1 Sigma Error	LLD
			Mn-54	<3.95E+00	0.00E+00	3.95E+00
			Co-58	<3.93E+00	0.00E+00	3.93E+00
			Fe-59	<8.32E+00	0.00E+00	8.32E+00
			Co-60	<4.40E+00	0.00E+00	4.40E+00
			Zn-65	<8.40E+00	0.00E+00	8.40E+00
			Zr-95	<8.19E+00	0.00E+00	8.19E+00
			Nb-95	<4.79E+00	0.00E+00	4.79E+00
			I-131	<1.30E+01	0.00E+00	1.30E+01
			Cs-134	<3.55E+00	0.00E+00	3.55E+00
			Cs-137	<4.13E+00	0.00E+00	4.13E+00
			BaLa-140	<9.25E+00	0.00E+00	9.25E+00
			Be-7	<4.02E+01	0.00E+00	4.02E+01
			K-40	1.45E+02	2.34E+01	3.46E+01
Sample ID:	257194	Sample Dates: 4/2/2013 - 4/30/2013	Nuclide	Activity	1 Sigma Error	LLD
			Mn-54	<2.96E+00	0.00E+00	2.96E+00
			Co-58	<5.37E+00	0.00E+00	5.37E+00
			Fe-59	<1.07E+01	0.00E+00	1.07E+01
			Co-60	<6.71E+00	0.00E+00	6.71E+00
			Zn-65	<1.08E+01	0.00E+00	1.08E+01
			Zr-95	<1.20E+01	0.00E+00	1.20E+01
			Nb-95	<6.34E+00	0.00E+00	6.34E+00
			I-131	<1.22E+01	0.00E+00	1.22E+01
			Cs-134	<4.05E+00	0.00E+00	4.05E+00
			Cs-137	<6.16E+00	0.00E+00	6.16E+00
			BaLa-140	<1.40E+01	0.00E+00	1.40E+01
			Be-7	<4.56E+01	0.00E+00	4.56E+01
			K-40	8.30E+01	2.34E+01	3.28E+01
Sample ID:	258170	Sample Dates: 3/5/2013 - 5/29/2013	Nuclide	Activity	1 Sigma Error	LLD
			H3SW	6.02E+02	6.39E+01	1.77E+02
Sample ID:	258322	Sample Dates: 4/30/2013 - 5/29/2013	Nuclide	Activity	1 Sigma Error	LLD
			Mn-54	<5.58E+00	0.00E+00	5.58E+00
			Co-58	<4.61E+00	0.00E+00	4.61E+00
			Fe-59	<9.00E+00	0.00E+00	9.00E+00
			Co-60	<8.80E+00	0.00E+00	8.80E+00
			Zn-65	<9.73E+00	0.00E+00	9.73E+00
			Zr-95	<9.51E+00	0.00E+00	9.51E+00

Media Type: SURFACE WATER Concentration (Activity): pCi/l

Sample Point 211 [INDICATOR - ESE @ 4.06 miles]

Sample ID: 258322 Sample Dates: 4/30/2013 - 5/29/2013

Nuclide	Activity	1 Sigma Error	LLD
Nb-95	<6.48E+00	0.00E+00	6.48E+00
I-131	<1.43E+01	0.00E+00	1.43E+01
Cs-134	<4.00E+00	0.00E+00	4.00E+00
Cs-137	<4.02E+00	0.00E+00	4.02E+00
BaLa-140	<7.82E+00	0.00E+00	7.82E+00
Be-7	<3.35E+01	0.00E+00	3.35E+01
K-40	<6.78E+01	0.00E+00	6.78E+01

Sample ID: 260425 Sample Dates: 5/29/2013 - 6/25/2013

Nuclide	Activity	1 Sigma Error	LLD
Mn-54	<5.12E+00	0.00E+00	5.12E+00
Co-58	<5.42E+00	0.00E+00	5.42E+00
Fe-59	<9.42E+00	0.00E+00	9.42E+00
Co-60	<6.57E+00	0.00E+00	6.57E+00
Zn-65	<9.56E+00	0.00E+00	9.56E+00
Zr-95	<1.06E+01	0.00E+00	1.06E+01
Nb-95	<5.13E+00	0.00E+00	5.13E+00
I-131	<1.37E+01	0.00E+00	1.37E+01
Cs-134	<3.20E+00	0.00E+00	3.20E+00
Cs-137	<5.38E+00	0.00E+00	5.38E+00
BaLa-140	<1.23E+01	0.00E+00	1.23E+01
Be-7	<4.07E+01	0.00E+00	4.07E+01
K-40	5.24E+01	2.62E+01	6.11E+01

Sample ID: 263222 Sample Dates: 6/25/2013 - 7/23/2013

Nuclide	Activity	1 Sigma Error	LLD
Mn-54	<3.54E+00	0.00E+00	3.54E+00
Co-58	<4.51E+00	0.00E+00	4.51E+00
Fe-59	<1.15E+01	0.00E+00	1.15E+01
Co-60	<5.80E+00	0.00E+00	5.80E+00
Zn-65	<7.55E+00	0.00E+00	7.55E+00
Zr-95	<6.46E+00	0.00E+00	6.46E+00
Nb-95	<5.04E+00	0.00E+00	5.04E+00
I-131	<1.39E+01	0.00E+00	1.39E+01
Cs-134	<3.42E+00	0.00E+00	3.42E+00
Cs-137	<4.15E+00	0.00E+00	4.15E+00
BaLa-140	<9.92E+00	0.00E+00	9.92E+00
Be-7	<3.74E+01	0.00E+00	3.74E+01
K-40	1.18E+02	2.13E+01	4.96E+01

Sample ID: 266733 Sample Dates: 7/23/2013 - 8/20/2013

Nuclide	Activity	1 Sigma Error	LLD
Mn-54	<3.20E+00	0.00E+00	3.20E+00
Co-58	<3.52E+00	0.00E+00	3.52E+00
Fe-59	<7.20E+00	0.00E+00	7.20E+00
Co-60	<3.44E+00	0.00E+00	3.44E+00
Zn-65	<6.73E+00	0.00E+00	6.73E+00
Zr-95	<5.77E+00	0.00E+00	5.77E+00
Nb-95	<3.41E+00	0.00E+00	3.41E+00
I-131	<1.10E+01	0.00E+00	1.10E+01
Cs-134	<3.00E+00	0.00E+00	3.00E+00
Cs-137	<3.41E+00	0.00E+00	3.41E+00
BaLa-140	<7.53E+00	0.00E+00	7.53E+00
Be-7	<2.64E+01	0.00E+00	2.64E+01
K-40	6.36E+01	1.68E+01	2.43E+01

Sample ID: 267114 Sample Dates: 5/29/2013 - 8/20/2013

Nuclide	Activity	1 Sigma Error	LLD
H3SW	3.08E+02	5.31E+01	1.57E+02

Sample ID: 269852 Sample Dates: 8/20/2013 - 9/17/2013

Nuclide	Activity	1 Sigma Error	LLD
Mn-54	<3.97E+00	0.00E+00	3.97E+00
Co-58	<3.35E+00	0.00E+00	3.35E+00
Fe-59	<9.64E+00	0.00E+00	9.64E+00
Co-60	<4.58E+00	0.00E+00	4.58E+00
Zn-65	<8.77E+00	0.00E+00	8.77E+00
Zr-95	<6.08E+00	0.00E+00	6.08E+00
Nb-95	<5.09E+00	0.00E+00	5.09E+00
I-131	<1.29E+01	0.00E+00	1.29E+01
Cs-134	<3.50E+00	0.00E+00	3.50E+00
Cs-137	<4.32E+00	0.00E+00	4.32E+00
BaLa-140	<9.14E+00	0.00E+00	9.14E+00
Be-7	<3.95E+01	0.00E+00	3.95E+01

Media Type: SURFACE WATER Concentration (Activity): pCi/l

Sample Point 211 [INDICATOR - ESE @ 4.06 miles]

Sample ID:	269852	Sample Dates: 8/20/2013 - 9/17/2013	Nuclide	Activity	1 Sigma Error	LLD
			K-40	9.31E+01	2.70E+01	4.13E+01
Sample ID:	272548	Sample Dates: 9/17/2013 - 10/15/2013	Nuclide	Activity	1 Sigma Error	LLD
			Mn-54	<5.81E+00	0.00E+00	5.81E+00
			Co-58	<3.58E+00	0.00E+00	3.58E+00
			Fe-59	<6.46E+00	0.00E+00	6.46E+00
			Co-60	<5.03E+00	0.00E+00	5.03E+00
			Zn-65	<6.26E+00	0.00E+00	6.26E+00
			Zr-95	<7.48E+00	0.00E+00	7.48E+00
			Nb-95	<3.76E+00	0.00E+00	3.76E+00
			I-131	<1.36E+01	0.00E+00	1.36E+01
			Cs-134	<3.86E+00	0.00E+00	3.86E+00
			Cs-137	<4.69E+00	0.00E+00	4.69E+00
			BaLa-140	<7.52E+00	0.00E+00	7.52E+00
			Be-7	<3.56E+01	0.00E+00	3.56E+01
			K-40	1.00E+02	1.89E+01	3.08E+01
Sample ID:	274972	Sample Dates: 10/15/2013 - 11/12/2013	Nuclide	Activity	1 Sigma Error	LLD
			Mn-54	<3.17E+00	0.00E+00	3.17E+00
			Co-58	<3.58E+00	0.00E+00	3.58E+00
			Fe-59	<8.78E+00	0.00E+00	8.78E+00
			Co-60	<4.85E+00	0.00E+00	4.85E+00
			Zn-65	<7.54E+00	0.00E+00	7.54E+00
			Zr-95	<7.37E+00	0.00E+00	7.37E+00
			Nb-95	<4.23E+00	0.00E+00	4.23E+00
			I-131	<1.41E+01	0.00E+00	1.41E+01
			Cs-134	<3.56E+00	0.00E+00	3.56E+00
			Cs-137	<4.16E+00	0.00E+00	4.16E+00
			BaLa-140	<1.06E+01	0.00E+00	1.06E+01
			Be-7	<3.60E+01	0.00E+00	3.60E+01
			K-40	3.34E+01	1.41E+01	4.44E+01
Sample ID:	277096	Sample Dates: 8/20/2013 - 12/10/2013	Nuclide	Activity	1 Sigma Error	LLD
			H3SW	6.49E+02	8.23E+01	2.42E+02
Sample ID:	279118	Sample Dates: 11/12/2013 - 12/10/2013	Nuclide	Activity	1 Sigma Error	LLD
			Mn-54	<4.04E+00	0.00E+00	4.04E+00
			Co-58	<4.03E+00	0.00E+00	4.03E+00
			Fe-59	<8.45E+00	0.00E+00	8.45E+00
			Co-60	<4.50E+00	0.00E+00	4.50E+00
			Zn-65	<8.29E+00	0.00E+00	8.29E+00
			Zr-95	<6.86E+00	0.00E+00	6.86E+00
			Nb-95	<4.57E+00	0.00E+00	4.57E+00
			I-131	<1.36E+01	0.00E+00	1.36E+01
			Cs-134	<3.57E+00	0.00E+00	3.57E+00
			Cs-137	<3.80E+00	0.00E+00	3.80E+00
			BaLa-140	<6.65E+00	0.00E+00	6.65E+00
			Be-7	<3.92E+01	0.00E+00	3.92E+01
			K-40	2.04E+02	2.65E+01	4.04E+01

Sample Point 215 [CONTROL - NNE @ 4.21 miles]

Sample ID:	250621	Sample Dates: 12/11/2012 - 1/8/2013	Nuclide	Activity	1 Sigma Error	LLD
			Mn-54	<4.07E+00	0.00E+00	4.07E+00
			Co-58	<4.14E+00	0.00E+00	4.14E+00
			Fe-59	<1.03E+01	0.00E+00	1.03E+01
			Co-60	<5.06E+00	0.00E+00	5.06E+00
			Zn-65	<8.95E+00	0.00E+00	8.95E+00
			Zr-95	<8.04E+00	0.00E+00	8.04E+00
			Nb-95	<5.99E+00	0.00E+00	5.99E+00
			I-131	<1.34E+01	0.00E+00	1.34E+01
			Cs-134	<3.40E+00	0.00E+00	3.40E+00
			Cs-137	<4.33E+00	0.00E+00	4.33E+00
			BaLa-140	<1.12E+01	0.00E+00	1.12E+01
			Be-7	<3.40E+01	0.00E+00	3.40E+01
			K-40	7.17E+01	1.93E+01	3.72E+01
Sample ID:	251672	Sample Dates: 1/8/2013 - 2/5/2013	Nuclide	Activity	1 Sigma Error	LLD
			Mn-54	<4.50E+00	0.00E+00	4.50E+00
			Co-58	<4.91E+00	0.00E+00	4.91E+00

Sample ID: 251672 **Sample Dates: 1/8/2013 - 2/5/2013**

Nuclide	Activity	1 Sigma Error	LLD
Fe-59	<1.11E+01	0.00E+00	1.11E+01
Co-60	<5.59E+00	0.00E+00	5.59E+00
Zn-65	<1.30E+01	0.00E+00	1.30E+01
Zr-95	<8.38E+00	0.00E+00	8.38E+00
Nb-95	<6.30E+00	0.00E+00	6.30E+00
I-131	<1.39E+01	0.00E+00	1.39E+01
Cs-134	<2.65E+00	0.00E+00	2.65E+00
Cs-137	<4.67E+00	0.00E+00	4.67E+00
BaLa-140	<1.40E+01	0.00E+00	1.40E+01
Be-7	<4.14E+01	0.00E+00	4.14E+01
K-40	8.14E+01	1.82E+01	4.33E+01

Sample ID: 253088 **Sample Dates: 12/11/2012 - 3/5/2013**

Nuclide	Activity	1 Sigma Error	LLD
H3SW	5.68E+02	5.96E+01	1.64E+02

Sample ID: 253943 **Sample Dates: 2/5/2013 - 3/5/2013**

Nuclide	Activity	1 Sigma Error	LLD
Mn-54	<5.26E+00	0.00E+00	5.26E+00
Co-58	<5.41E+00	0.00E+00	5.41E+00
Fe-59	<1.10E+01	0.00E+00	1.10E+01
Co-60	<6.28E+00	0.00E+00	6.28E+00
Zn-65	<1.01E+01	0.00E+00	1.01E+01
Zr-95	<8.79E+00	0.00E+00	8.79E+00
Nb-95	<5.28E+00	0.00E+00	5.28E+00
I-131	<1.38E+01	0.00E+00	1.38E+01
Cs-134	<4.67E+00	0.00E+00	4.67E+00
Cs-137	<5.63E+00	0.00E+00	5.63E+00
BaLa-140	<8.53E+00	0.00E+00	8.53E+00
Be-7	<4.29E+01	0.00E+00	4.29E+01
K-40	1.13E+02	1.96E+01	4.44E+01

Sample ID: 255942 **Sample Dates: 3/5/2013 - 4/2/2013**

Nuclide	Activity	1 Sigma Error	LLD
Mn-54	<4.20E+00	0.00E+00	4.20E+00
Co-58	<4.93E+00	0.00E+00	4.93E+00
Fe-59	<1.01E+01	0.00E+00	1.01E+01
Co-60	<5.84E+00	0.00E+00	5.84E+00
Zn-65	<7.35E+00	0.00E+00	7.35E+00
Zr-95	<8.00E+00	0.00E+00	8.00E+00
Nb-95	<3.65E+00	0.00E+00	3.65E+00
I-131	<1.29E+01	0.00E+00	1.29E+01
Cs-134	<3.66E+00	0.00E+00	3.66E+00
Cs-137	<3.55E+00	0.00E+00	3.55E+00
BaLa-140	<1.12E+01	0.00E+00	1.12E+01
Be-7	<3.61E+01	0.00E+00	3.61E+01
K-40	6.64E+01	2.19E+01	4.72E+01

Sample ID: 257195 **Sample Dates: 4/2/2013 - 4/30/2013**

Nuclide	Activity	1 Sigma Error	LLD
Mn-54	<4.39E+00	0.00E+00	4.39E+00
Co-58	<4.64E+00	0.00E+00	4.64E+00
Fe-59	<9.96E+00	0.00E+00	9.96E+00
Co-60	<5.60E+00	0.00E+00	5.60E+00
Zn-65	<8.24E+00	0.00E+00	8.24E+00
Zr-95	<8.92E+00	0.00E+00	8.92E+00
Nb-95	<4.97E+00	0.00E+00	4.97E+00
I-131	<1.43E+01	0.00E+00	1.43E+01
Cs-134	<4.39E+00	0.00E+00	4.39E+00
Cs-137	<4.49E+00	0.00E+00	4.49E+00
BaLa-140	<1.38E+01	0.00E+00	1.38E+01
Be-7	<3.83E+01	0.00E+00	3.83E+01
K-40	1.60E+02	2.70E+01	4.81E+01

Sample ID: 258171 **Sample Dates: 3/5/2013 - 5/29/2013**

Nuclide	Activity	1 Sigma Error	LLD
H3SW	4.78E+02	6.19E+01	1.77E+02

Sample ID: 258323 **Sample Dates: 4/30/2013 - 5/29/2013**

Nuclide	Activity	1 Sigma Error	LLD
Mn-54	<2.96E+00	0.00E+00	2.96E+00
Co-58	<3.99E+00	0.00E+00	3.99E+00
Fe-59	<9.31E+00	0.00E+00	9.31E+00
Co-60	<5.04E+00	0.00E+00	5.04E+00
Zn-65	<8.09E+00	0.00E+00	8.09E+00
Zr-95	<6.91E+00	0.00E+00	6.91E+00

CATAWBA Radiological Environmental Monitoring Analysis Report - 2013 (Appendix E)

Media Type: SURFACE WATER Concentration (Activity): pCi/l

Sample Point 215 [CONTROL - NNE @ 4.21 miles]

Sample ID: 258323 **Sample Dates: 4/30/2013 - 5/29/2013**

Nuclide	Activity	1 Sigma Error	LLD
Nb-95	<4.43E+00	0.00E+00	4.43E+00
I-131	<1.42E+01	0.00E+00	1.42E+01
Cs-134	<3.26E+00	0.00E+00	3.26E+00
Cs-137	<4.46E+00	0.00E+00	4.46E+00
BaLa-140	<9.41E+00	0.00E+00	9.41E+00
Be-7	<3.86E+01	0.00E+00	3.86E+01
K-40	1.22E+02	1.92E+01	3.17E+01

Sample ID: 260426 **Sample Dates: 5/29/2013 - 6/25/2013**

Nuclide	Activity	1 Sigma Error	LLD
Mn-54	<4.13E+00	0.00E+00	4.13E+00
Co-58	<4.68E+00	0.00E+00	4.68E+00
Fe-59	<8.29E+00	0.00E+00	8.29E+00
Co-60	<4.14E+00	0.00E+00	4.14E+00
Zn-65	<8.48E+00	0.00E+00	8.48E+00
Zr-95	<9.76E+00	0.00E+00	9.76E+00
Nb-95	<5.12E+00	0.00E+00	5.12E+00
I-131	<1.44E+01	0.00E+00	1.44E+01
Cs-134	<3.30E+00	0.00E+00	3.30E+00
Cs-137	<4.05E+00	0.00E+00	4.05E+00
BaLa-140	<1.19E+01	0.00E+00	1.19E+01
Be-7	<4.22E+01	0.00E+00	4.22E+01
K-40	1.79E+02	2.74E+01	4.42E+01

Sample ID: 263224 **Sample Dates: 6/25/2013 - 7/23/2013**

Nuclide	Activity	1 Sigma Error	LLD
Mn-54	<3.27E+00	0.00E+00	3.27E+00
Co-58	<3.70E+00	0.00E+00	3.70E+00
Fe-59	<1.11E+01	0.00E+00	1.11E+01
Co-60	<5.71E+00	0.00E+00	5.71E+00
Zn-65	<8.16E+00	0.00E+00	8.16E+00
Zr-95	<7.72E+00	0.00E+00	7.72E+00
Nb-95	<4.93E+00	0.00E+00	4.93E+00
I-131	<1.45E+01	0.00E+00	1.45E+01
Cs-134	<3.45E+00	0.00E+00	3.45E+00
Cs-137	<2.76E+00	0.00E+00	2.76E+00
BaLa-140	<8.05E+00	0.00E+00	8.05E+00
Be-7	<3.37E+01	0.00E+00	3.37E+01
K-40	6.89E+01	1.77E+01	2.43E+01

Sample ID: 266735 **Sample Dates: 7/23/2013 - 8/20/2013**

Nuclide	Activity	1 Sigma Error	LLD
Mn-54	<5.08E+00	0.00E+00	5.08E+00
Co-58	<5.88E+00	0.00E+00	5.88E+00
Fe-59	<1.16E+01	0.00E+00	1.16E+01
Co-60	<5.87E+00	0.00E+00	5.87E+00
Zn-65	<9.06E+00	0.00E+00	9.06E+00
Zr-95	<9.29E+00	0.00E+00	9.29E+00
Nb-95	<6.57E+00	0.00E+00	6.57E+00
I-131	<1.45E+01	0.00E+00	1.45E+01
Cs-134	<4.05E+00	0.00E+00	4.05E+00
Cs-137	<5.92E+00	0.00E+00	5.92E+00
BaLa-140	<1.12E+01	0.00E+00	1.12E+01
Be-7	<4.36E+01	0.00E+00	4.36E+01
K-40	1.78E+02	3.24E+01	3.61E+01

Sample ID: 267115 **Sample Dates: 5/29/2013 - 8/20/2013**

Nuclide	Activity	1 Sigma Error	LLD
H3SW	1.59E+02	5.08E+01	1.58E+02

Sample ID: 269853 **Sample Dates: 8/20/2013 - 9/17/2013**

Nuclide	Activity	1 Sigma Error	LLD
Mn-54	<3.75E+00	0.00E+00	3.75E+00
Co-58	<3.64E+00	0.00E+00	3.64E+00
Fe-59	<9.03E+00	0.00E+00	9.03E+00
Co-60	<3.17E+00	0.00E+00	3.17E+00
Zn-65	<8.57E+00	0.00E+00	8.57E+00
Zr-95	<8.33E+00	0.00E+00	8.33E+00
Nb-95	<5.25E+00	0.00E+00	5.25E+00
I-131	<1.41E+01	0.00E+00	1.41E+01
Cs-134	<3.53E+00	0.00E+00	3.53E+00
Cs-137	<4.09E+00	0.00E+00	4.09E+00
BaLa-140	<1.02E+01	0.00E+00	1.02E+01
Be-7	<3.38E+01	0.00E+00	3.38E+01

Media Type: SURFACE WATER Concentration (Activity): pCi/l

Sample Point 215 [CONTROL - NNE @ 4.21 miles]

Sample ID:	269853	Sample Dates: 8/20/2013 - 9/17/2013	Nuclide	Activity	1 Sigma Error	LLD
			K-40	2.06E+02	2.68E+01	2.93E+01
Sample ID:	272551	Sample Dates: 9/17/2013 - 10/15/2013	Nuclide	Activity	1 Sigma Error	LLD
			Mn-54	<4.42E+00	0.00E+00	4.42E+00
			Co-58	<4.62E+00	0.00E+00	4.62E+00
			Fe-59	<1.11E+01	0.00E+00	1.11E+01
			Co-60	<4.70E+00	0.00E+00	4.70E+00
			Zn-65	<9.46E+00	0.00E+00	9.46E+00
			Zr-95	<8.52E+00	0.00E+00	8.52E+00
			Nb-95	<6.30E+00	0.00E+00	6.30E+00
			I-131	<1.42E+01	0.00E+00	1.42E+01
			Cs-134	<3.80E+00	0.00E+00	3.80E+00
			Cs-137	<4.84E+00	0.00E+00	4.84E+00
			BaLa-140	<9.26E+00	0.00E+00	9.26E+00
			Be-7	<3.72E+01	0.00E+00	3.72E+01
			K-40	6.28E+01	1.92E+01	4.87E+01
Sample ID:	274974	Sample Dates: 10/15/2013 - 11/12/2013	Nuclide	Activity	1 Sigma Error	LLD
			Mn-54	<2.41E+00	0.00E+00	2.41E+00
			Co-58	<2.80E+00	0.00E+00	2.80E+00
			Fe-59	<7.96E+00	0.00E+00	7.96E+00
			Co-60	<4.40E+00	0.00E+00	4.40E+00
			Zn-65	<8.63E+00	0.00E+00	8.63E+00
			Zr-95	<6.18E+00	0.00E+00	6.18E+00
			Nb-95	<3.94E+00	0.00E+00	3.94E+00
			I-131	<1.07E+01	0.00E+00	1.07E+01
			Cs-134	<2.80E+00	0.00E+00	2.80E+00
			Cs-137	<3.61E+00	0.00E+00	3.61E+00
			BaLa-140	<9.59E+00	0.00E+00	9.59E+00
			Be-7	<3.24E+01	0.00E+00	3.24E+01
			K-40	9.42E+01	1.44E+01	3.40E+01
Sample ID:	277097	Sample Dates: 8/20/2013 - 12/10/2013	Nuclide	Activity	1 Sigma Error	LLD
			H3SW	<1.53E+01	0.00E+00	2.43E+02
Sample ID:	279119	Sample Dates: 11/12/2013 - 12/10/2013	Nuclide	Activity	1 Sigma Error	LLD
			Mn-54	<2.49E+00	0.00E+00	2.49E+00
			Co-58	<2.56E+00	0.00E+00	2.56E+00
			Fe-59	<6.75E+00	0.00E+00	6.75E+00
			Co-60	<3.69E+00	0.00E+00	3.69E+00
			Zn-65	<5.85E+00	0.00E+00	5.85E+00
			Zr-95	<5.09E+00	0.00E+00	5.09E+00
			Nb-95	<3.44E+00	0.00E+00	3.44E+00
			I-131	<8.76E+00	0.00E+00	8.76E+00
			Cs-134	<2.23E+00	0.00E+00	2.23E+00
			Cs-137	<2.78E+00	0.00E+00	2.78E+00
			BaLa-140	<7.83E+00	0.00E+00	7.83E+00
			Be-7	<2.77E+01	0.00E+00	2.77E+01
			K-40	1.07E+02	1.62E+01	1.90E+01

Media Type: TLD Concentration (Activity): mR/Standard Quarter

Sample Point 200 [INDICATOR - NNE @ 0.63 miles] TLD RING TLD_INNER

Sample ID:	254474	Sample Dates: 12/12/2012 - 3/21/2013	Nuclide	Activity
			mR/Std Qtr	20.2
Sample ID:	259343	Sample Dates: 3/21/2013 - 6/20/2013	Nuclide	Activity
			mR/Std Qtr	20.0
Sample ID:	269017	Sample Dates: 6/20/2013 - 9/19/2013	Nuclide	Activity
			mR/Std Qtr	17.0
Sample ID:	279296	Sample Dates: 9/19/2013 - 12/19/2013	Nuclide	Activity
			mR/Std Qtr	16.0

Sample Point 201 [INDICATOR - NE @ 0.53 miles] TLD RING TLD_INNER

Sample ID:	254475	Sample Dates: 12/12/2012 - 3/21/2013	Nuclide	Activity
			mR/Std Qtr	19.3

CATAWBA Radiological Environmental Monitoring Analysis Report - 2013 (Appendix E)

Media Type: TLD Concentration (Activity): mR/Standard Quarter

Sample Point 201 [INDICATOR - NE @ 0.53 miles] — TLD RING TLD_INNER

Sample ID:	Sample Dates:	Nuclide	Activity
259344	3/21/2013 - 6/20/2013	mR/Std Qtr	19.0
269018	6/20/2013 - 9/19/2013	mR/Std Qtr	17.0
279297	9/19/2013 - 12/19/2013	mR/Std Qtr	17.0

Sample Point 203 [INDICATOR - ESE @ 0.38 miles] — TLD RING TLD_INNER

Sample ID:	Sample Dates:	Nuclide	Activity
254476	12/12/2012 - 3/21/2013	mR/Std Qtr	20.2
259345	3/21/2013 - 6/20/2013	mR/Std Qtr	20.0
269019	6/20/2013 - 9/19/2013	mR/Std Qtr	19.0
279298	9/19/2013 - 12/19/2013	mR/Std Qtr	19.0

Sample Point 204 [INDICATOR - SSW @ 0.48 miles] — TLD RING TLD_INNER

Sample ID:	Sample Dates:	Nuclide	Activity
254477	12/12/2012 - 3/21/2013	mR/Std Qtr	18.4
259346	3/21/2013 - 6/20/2013	mR/Std Qtr	18.0
269020	6/20/2013 - 9/19/2013	mR/Std Qtr	17.0
279299	9/19/2013 - 12/19/2013	mR/Std Qtr	15.0

Sample Point 205 [INDICATOR - SW @ 0.25 miles] — TLD RING TLD_INNER

Sample ID:	Sample Dates:	Nuclide	Activity
254478	12/12/2012 - 3/21/2013	mR/Std Qtr	21.1
259347	3/21/2013 - 6/20/2013	mR/Std Qtr	20.0
269021	6/20/2013 - 9/19/2013	mR/Std Qtr	18.0
279300	9/19/2013 - 12/19/2013	mR/Std Qtr	18.0

Sample Point 206 [INDICATOR - WNW @ 0.67 miles] — TLD RING TLD_INNER

Sample ID:	Sample Dates:	Nuclide	Activity
254479	12/12/2012 - 3/21/2013	mR/Std Qtr	22.1
259348	3/21/2013 - 6/20/2013	mR/Std Qtr	24.0
269022	6/20/2013 - 9/19/2013	mR/Std Qtr	22.0
279301	9/19/2013 - 12/19/2013	mR/Std Qtr	20.0

Sample Point 207 [INDICATOR - NNW @ 0.95 miles] — TLD RING TLD_INNER

Sample ID:	Sample Dates:	Nuclide	Activity
254480	12/12/2012 - 3/21/2013	mR/Std Qtr	23.0
259349	3/21/2013 - 6/20/2013	mR/Std Qtr	23.0

Media Type: TLD Concentration (Activity): mR/Standard Quarter

Sample Point 207 [INDICATOR - NNW @ 0.95 miles] TLD RING TLD_INNER

Sample ID:	269023	Sample Dates: 6/20/2013 - 9/19/2013	Nuclide	Activity
			mR/Std Qtr	20.0
Sample ID:	279302	Sample Dates: 9/19/2013 - 12/19/2013	Nuclide	Activity
			mR/Std Qtr	19.0

Sample Point 212 [INDICATOR - E @ 3.32 miles] TLD RING TLD_SPEC

Sample ID:	254481	Sample Dates: 12/12/2012 - 3/21/2013	Nuclide	Activity
			mR/Std Qtr	17.5
Sample ID:	259350	Sample Dates: 3/21/2013 - 6/20/2013	Nuclide	Activity
			mR/Std Qtr	17.0
Sample ID:	269024	Sample Dates: 6/20/2013 - 9/19/2013	Nuclide	Activity
			mR/Std Qtr	16.0
Sample ID:	279303	Sample Dates: 9/19/2013 - 12/19/2013	Nuclide	Activity
			mR/Std Qtr	15.0

Sample Point 217 [CONTROL - SSE @ 10.3 miles] TLD RING TLD_CTRL

Sample ID:	254482	Sample Dates: 12/12/2012 - 3/21/2013	Nuclide	Activity
			mR/Std Qtr	12.9
Sample ID:	259351	Sample Dates: 3/21/2013 - 6/20/2013	Nuclide	Activity
			mR/Std Qtr	13.0
Sample ID:	269025	Sample Dates: 6/20/2013 - 9/19/2013	Nuclide	Activity
			mR/Std Qtr	12.0
Sample ID:	279304	Sample Dates: 9/19/2013 - 12/19/2013	Nuclide	Activity
			mR/Std Qtr	11.0

Sample Point 222 [INDICATOR - N @ 0.7 miles] TLD RING TLD_INNER

Sample ID:	254459	Sample Dates: 12/12/2012 - 3/21/2013	Nuclide	Activity
			mR/Std Qtr	17.5
Sample ID:	259328	Sample Dates: 3/21/2013 - 6/20/2013	Nuclide	Activity
			mR/Std Qtr	18.0
Sample ID:	269002	Sample Dates: 6/20/2013 - 9/19/2013	Nuclide	Activity
			mR/Std Qtr	17.0
Sample ID:	279281	Sample Dates: 9/19/2013 - 12/19/2013	Nuclide	Activity
			mR/Std Qtr	16.0

Sample Point 223 [INDICATOR - E @ 0.57 miles] TLD RING TLD_INNER

Sample ID:	254460	Sample Dates: 12/12/2012 - 3/21/2013	Nuclide	Activity
			mR/Std Qtr	19.3
Sample ID:	259329	Sample Dates: 3/21/2013 - 6/20/2013	Nuclide	Activity
			mR/Std Qtr	20.0
Sample ID:	269003	Sample Dates: 6/20/2013 - 9/19/2013	Nuclide	Activity
			mR/Std Qtr	20.0
Sample ID:	279282	Sample Dates: 9/19/2013 - 12/19/2013	Nuclide	Activity
			mR/Std Qtr	20.0

Sample Point 225 [INDICATOR - SE @ 0.68 miles] TLD RING TLD_INNER

Sample ID:	254461	Sample Dates: 12/12/2012 - 3/21/2013	Nuclide	Activity
			mR/Std Qtr	20.2
Sample ID:	259330	Sample Dates: 3/21/2013 - 6/20/2013	Nuclide	Activity
			mR/Std Qtr	20.0
Sample ID:	269004	Sample Dates: 6/20/2013 - 9/19/2013	Nuclide	Activity
			mR/Std Qtr	21.0

Sample Point 225 [INDICATOR - SE @ 0.68 miles] — TLD RING TLD_INNER

Sample ID:	Sample Dates:	Nuclide	Activity
279283	9/19/2013 - 12/19/2013	mR/Std Qtr	18.0

Sample Point 226 [INDICATOR - S @ 0.48 miles] — TLD RING TLD_INNER

Sample ID:	Sample Dates:	Nuclide	Activity
254483	12/12/2012 - 3/21/2013	mR/Std Qtr	19.3
259352	3/21/2013 - 6/20/2013	mR/Std Qtr	19.0
269026	6/20/2013 - 9/19/2013	mR/Std Qtr	18.0
279305	9/19/2013 - 12/19/2013	mR/Std Qtr	17.0

Sample Point 227 [INDICATOR - WSW @ 0.52 miles] — TLD RING TLD_INNER

Sample ID:	Sample Dates:	Nuclide	Activity
254462	12/12/2012 - 3/21/2013	mR/Std Qtr	20.2
259331	3/21/2013 - 6/20/2013	mR/Std Qtr	19.0
269005	6/20/2013 - 9/19/2013	mR/Std Qtr	17.0
279284	9/19/2013 - 12/19/2013	mR/Std Qtr	17.0

Sample Point 228 [INDICATOR - W @ 0.61 miles] — TLD RING TLD_INNER

Sample ID:	Sample Dates:	Nuclide	Activity
254463	12/12/2012 - 3/21/2013	mR/Std Qtr	19.3
259332	3/21/2013 - 6/20/2013	mR/Std Qtr	18.0
269006	6/20/2013 - 9/19/2013	mR/Std Qtr	17.0
279285	9/19/2013 - 12/19/2013	mR/Std Qtr	16.0

Sample Point 229 [INDICATOR - NW @ 0.84 miles] — TLD RING TLD_INNER

Sample ID:	Sample Dates:	Nuclide	Activity
254464	12/12/2012 - 3/21/2013	mR/Std Qtr	26.7
259333	3/21/2013 - 6/20/2013	mR/Std Qtr	25.0
269007	6/20/2013 - 9/19/2013	mR/Std Qtr	23.0
279286	9/19/2013 - 12/19/2013	mR/Std Qtr	22.0

Sample Point 230 [INDICATOR - N @ 4.37 miles] — TLD RING TLD_OUTER

Sample ID:	Sample Dates:	Nuclide	Activity
254465	12/12/2012 - 3/21/2013	mR/Std Qtr	13.8
259334	3/21/2013 - 6/20/2013	mR/Std Qtr	14.0
269008	6/20/2013 - 9/19/2013	mR/Std Qtr	13.0
279287	9/19/2013 - 12/19/2013	mR/Std Qtr	12.0

Media Type: TLD Concentration (Activity): mR/Standard Quarter

Sample Point 231 [INDICATOR - NNE @ 4.21 miles] TLD RING TLD_OUTER

Sample ID:	Sample Dates:	Nuclide	Activity
254466	12/12/2012 - 3/21/2013	mR/Std Qtr	21.1
259335	3/21/2013 - 6/20/2013	mR/Std Qtr	20.0
269009	6/20/2013 - 9/19/2013	mR/Std Qtr	19.0
279288	9/19/2013 - 12/19/2013	mR/Std Qtr	19.0

Sample Point 232 [INDICATOR - NE @ 4.18 miles] TLD RING TLD_OUTER

Sample ID:	Sample Dates:	Nuclide	Activity
254467	12/12/2012 - 3/21/2013	mR/Std Qtr	23.9
259336	3/21/2013 - 6/20/2013	mR/Std Qtr	24.0
269010	6/20/2013 - 9/19/2013	mR/Std Qtr	21.0
279289	9/19/2013 - 12/19/2013	mR/Std Qtr	21.0

Sample Point 233 [INDICATOR - ENE @ 3.95 miles] TLD RING TLD_OUTER

Sample ID:	Sample Dates:	Nuclide	Activity
254468	12/12/2012 - 3/21/2013	mR/Std Qtr	17.5
259337	3/21/2013 - 6/20/2013	mR/Std Qtr	15.0
269011	6/20/2013 - 9/19/2013	mR/Std Qtr	14.0
279290	9/19/2013 - 12/19/2013	mR/Std Qtr	15.0

Sample Point 234 [INDICATOR - E @ 4.5 miles] TLD RING TLD_OUTER

Sample ID:	Sample Dates:	Nuclide	Activity
254469	12/12/2012 - 3/21/2013	mR/Std Qtr	20.2
259338	3/21/2013 - 6/20/2013	mR/Std Qtr	18.0
269012	6/20/2013 - 9/19/2013	mR/Std Qtr	16.0
279291	9/19/2013 - 12/19/2013	mR/Std Qtr	17.0

Sample Point 235 [INDICATOR - ESE @ 4.07 miles] TLD RING TLD_OUTER

Sample ID:	Sample Dates:	Nuclide	Activity
254470	12/12/2012 - 3/21/2013	mR/Std Qtr	19.3
259339	3/21/2013 - 6/20/2013	mR/Std Qtr	18.0
269013	6/20/2013 - 9/19/2013	mR/Std Qtr	16.0
279292	9/19/2013 - 12/19/2013	mR/Std Qtr	17.0

Sample Point 236 [INDICATOR - SE @ 4.25 miles] TLD RING TLD_OUTER

Sample ID:	Sample Dates:	Nuclide	Activity
254471	12/12/2012 - 3/21/2013	mR/Std Qtr	23.9

Sample Point 236 [INDICATOR - SE @ 4.25 miles] — TLD RING TLD_OUTER

Sample ID:	Sample Dates:	Nuclide	Activity
259340	3/21/2013 - 6/20/2013	mR/Std Qtr	22.0
269014	6/20/2013 - 9/19/2013	mR/Std Qtr	20.0
279293	9/19/2013 - 12/19/2013	mR/Std Qtr	22.0

Sample Point 237 [INDICATOR - SSE @ 4.75 miles] — TLD RING TLD_OUTER

Sample ID:	Sample Dates:	Nuclide	Activity
254472	12/12/2012 - 3/21/2013	mR/Std Qtr	23.0
259341	3/21/2013 - 6/20/2013	mR/Std Qtr	24.0
269015	6/20/2013 - 9/19/2013	mR/Std Qtr	21.0
279294	9/19/2013 - 12/19/2013	mR/Std Qtr	22.0

Sample Point 238 [INDICATOR - S @ 4.02 miles] — TLD RING TLD_OUTER

Sample ID:	Sample Dates:	Nuclide	Activity
254473	12/12/2012 - 3/21/2013	mR/Std Qtr	18.4
259342	3/21/2013 - 6/20/2013	mR/Std Qtr	18.0
269016	6/20/2013 - 9/19/2013	mR/Std Qtr	16
279295	9/19/2013 - 12/19/2013	mR/Std Qtr	17.0

Sample Point 239 [INDICATOR - SSW @ 4.49 miles] — TLD RING TLD_OUTER

Sample ID:	Sample Dates:	Nuclide	Activity
254484	12/12/2012 - 3/21/2013	mR/Std Qtr	23.0
259353	3/21/2013 - 6/20/2013	mR/Std Qtr	19.0
269027	6/20/2013 - 9/19/2013	mR/Std Qtr	19.0
279306	9/19/2013 - 12/19/2013	mR/Std Qtr	20.0

Sample Point 240 [INDICATOR - SW @ 4.07 miles] — TLD RING TLD_OUTER

Sample ID:	Sample Dates:	Nuclide	Activity
254485	12/12/2012 - 3/21/2013	mR/Std Qtr	13.8
259354	3/21/2013 - 6/20/2013	mR/Std Qtr	13.0
269028	6/20/2013 - 9/19/2013	mR/Std Qtr	12.0
279307	9/19/2013 - 12/19/2013	mR/Std Qtr	12.0

Sample Point 241 [INDICATOR - WSW @ 4.58 miles] — TLD RING TLD_OUTER

Sample ID:	Sample Dates:	Nuclide	Activity
254486	12/12/2012 - 3/21/2013	mR/Std Qtr	13.8
259355	3/21/2013 - 6/20/2013	mR/Std Qtr	14.0

Media Type: TLD Concentration (Activity): mR/Standard Quarter

Sample Point 241 [INDICATOR - WSW @ 4.58 miles] TLD RING TLD_OUTER

Sample ID:	269029	Sample Dates: 6/20/2013 - 9/19/2013	Nuclide	Activity
			mR/Std Qtr	12.0
Sample ID:	279308	Sample Dates: 9/19/2013 - 12/19/2013	Nuclide	Activity
			mR/Std Qtr	13.0

Sample Point 242 [INDICATOR - W @ 4.56 miles] TLD RING TLD_OUTER

Sample ID:	254487	Sample Dates: 12/12/2012 - 3/21/2013	Nuclide	Activity
			mR/Std Qtr	18.4
Sample ID:	259356	Sample Dates: 3/21/2013 - 6/20/2013	Nuclide	Activity
			mR/Std Qtr	18.0
Sample ID:	269030	Sample Dates: 6/20/2013 - 9/19/2013	Nuclide	Activity
			mR/Std Qtr	16.0
Sample ID:	279309	Sample Dates: 9/19/2013 - 12/19/2013	Nuclide	Activity
			mR/Std Qtr	16.0

Sample Point 243 [INDICATOR - WNW @ 4.39 miles] TLD RING TLD_OUTER

Sample ID:	254488	Sample Dates: 12/12/2012 - 3/21/2013	Nuclide	Activity
			mR/Std Qtr	18.4
Sample ID:	259357	Sample Dates: 3/21/2013 - 6/20/2013	Nuclide	Activity
			mR/Std Qtr	17.0
Sample ID:	269031	Sample Dates: 6/20/2013 - 9/19/2013	Nuclide	Activity
			mR/Std Qtr	16.0
Sample ID:	279310	Sample Dates: 9/19/2013 - 12/19/2013	Nuclide	Activity
			mR/Std Qtr	16.0

Sample Point 244 [INDICATOR - NW @ 4.02 miles] TLD RING TLD_OUTER

Sample ID:	254489	Sample Dates: 12/12/2012 - 3/21/2013	Nuclide	Activity
			mR/Std Qtr	19.3
Sample ID:	259358	Sample Dates: 3/21/2013 - 6/20/2013	Nuclide	Activity
			mR/Std Qtr	19.0
Sample ID:	269032	Sample Dates: 6/20/2013 - 9/19/2013	Nuclide	Activity
			mR/Std Qtr	18.0
Sample ID:	279311	Sample Dates: 9/19/2013 - 12/19/2013	Nuclide	Activity
			mR/Std Qtr	19.0

Sample Point 245 [INDICATOR - NNW @ 4.01 miles] TLD RING TLD_OUTER

Sample ID:	254490	Sample Dates: 12/12/2012 - 3/21/2013	Nuclide	Activity
			mR/Std Qtr	19.3
Sample ID:	259359	Sample Dates: 3/21/2013 - 6/20/2013	Nuclide	Activity
			mR/Std Qtr	17.0
Sample ID:	269033	Sample Dates: 6/20/2013 - 9/19/2013	Nuclide	Activity
			mR/Std Qtr	17.0
Sample ID:	279312	Sample Dates: 9/19/2013 - 12/19/2013	Nuclide	Activity
			mR/Std Qtr	18.0

Sample Point 246 [INDICATOR - ENE @ 7.87 miles] TLD RING TLD_SPEC

Sample ID:	254541	Sample Dates: 12/12/2012 - 3/21/2013	Nuclide	Activity
			mR/Std Qtr	18.4
Sample ID:	259410	Sample Dates: 3/21/2013 - 6/20/2013	Nuclide	Activity
			mR/Std Qtr	16
Sample ID:	269085	Sample Dates: 6/20/2013 - 9/19/2013	Nuclide	Activity
			mR/Std Qtr	14.0

Media Type: TLD Concentration (Activity): mR/Standard Quarter

Sample Point 246 [INDICATOR - ENE @ 7.87 miles] TLD RING TLD_SPEC

Sample ID:	279361	Sample Dates: 9/19/2013 - 12/19/2013	Nuclide	Activity
			mR/Std Qtr	15.0

Sample Point 247 [CONTROL - ESE @ 7.33 miles] TLD RING TLD_CTRL

Sample ID:	254374	Sample Dates: 12/12/2012 - 3/21/2013	Nuclide	Activity
			mR/Std Qtr	14.7
Sample ID:	259243	Sample Dates: 3/21/2013 - 6/20/2013	Nuclide	Activity
			mR/Std Qtr	14.0
Sample ID:	268917	Sample Dates: 6/20/2013 - 9/19/2013	Nuclide	Activity
			mR/Std Qtr	14.0
Sample ID:	279196	Sample Dates: 9/19/2013 - 12/19/2013	Nuclide	Activity
			mR/Std Qtr	13.0

Sample Point 248 [INDICATOR - S @ 6.54 miles] TLD RING TLD_SPEC

Sample ID:	254373	Sample Dates: 12/12/2012 - 3/21/2013	Nuclide	Activity
			mR/Std Qtr	16.5
Sample ID:	259242	Sample Dates: 3/21/2013 - 6/20/2013	Nuclide	Activity
			mR/Std Qtr	15.0
Sample ID:	268916	Sample Dates: 6/20/2013 - 9/19/2013	Nuclide	Activity
			mR/Std Qtr	14.0
Sample ID:	279195	Sample Dates: 9/19/2013 - 12/19/2013	Nuclide	Activity
			mR/Std Qtr	15.0

Sample Point 249 [INDICATOR - S @ 7.17 miles] TLD RING TLD_SPEC

Sample ID:	254375	Sample Dates: 12/12/2012 - 3/21/2013	Nuclide	Activity
			mR/Std Qtr	18.4
Sample ID:	259244	Sample Dates: 3/21/2013 - 6/20/2013	Nuclide	Activity
			mR/Std Qtr	18.0
Sample ID:	268918	Sample Dates: 6/20/2013 - 9/19/2013	Nuclide	Activity
			mR/Std Qtr	17.0
Sample ID:	279197	Sample Dates: 9/19/2013 - 12/19/2013	Nuclide	Activity
			mR/Std Qtr	18.0

Sample Point 250 [INDICATOR - WSW @ 10.4 miles] TLD RING TLD_SPEC

Sample ID:	254378	Sample Dates: 12/12/2012 - 3/21/2013	Nuclide	Activity
			mR/Std Qtr	18.4
Sample ID:	259247	Sample Dates: 3/21/2013 - 6/20/2013	Nuclide	Activity
			mR/Std Qtr	17.0
Sample ID:	268921	Sample Dates: 6/20/2013 - 9/19/2013	Nuclide	Activity
			mR/Std Qtr	17.0
Sample ID:	279200	Sample Dates: 9/19/2013 - 12/19/2013	Nuclide	Activity
			mR/Std Qtr	16.0

Sample Point 251 [CONTROL - WNW @ 9.72 miles] TLD RING TLD_CTRL

Sample ID:	254376	Sample Dates: 12/12/2012 - 3/21/2013	Nuclide	Activity
			mR/Std Qtr	19.3
Sample ID:	259245	Sample Dates: 3/21/2013 - 6/20/2013	Nuclide	Activity
			mR/Std Qtr	17.0
Sample ID:	268919	Sample Dates: 6/20/2013 - 9/19/2013	Nuclide	Activity
			mR/Std Qtr	16.0
Sample ID:	279198	Sample Dates: 9/19/2013 - 12/19/2013	Nuclide	Activity
			mR/Std Qtr	17.0

Media Type: TLD Concentration (Activity): mR/Standard Quarter

Sample Point 255 [INDICATOR - ENE @ 0.61 miles] TLD RING TLD_INNER

Sample ID:	Sample Dates:	Nuclide	Activity
254377	12/12/2012 - 3/21/2013	mR/Std Qtr	22.1
259246	3/21/2013 - 6/20/2013	mR/Std Qtr	21.0
268920	6/20/2013 - 9/19/2013	mR/Std Qtr	19.0
279199	9/19/2013 - 12/19/2013	mR/Std Qtr	21.0

Sample Point 256 [INDICATOR - SSE @ 0.58 miles] TLD RING TLD_INNER

Sample ID:	Sample Dates:	Nuclide	Activity
254386	12/12/2012 - 3/21/2013	mR/Std Qtr	22.1
259255	3/21/2013 - 6/20/2013	mR/Std Qtr	22.0
268929	6/20/2013 - 9/19/2013	mR/Std Qtr	20.0
279208	9/19/2013 - 12/19/2013	mR/Std Qtr	21.0

Sample Point 258 [CONTROL - W @ 9.84 miles] TLD RING TLD_SPEC

Sample ID:	Sample Dates:	Nuclide	Activity
254379	12/12/2012 - 3/21/2013	mR/Std Qtr	22.1
259248	3/21/2013 - 6/20/2013	mR/Std Qtr	21.0
268922	6/20/2013 - 9/19/2013	mR/Std Qtr	19.0
279201	9/19/2013 - 12/19/2013	mR/Std Qtr	20.0

Sample Point 259 [SPECIAL - SW @ 0.38 miles] TLD RING TLD_SPEC

Sample ID:	Sample Dates:	Nuclide	Activity
254499	12/12/2012 - 3/21/2013	mR/Std Qtr	20.2
259368	3/21/2013 - 6/20/2013	mR/Std Qtr	19.0
269042	6/20/2013 - 9/19/2013	mR/Std Qtr	17.0

Media Type: VEGETATION Concentration (Activity): pCi/kg

Sample Point 200 [INDICATOR - NNE @ 0.63 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	1 Sigma Error	LLD
249999	1/2/2013 - 1/2/2013	I-131	<2.23E+01	0.00E+00	2.23E+01
		Cs-134	<2.30E+01	0.00E+00	2.30E+01
		Cs-137	<2.18E+01	0.00E+00	2.18E+01
		Be-7	9.58E+02	1.18E+02	1.64E+02
		K-40	4.22E+03	2.65E+02	1.49E+02
250957	2/5/2013 - 2/5/2013	I-131	<2.05E+01	0.00E+00	2.05E+01
		Cs-134	<1.74E+01	0.00E+00	1.74E+01
		Cs-137	<3.00E+01	0.00E+00	3.00E+01
		Be-7	9.18E+02	1.08E+02	2.05E+02
		K-40	3.65E+03	2.60E+02	2.20E+02
252702	3/5/2013 - 3/5/2013	I-131	<2.53E+01	0.00E+00	2.53E+01
		Cs-134	<3.37E+01	0.00E+00	3.37E+01
		Cs-137	<3.02E+01	0.00E+00	3.02E+01

Sample ID: 252702 **Sample Dates: 3/5/2013 - 3/5/2013**

Nuclide	Activity	1 Sigma Error	LLD
Be-7	8.82E+02	1.23E+02	1.77E+02
K-40	4.36E+03	3.17E+02	3.09E+02

Sample ID: 255044 **Sample Dates: 4/2/2013 - 4/2/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.94E+01	0.00E+00	1.94E+01
Cs-134	<1.82E+01	0.00E+00	1.82E+01
Cs-137	<2.27E+01	0.00E+00	2.27E+01
Be-7	5.89E+02	1.21E+02	1.59E+02
K-40	4.32E+03	2.63E+02	1.82E+02

Sample ID: 256533 **Sample Dates: 5/7/2013 - 5/7/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.83E+01	0.00E+00	1.83E+01
Cs-134	<2.07E+01	0.00E+00	2.07E+01
Cs-137	<2.38E+01	0.00E+00	2.38E+01
Be-7	4.60E+02	8.77E+01	1.74E+02
K-40	4.21E+03	2.92E+02	2.33E+02

Sample ID: 257932 **Sample Dates: 6/4/2013 - 6/4/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<3.39E+01	0.00E+00	3.39E+01
Cs-134	<3.05E+01	0.00E+00	3.05E+01
Cs-137	<3.50E+01	0.00E+00	3.50E+01
Be-7	7.60E+02	1.34E+02	2.57E+02
K-40	8.24E+03	5.13E+02	3.77E+02

Sample ID: 259625 **Sample Dates: 7/2/2013 - 7/2/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.12E+01	0.00E+00	1.12E+01
Cs-134	<8.90E+00	0.00E+00	8.90E+00
Cs-137	<1.09E+01	0.00E+00	1.09E+01
Be-7	6.42E+02	4.94E+01	8.57E+01
K-40	4.80E+03	1.52E+02	9.60E+01

Sample ID: 262855 **Sample Dates: 8/6/2013 - 8/6/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<2.35E+01	0.00E+00	2.35E+01
Cs-134	<2.28E+01	0.00E+00	2.28E+01
Cs-137	<2.23E+01	0.00E+00	2.23E+01
Be-7	5.27E+02	9.91E+01	1.68E+02
K-40	3.40E+03	2.91E+02	2.67E+02

Sample ID: 265432 **Sample Dates: 9/4/2013 - 9/4/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.93E+01	0.00E+00	1.93E+01
Cs-134	<1.84E+01	0.00E+00	1.84E+01
Cs-137	<2.08E+01	0.00E+00	2.08E+01
Be-7	4.89E+02	9.51E+01	1.78E+02
K-40	4.76E+03	3.06E+02	1.92E+02

Sample ID: 269592 **Sample Dates: 10/1/2013 - 10/1/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<2.35E+01	0.00E+00	2.35E+01
Cs-134	<2.28E+01	0.00E+00	2.28E+01
Cs-137	<2.91E+01	0.00E+00	2.91E+01
Be-7	3.20E+02	1.20E+02	1.81E+02
K-40	4.31E+03	3.45E+02	2.88E+02

Sample ID: 272540 **Sample Dates: 11/5/2013 - 11/5/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<3.80E+01	0.00E+00	3.80E+01
Cs-134	<4.57E+01	0.00E+00	4.57E+01
Cs-137	<4.20E+01	0.00E+00	4.20E+01
Be-7	1.02E+03	1.82E+02	4.37E+02
K-40	4.41E+03	5.42E+02	6.73E+02

Sample ID: 274046 **Sample Dates: 10/22/2013 - 10/22/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<3.51E+01	0.00E+00	3.51E+01
Cs-134	<3.24E+01	0.00E+00	3.24E+01
Cs-137	<4.46E+01	0.00E+00	4.46E+01
Be-7	6.56E+02	1.44E+02	2.73E+02
K-40	3.93E+03	3.95E+02	1.07E+02

Sample ID: 275262 **Sample Dates: 12/3/2013 - 12/3/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<2.42E+01	0.00E+00	2.42E+01
Cs-134	<2.47E+01	0.00E+00	2.47E+01
Cs-137	<2.71E+01	0.00E+00	2.71E+01

Media Type: VEGETATION Concentration (Activity): pCi/kg

Sample Point 200 [INDICATOR - NNE @ 0.63 miles]

Sample ID:	275262	Sample Dates: 12/3/2013 - 12/3/2013	Nuclide	Activity	1 Sigma Error	LLD
			Be-7	4.98E+02	1.17E+02	2.23E+02
			K-40	4.52E+03	3.15E+02	2.17E+02

Sample Point 201 [INDICATOR - NE @ 0.53 miles]

Sample ID:	250000	Sample Dates: 1/2/2013 - 1/2/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<2.97E+01	0.00E+00	2.97E+01
			Cs-134	<3.23E+01	0.00E+00	3.23E+01
			Cs-137	<3.70E+01	0.00E+00	3.70E+01
			Be-7	1.44E+03	1.66E+02	2.39E+02
			K-40	3.94E+03	2.94E+02	3.35E+02
Sample ID:	250958	Sample Dates: 2/5/2013 - 2/5/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<2.61E+01	0.00E+00	2.61E+01
			Cs-134	<2.81E+01	0.00E+00	2.81E+01
			Cs-137	<3.52E+01	0.00E+00	3.52E+01
			Be-7	1.55E+03	1.80E+02	2.26E+02
			K-40	5.26E+03	3.41E+02	3.03E+02
Sample ID:	252703	Sample Dates: 3/5/2013 - 3/5/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<2.85E+01	0.00E+00	2.85E+01
			Cs-134	<2.47E+01	0.00E+00	2.47E+01
			Cs-137	<3.20E+01	0.00E+00	3.20E+01
			Be-7	1.15E+03	1.33E+02	2.16E+02
			K-40	6.00E+03	3.62E+02	2.64E+02
Sample ID:	255045	Sample Dates: 4/2/2013 - 4/2/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<2.18E+01	0.00E+00	2.18E+01
			Cs-134	<2.48E+01	0.00E+00	2.48E+01
			Cs-137	<3.15E+01	0.00E+00	3.15E+01
			Be-7	1.72E+03	1.58E+02	1.68E+02
			K-40	4.56E+03	3.21E+02	2.06E+02
Sample ID:	256534	Sample Dates: 5/7/2013 - 5/7/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<2.57E+01	0.00E+00	2.57E+01
			Cs-134	<1.91E+01	0.00E+00	1.91E+01
			Cs-137	<3.00E+01	0.00E+00	3.00E+01
			Be-7	1.24E+03	1.67E+02	2.70E+02
			K-40	3.94E+03	3.61E+02	3.46E+02
Sample ID:	257933	Sample Dates: 6/4/2013 - 6/4/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<2.88E+01	0.00E+00	2.88E+01
			Cs-134	<2.70E+01	0.00E+00	2.70E+01
			Cs-137	<4.10E+01	0.00E+00	4.10E+01
			Be-7	6.33E+02	1.68E+02	2.70E+02
			K-40	4.25E+03	3.86E+02	4.20E+02
Sample ID:	259626	Sample Dates: 7/2/2013 - 7/2/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<2.28E+01	0.00E+00	2.28E+01
			Cs-134	<1.95E+01	0.00E+00	1.95E+01
			Cs-137	<2.47E+01	0.00E+00	2.47E+01
			Be-7	8.43E+02	9.76E+01	1.64E+02
			K-40	4.11E+03	2.88E+02	1.99E+02
Sample ID:	262856	Sample Dates: 8/6/2013 - 8/6/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.05E+01	0.00E+00	1.05E+01
			Cs-134	<9.43E+00	0.00E+00	9.43E+00
			Cs-137	<1.01E+01	0.00E+00	1.01E+01
			Be-7	<8.09E+01	0.00E+00	8.09E+01
			K-40	1.22E+03	1.06E+02	8.24E+01
Sample ID:	265433	Sample Dates: 9/4/2013 - 9/4/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<3.57E+01	0.00E+00	3.57E+01
			Cs-134	<2.93E+01	0.00E+00	2.93E+01
			Cs-137	<4.44E+01	0.00E+00	4.44E+01
			Be-7	9.89E+02	1.86E+02	2.72E+02
			K-40	4.18E+03	3.91E+02	3.34E+02
Sample ID:	269593	Sample Dates: 10/1/2013 - 10/1/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<2.29E+01	0.00E+00	2.29E+01

CATAWBA Radiological Environmental Monitoring Analysis Report - 2013 (Appendix E)

Media Type: VEGETATION Concentration (Activity): pCi/kg

Sample Point 201 [INDICATOR - NE @ 0.53 miles]

Sample ID:	269593	Sample Dates: 10/1/2013 - 10/1/2013	Nuclide	Activity	1 Sigma Error	LLD
			Cs-134	<2.46E+01	0.00E+00	2.46E+01
			Cs-137	<3.21E+01	0.00E+00	3.21E+01
			Be-7	9.56E+02	1.32E+02	1.83E+02
			K-40	3.09E+03	2.77E+02	2.64E+02
Sample ID:	272541	Sample Dates: 11/5/2013 - 11/5/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<3.53E+01	0.00E+00	3.53E+01
			Cs-134	<3.37E+01	0.00E+00	3.37E+01
			Cs-137	<5.97E+01	0.00E+00	5.97E+01
			Be-7	1.12E+03	2.03E+02	3.60E+02
			K-40	3.12E+03	4.42E+02	4.59E+02
Sample ID:	274047	Sample Dates: 10/22/2013 - 10/22/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<2.73E+01	0.00E+00	2.73E+01
			Cs-134	<2.26E+01	0.00E+00	2.26E+01
			Cs-137	<3.25E+01	0.00E+00	3.25E+01
			Be-7	8.12E+02	1.44E+02	1.64E+02
			K-40	2.44E+03	2.44E+02	2.23E+02
Sample ID:	275263	Sample Dates: 12/3/2013 - 12/3/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<3.06E+01	0.00E+00	3.06E+01
			Cs-134	<2.72E+01	0.00E+00	2.72E+01
			Cs-137	<3.41E+01	0.00E+00	3.41E+01
			Be-7	1.80E+03	1.65E+02	2.31E+02
			K-40	4.02E+03	3.98E+02	4.69E+02

Sample Point 222 [INDICATOR - N @ 0.7 miles]

Sample ID:	250001	Sample Dates: 1/2/2013 - 1/2/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.87E+01	0.00E+00	1.87E+01
			Cs-134	<1.65E+01	0.00E+00	1.65E+01
			Cs-137	<2.44E+01	0.00E+00	2.44E+01
			Be-7	1.16E+03	1.08E+02	1.54E+02
			K-40	2.85E+03	2.45E+02	2.63E+02
Sample ID:	250959	Sample Dates: 2/5/2013 - 2/5/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<2.35E+01	0.00E+00	2.35E+01
			Cs-134	<2.26E+01	0.00E+00	2.26E+01
			Cs-137	<3.06E+01	0.00E+00	3.06E+01
			Be-7	1.06E+03	1.16E+02	1.86E+02
			K-40	3.88E+03	2.87E+02	2.04E+02
Sample ID:	252704	Sample Dates: 3/5/2013 - 3/5/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<5.52E+01	0.00E+00	5.52E+01
			Cs-134	<5.23E+01	0.00E+00	5.23E+01
			Cs-137	<7.24E+01	0.00E+00	7.24E+01
			Be-7	1.16E+03	2.61E+02	4.24E+02
			K-40	4.12E+03	4.82E+02	5.89E+02
Sample ID:	255046	Sample Dates: 4/2/2013 - 4/2/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<2.74E+01	0.00E+00	2.74E+01
			Cs-134	<3.49E+01	0.00E+00	3.49E+01
			Cs-137	<2.86E+01	0.00E+00	2.86E+01
			Be-7	1.27E+03	1.40E+02	2.46E+02
			K-40	4.50E+03	3.25E+02	1.71E+02
Sample ID:	256535	Sample Dates: 5/7/2013 - 5/7/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<2.28E+01	0.00E+00	2.28E+01
			Cs-134	<2.34E+01	0.00E+00	2.34E+01
			Cs-137	<2.44E+01	0.00E+00	2.44E+01
			Be-7	5.56E+02	1.09E+02	2.13E+02
			K-40	4.43E+03	3.03E+02	2.77E+02
Sample ID:	257934	Sample Dates: 6/4/2013 - 6/4/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<2.75E+01	0.00E+00	2.75E+01
			Cs-134	<2.37E+01	0.00E+00	2.37E+01
			Cs-137	<3.62E+01	0.00E+00	3.62E+01
			Be-7	5.23E+02	1.25E+02	2.70E+02
			K-40	3.20E+03	3.53E+02	4.25E+02

Media Type: VEGETATION Concentration (Activity): pCi/kg

Sample Point 222 [INDICATOR - N @ 0.7 miles]

Sample ID:	259627	Sample Dates: 7/2/2013 - 7/2/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<3.09E+01	0.00E+00	3.09E+01
			Cs-134	<3.09E+01	0.00E+00	3.09E+01
			Cs-137	<3.46E+01	0.00E+00	3.46E+01
			Be-7	7.32E+02	1.19E+02	2.34E+02
			K-40	3.04E+03	3.53E+02	3.82E+02
Sample ID:	262857	Sample Dates: 8/6/2013 - 8/6/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.74E+01	0.00E+00	1.74E+01
			Cs-134	<1.75E+01	0.00E+00	1.75E+01
			Cs-137	<2.48E+01	0.00E+00	2.48E+01
			Be-7	1.50E+03	1.15E+02	1.15E+02
			K-40	2.34E+03	2.05E+02	1.92E+02
Sample ID:	265434	Sample Dates: 9/4/2013 - 9/4/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<3.69E+01	0.00E+00	3.69E+01
			Cs-134	<3.14E+01	0.00E+00	3.14E+01
			Cs-137	<4.46E+01	0.00E+00	4.46E+01
			Be-7	1.92E+03	2.32E+02	3.59E+02
			K-40	3.50E+03	4.06E+02	3.80E+02
Sample ID:	269594	Sample Dates: 10/1/2013 - 10/1/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<5.53E+01	0.00E+00	5.53E+01
			Cs-134	<3.85E+01	0.00E+00	3.85E+01
			Cs-137	<4.82E+01	0.00E+00	4.82E+01
			Be-7	1.44E+03	2.23E+02	4.13E+02
			K-40	2.85E+03	4.54E+02	5.52E+02
Sample ID:	272542	Sample Dates: 11/5/2013 - 11/5/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<4.96E+01	0.00E+00	4.96E+01
			Cs-134	<5.73E+01	0.00E+00	5.73E+01
			Cs-137	<4.62E+01	0.00E+00	4.62E+01
			Be-7	7.58E+02	2.00E+02	4.35E+02
			K-40	2.57E+03	5.22E+02	9.10E+02
Sample ID:	275264	Sample Dates: 12/3/2013 - 12/3/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<3.94E+01	0.00E+00	3.94E+01
			Cs-134	<4.19E+01	0.00E+00	4.19E+01
			Cs-137	<4.41E+01	0.00E+00	4.41E+01
			Be-7	7.49E+02	1.25E+02	2.78E+02
			K-40	1.97E+03	3.28E+02	4.05E+02

Sample Point 226 [INDICATOR - S @ 0.48 miles]

Sample ID:	250002	Sample Dates: 1/2/2013 - 1/2/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<2.26E+01	0.00E+00	2.26E+01
			Cs-134	<2.97E+01	0.00E+00	2.97E+01
			Cs-137	<3.27E+01	0.00E+00	3.27E+01
			Be-7	7.78E+02	1.67E+02	2.22E+02
			K-40	3.33E+03	3.15E+02	2.18E+02
Sample ID:	250960	Sample Dates: 2/5/2013 - 2/5/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<1.58E+01	0.00E+00	1.58E+01
			Cs-134	<1.95E+01	0.00E+00	1.95E+01
			Cs-137	<2.39E+01	0.00E+00	2.39E+01
			Be-7	9.03E+02	1.05E+02	1.77E+02
			K-40	3.94E+03	2.90E+02	2.10E+02
Sample ID:	252705	Sample Dates: 3/5/2013 - 3/5/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<3.47E+01	0.00E+00	3.47E+01
			Cs-134	<3.97E+01	0.00E+00	3.97E+01
			Cs-137	<3.91E+01	0.00E+00	3.91E+01
			Be-7	7.49E+02	1.64E+02	2.77E+02
			K-40	2.65E+03	4.31E+02	6.44E+02
Sample ID:	255047	Sample Dates: 4/2/2013 - 4/2/2013	Nuclide	Activity	1 Sigma Error	LLD
			I-131	<2.83E+01	0.00E+00	2.83E+01
			Cs-134	<1.92E+01	0.00E+00	1.92E+01
			Cs-137	<2.18E+01	0.00E+00	2.18E+01
			Be-7	7.92E+02	1.35E+02	2.17E+02
			K-40	5.07E+03	3.42E+02	2.12E+02

CATAWBA Radiological Environmental Monitoring Analysis Report - 2013 (Appendix E)

Media Type: VEGETATION Concentration (Activity): pCi/kg

Sample Point 226 [INDICATOR - S @ 0.48 miles]

Sample ID: 256536 **Sample Dates: 5/7/2013 - 5/7/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<2.84E+01	0.00E+00	2.84E+01
Cs-134	<1.82E+01	0.00E+00	1.82E+01
Cs-137	<2.41E+01	0.00E+00	2.41E+01
Be-7	6.89E+02	1.26E+02	2.44E+02
K-40	3.56E+03	3.62E+02	3.75E+02

Sample ID: 257935 **Sample Dates: 6/4/2013 - 6/4/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<2.03E+01	0.00E+00	2.03E+01
Cs-134	<1.69E+01	0.00E+00	1.69E+01
Cs-137	<2.08E+01	0.00E+00	2.08E+01
Be-7	5.06E+02	1.05E+02	1.52E+02
K-40	3.63E+03	2.75E+02	1.74E+02

Sample ID: 259628 **Sample Dates: 7/2/2013 - 7/2/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.59E+01	0.00E+00	1.59E+01
Cs-134	<2.09E+01	0.00E+00	2.09E+01
Cs-137	<2.58E+01	0.00E+00	2.58E+01
Be-7	6.26E+02	8.94E+01	1.47E+02
K-40	3.87E+03	2.87E+02	1.80E+02

Sample ID: 262858 **Sample Dates: 8/6/2013 - 8/6/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.94E+01	0.00E+00	1.94E+01
Cs-134	<1.40E+01	0.00E+00	1.40E+01
Cs-137	<2.24E+01	0.00E+00	2.24E+01
Be-7	7.46E+02	1.29E+02	1.90E+02
K-40	3.52E+03	3.11E+02	3.26E+02

Sample ID: 265435 **Sample Dates: 9/4/2013 - 9/4/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<2.66E+01	0.00E+00	2.66E+01
Cs-134	<2.02E+01	0.00E+00	2.02E+01
Cs-137	<2.98E+01	0.00E+00	2.98E+01
Be-7	9.58E+02	1.22E+02	1.64E+02
K-40	4.98E+03	3.66E+02	1.95E+02

Sample ID: 269595 **Sample Dates: 10/1/2013 - 10/1/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<2.33E+01	0.00E+00	2.33E+01
Cs-134	<1.66E+01	0.00E+00	1.66E+01
Cs-137	<2.16E+01	0.00E+00	2.16E+01
Be-7	8.41E+02	1.08E+02	1.57E+02
K-40	5.64E+03	2.94E+02	1.70E+02

Sample ID: 272543 **Sample Dates: 11/5/2013 - 11/5/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<3.62E+01	0.00E+00	3.62E+01
Cs-134	<4.05E+01	0.00E+00	4.05E+01
Cs-137	<4.56E+01	0.00E+00	4.56E+01
Be-7	8.28E+02	2.08E+02	2.66E+02
K-40	4.86E+03	4.77E+02	5.54E+02

Sample ID: 275265 **Sample Dates: 12/3/2013 - 12/3/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<4.18E+01	0.00E+00	4.18E+01
Cs-134	<3.69E+01	0.00E+00	3.69E+01
Cs-137	<4.67E+01	0.00E+00	4.67E+01
Be-7	6.66E+02	1.80E+02	2.77E+02
K-40	4.08E+03	4.92E+02	4.92E+02

Sample Point 258 [CONTROL - W @ 9.84 miles]

Sample ID: 250003 **Sample Dates: 1/2/2013 - 1/2/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<2.69E+01	0.00E+00	2.69E+01
Cs-134	<2.13E+01	0.00E+00	2.13E+01
Cs-137	<3.17E+01	0.00E+00	3.17E+01
Be-7	1.10E+03	1.42E+02	1.89E+02
K-40	4.45E+03	4.19E+02	4.48E+02

Sample ID: 250961 **Sample Dates: 2/5/2013 - 2/5/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.89E+01	0.00E+00	1.89E+01
Cs-134	<2.11E+01	0.00E+00	2.11E+01
Cs-137	<2.64E+01	0.00E+00	2.64E+01
Be-7	1.31E+03	1.25E+02	1.52E+02
K-40	5.84E+03	3.32E+02	1.56E+02

CATAWBA Radiological Environmental Monitoring Analysis Report - 2013 (Appendix E)

Media Type: VEGETATION Concentration (Activity): pCi/kg

Sample Point 258 [CONTROL - W @ 9.84 miles]

Sample ID: 252706 **Sample Dates: 3/5/2013 - 3/5/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<2.25E+01	0.00E+00	2.25E+01
Cs-134	<2.61E+01	0.00E+00	2.61E+01
Cs-137	<2.69E+01	0.00E+00	2.69E+01
Be-7	1.77E+03	1.38E+02	2.02E+02
K-40	5.43E+03	3.24E+02	2.94E+02

Sample ID: 255075 **Sample Dates: 4/2/2013 - 4/2/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.98E+01	0.00E+00	1.98E+01
Cs-134	<2.15E+01	0.00E+00	2.15E+01
Cs-137	<2.27E+01	0.00E+00	2.27E+01
Be-7	1.86E+03	1.29E+02	1.42E+02
K-40	6.18E+03	3.34E+02	2.18E+02

Sample ID: 256537 **Sample Dates: 5/7/2013 - 5/7/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.70E+01	0.00E+00	1.70E+01
Cs-134	<1.64E+01	0.00E+00	1.64E+01
Cs-137	<1.81E+01	0.00E+00	1.81E+01
Be-7	1.33E+03	1.15E+02	1.24E+02
K-40	3.14E+03	2.33E+02	1.51E+02

Sample ID: 257936 **Sample Dates: 6/4/2013 - 6/4/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.97E+01	0.00E+00	1.97E+01
Cs-134	<1.40E+01	0.00E+00	1.40E+01
Cs-137	<2.60E+01	0.00E+00	2.60E+01
Be-7	5.02E+02	9.59E+01	1.67E+02
K-40	3.95E+03	2.40E+02	2.02E+02

Sample ID: 259635 **Sample Dates: 7/2/2013 - 7/2/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<6.74E+00	0.00E+00	6.74E+00
Cs-134	<6.61E+00	0.00E+00	6.61E+00
Cs-137	<7.97E+00	0.00E+00	7.97E+00
Be-7	5.67E+02	3.92E+01	5.24E+01
K-40	4.56E+03	1.35E+02	7.05E+01

Sample ID: 262860 **Sample Dates: 8/6/2013 - 8/6/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<1.88E+01	0.00E+00	1.88E+01
Cs-134	<1.58E+01	0.00E+00	1.58E+01
Cs-137	<1.74E+01	0.00E+00	1.74E+01
Be-7	9.32E+02	1.10E+02	1.62E+02
K-40	4.02E+03	2.93E+02	2.12E+02

Sample ID: 265437 **Sample Dates: 9/4/2013 - 9/4/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<2.16E+01	0.00E+00	2.16E+01
Cs-134	<1.92E+01	0.00E+00	1.92E+01
Cs-137	<2.43E+01	0.00E+00	2.43E+01
Be-7	1.02E+03	1.16E+02	1.73E+02
K-40	5.48E+03	3.26E+02	1.98E+02

Sample ID: 269596 **Sample Dates: 10/1/2013 - 10/1/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<2.74E+01	0.00E+00	2.74E+01
Cs-134	<2.24E+01	0.00E+00	2.24E+01
Cs-137	<2.26E+01	0.00E+00	2.26E+01
Be-7	1.25E+03	1.27E+02	1.57E+02
K-40	4.69E+03	3.10E+02	2.69E+02

Sample ID: 272544 **Sample Dates: 11/5/2013 - 11/5/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<2.88E+01	0.00E+00	2.88E+01
Cs-134	<2.95E+01	0.00E+00	2.95E+01
Cs-137	<3.48E+01	0.00E+00	3.48E+01
Be-7	1.67E+03	1.66E+02	2.95E+02
K-40	3.49E+03	3.90E+02	3.45E+02

Sample ID: 275267 **Sample Dates: 12/3/2013 - 12/3/2013**

Nuclide	Activity	1 Sigma Error	LLD
I-131	<3.02E+01	0.00E+00	3.02E+01
Cs-134	<2.82E+01	0.00E+00	2.82E+01
Cs-137	<4.20E+01	0.00E+00	4.20E+01
Be-7	8.74E+02	1.47E+02	2.40E+02
K-40	3.86E+03	4.03E+02	2.66E+02

APPENDIX F

ERRATA TO PREVIOUS REPORTS

APPENDIX F

ERRATA TO THE 2013 AREOR

There are no errata to be appended to the 2013 AREOR.