



ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT

**DUKE ENERGY CORPORATION
MCGUIRE NUCLEAR STATION
Units 1 and 2**

2018



TABLE OF CONTENTS

1.0 Executive Summary	1-1
2.0 Introduction	2-1
2.1 Site Description and Sample Locations	2-1
2.2 Scope and Requirements of the REMP	2-1
2.3 Statistical and Calculational Methodology	2-2
2.3.1 Estimation of the Mean Value	2-2
2.3.2 Lower Limit of Detection and Minimum Detectable Activity	2-3
2.3.3 Trend Identification.	2-3
3.0 Interpretation of Results	3-1
3.1 Airborne Radioiodine and Particulates	3-3
3.2 Drinking Water	3-6
3.3 Surface Water	3-9
3.4 Milk	3-11
3.5 Broadleaf Vegetation	3-13
3.6 Food Products	3-15
3.7 Fish	3-17
3.8 Shoreline Sediment	3-19
3.9 Direct Gamma Radiation	3-21
3.9.1 Environmental TLD	3-21
3.9.2 ISFSI	3-22
3.10 Land Use Census	3-27
4.0 Evaluation of Dose	4-1
4.1 Dose from Environmental Measurements	4-1
4.2 Estimated Dose from Releases	4-1
4.3 Comparison of Doses.	4-2
5.0 Quality Assurance	5-1
5.1 Sample Collection	5-1
5.2 Sample Analysis	5-1
5.3 Dosimetry Analysis	5-1
5.4 Laboratory Equipment Quality Assurance	5-1
5.4.1 Daily Quality Control	5-1
5.4.2 Calibration Verification	5-1
5.4.3 Batch Processing	5-1
5.5 Duke Energy Interlaboratory Comparison Program	5-2
5.5.1 Eckert & Ziegler Analytics Cross Check Program	5-2
5.6 State of North Carolina Intercomparison Program	5-2
5.7 TLD Intercomparison Program	5-2
5.7.1 Nuclear Technology Services Intercomparison Program	5-2
5.7.2 Internal Cross Check (Duke Energy).	5-3
5.8 General Engineering Laboratory, LLC (GEL)	5-3
Appendices	
Appendix A: Environmental Sampling & Analysis Procedures	A-1
I. Change of Sampling Procedures	A-2
II. Description of Analysis Procedures	A-2
III. Change of Analysis Procedures	A-3
IV. Sampling and Analysis Procedures	A-3
A.1 Airborne Particulate and Radioiodine	A-3

A.2	Drinking Water	A-3
A.3	Surface Water	A-4
A.4	Milk	A-4
A.5	Broadleaf Vegetation	A-4
A.6	Food Products	A-4
A.7	Fish	A-5
A.8	Shoreline Sediment	A-5
A.9	Direct Gamma Radiation (TLD)	A-5
A.10	Annual Land Use Census	A-5
V.	Global Positioning System (GPS) Analysis	A-6
Appendix B:	Radiological Environmental Monitoring Program - Summary of Results.	B-1
	Air Particulate	B-2
	Air Radioiodine	B-2
	Drinking Water	B-2
	Surface Water	B-2
	Milk	B-2
	Broadleaf Vegetation	B-3
	Food Products	B-3
	Fish	B-3
	Shoreline Sediment	B-3
	Direct Gamma Radiation (TLD)	B-3
	Footnotes to Appendix B	B-4
Appendix C:	Sampling Deviations & Unavailable Analyses	C-1
	C.1 Sampling Deviations	C-2
	C.2 Unavailable Analyses	C-3
Appendix D:	Analytical Deviations	D-1
Appendix E:	Radiological Environmental Monitoring Program Results	E-1
Appendix F:	Errata to Previous Reports	F-1

LIST OF FIGURES

2.1-1	McGuire Nuclear Station Sampling Locations Map (0.5 Mile Radius)	2-4
2.1-2	McGuire Nuclear Station Sampling Locations Map (Ten Mile Radius)	2-5
3.1	Concentration of Gross Beta in Air Particulate	3-3
3.2-1	Concentration of Gross Beta in Drinking Water	3-7
3.2-2	Concentration of Tritium in Drinking Water	3-7
3.3	Concentration of Tritium in Surface Water	3-9
3.7	Concentration of Cs-137 in Fish	3-17
3.8	Concentration of Cs-137 in Shoreline Sediment	3-19
3.9	Direct Gamma Radiation (TLD) Results	3-23
3.10	McGuire Nuclear Station 2018 Land Use Census Map.	3-29

LIST OF TABLES

2.1-A	McGuire Radiological Monitoring Program Sampling Locations	2-6
2.1-B	McGuire Radiological Monitoring Program Sampling Locations (TLD Sites)	2-7
2.2-A	Reporting Levels for Radioactivity Concentrations in Environmental Samples	2-8
2.2-B	REMP Analysis Frequency	2-8
2.2-C	Maximum Values for the <i>A Priori</i> Lower Limits of Detection	2-9
3.1-A	Mean Concentrations of Radionuclides in Air Particulate	3-4
3.1-B	Mean Concentrations of Air Radioiodine (I-131)	3-5
3.2	Mean Concentrations of Radionuclides in Drinking Water	3-8
3.3	Mean Concentrations of Tritium in Surface Water	3-10
3.4	Mean Concentrations of Cs-137 in Milk	3-12
3.5	Mean Concentrations of Cs-137 in Broadleaf Vegetation	3-14
3.6	Mean Concentrations of Cs-137 in Food Products	3-16

3.7	Mean Concentrations of Radionuclides in Fish (pCi/kg)	3-18
3.8	Mean Concentrations of Radionuclides in Shoreline Sediment (pCi/kg)	3-20
3.9-A	Direct Gamma Radiation (TLD) Results	3-24
3.9-B	Direct Gamma Radiation (TLD) McGuire 2018 Investigation Level	3-25
3.10	McGuire 2018 Land Use Census Results	3-28
4.1-A	McGuire Nuclear Station 2018 Environmental and Effluent Dose Comparison	4-3
4.1-B	Maximum Individual Dose for 2018 based on Environmental Measurements (mrem) for McGuire Nuclear Station	4-5
5.0-A	Eckert & Ziegler Analytics Cross Check Program	5-4
5.0-B	2018 Environmental Dosimeter Cross-Check Results	5-6
5.0-C	2018 GEL Laboratories, LLC QA Results	5-8

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

AREOR	Annual Radiological Environmental Operating Report
ARERR	Annual Radiological Effluent Release Report
BW	BiWeekly
C	Control
CR	Condition Report (analogous to Nuclear Condition Report (NCR))
EZA	Eckert & Ziegler Analytics
GEL	General Engineering Laboratory, LLC
GI-LLI	Gastrointestinal – Lower Large Intestine
GPS	Global Positioning System
I	Indicator
IR	Inner Ring
ISFSI	Independent Spent Fuel Storage Installation
LLD	Lower Limit of Detection
LLI	Low Level Iodine
LUC	Land Use Census
M	Monthly
MAPEP	Department of Energy Mixed Analyte Performance Evaluation Program
MDA	Minimum Detectable Activity
MNS	McGuire Nuclear Station
mrem	Millirem
mR/Std Qtr	milliroentgen per standard quarter
MWe	Megawatt (electrical)
NIST	National Institute of Standards and Technology
NCR	Nuclear Condition Report (analogous to Condition Report (CR))
NRC	Nuclear Regulatory Commission
ODCM	Offsite Dose Calculation Manual
OR	Outer Ring
pCi/kg	picocurie per kilogram
pCi/l	picocurie per liter
pCi/m ³	picocurie per cubic meter
Q	Quarterly
REMP	Radiological Environmental Monitoring Program
SA	Semiannually
SI	Special Interest
SLCs	Selected Licensee Commitments
SM	Semimonthly
T. Body	Total Body
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 McGuire Nuclear Station Radiological Environmental Monitoring Program (REMP), and the program results for the calendar year 2018.

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 (SLC's). Required analyses were performed and detection capabilities were met for all collected samples as required by SLC's. Eleven hundred forty-nine samples were analyzed comprising 1,240 test results to compile data for the 2018 report. Based on the annual land use census, the current number of sampling sites for McGuire Nuclear Station is sufficient.

Concentrations observed in the environment in 2018 for station related radionuclides were generally within the ranges of concentrations observed in the past. Inspection of data showed that radioactivity concentrations in drinking water, fish, and surface water are higher 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 SLC's.

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 6.15E-2 mrem for 2018. 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).¹ It is therefore concluded that station operations has had no significant radiological impact on the health and safety of the public or the environment.

¹NCRP (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).

2.0 INTRODUCTION

2.1 SITE DESCRIPTION AND SAMPLE LOCATIONS

McGuire Nuclear Station (MNS) is located geographically near the center of a highly industrialized region of the Carolinas. The land is predominantly rural non-farm with a small amount of land being used for farming. The McGuire site is in northwestern Mecklenburg County, North Carolina, 17 miles north-northwest of Charlotte, North Carolina. The site is bounded to the west by the Catawba River channel and to the north by 32,510 acre Lake Norman. Lake Norman is impounded by Duke Energy Corporation's Cowans Ford Dam Hydroelectric Station. The tailwater of Cowans Ford Dam is the upper limit of Mountain Island Reservoir. Mountain Island Dam is located 15 miles downstream from the site. Lookout Shoals Hydroelectric Station is at the upper reaches of Lake Norman. Marshall Steam Station is located on the western shore of Lake Norman, approximately 16 miles upstream from the site.

MNS consists of two pressurized water reactors. Each reactor unit is essentially a mirror image of the other joined by an auxiliary building housing both separate and common equipment. Each unit was designed to produce approximately 1200 gross MWe. Unit 1 achieved criticality August 8, 1981 and Unit 2 on May 8, 1983.

Sampling locations are chosen based upon meteorological factors, preoperational monitoring, and results of the land use surveys. 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 0.5 mile radius of MNS. Figure 2.1-2 comprises all sample locations within a ten mile radius of MNS.

2.2 SCOPE AND REQUIREMENTS OF THE REMP

An environmental monitoring program has been in effect at McGuire Nuclear Station since 1977, four years prior to operation of Unit 1 in 1981. 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 McGuire 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 radioactivity 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 Radiological Environmental Monitoring Program 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 3.10.

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:

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

Where:

\bar{x} = estimate of the mean,

i = individual sample,

N = total number of samples with a net activity (or concentration),

x_i = net activity (or concentration) for sample i .

2.3.2 LOWER LIMIT OF DETECTION AND MINIMUM DETECTABLE ACTIVITY

The Lower Limit of Detection (LLD) and Minimum Detectable Activity (MDA) are used throughout the Environmental Monitoring Program.

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* (before the fact) 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. Certain gross counting measurements display a calculated negative value, indicating background is greater than sample activity.

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. Some 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 1986 Chernobyl accident and the 2011 Japan earthquake and tsunami, which triggered the Fukushima Dai-ichi Nuclear Power Plant incident). 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

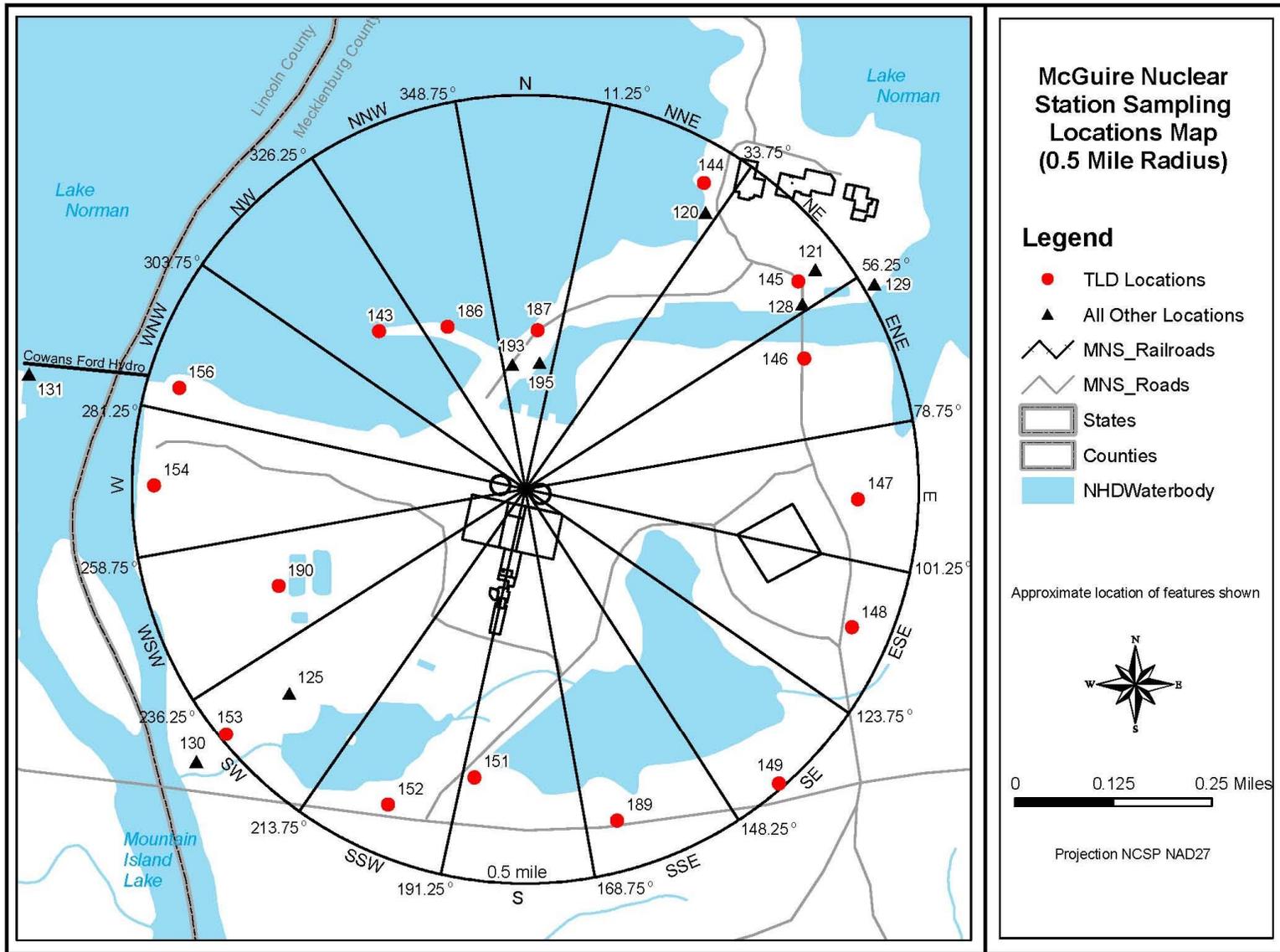


Figure 2.1-2

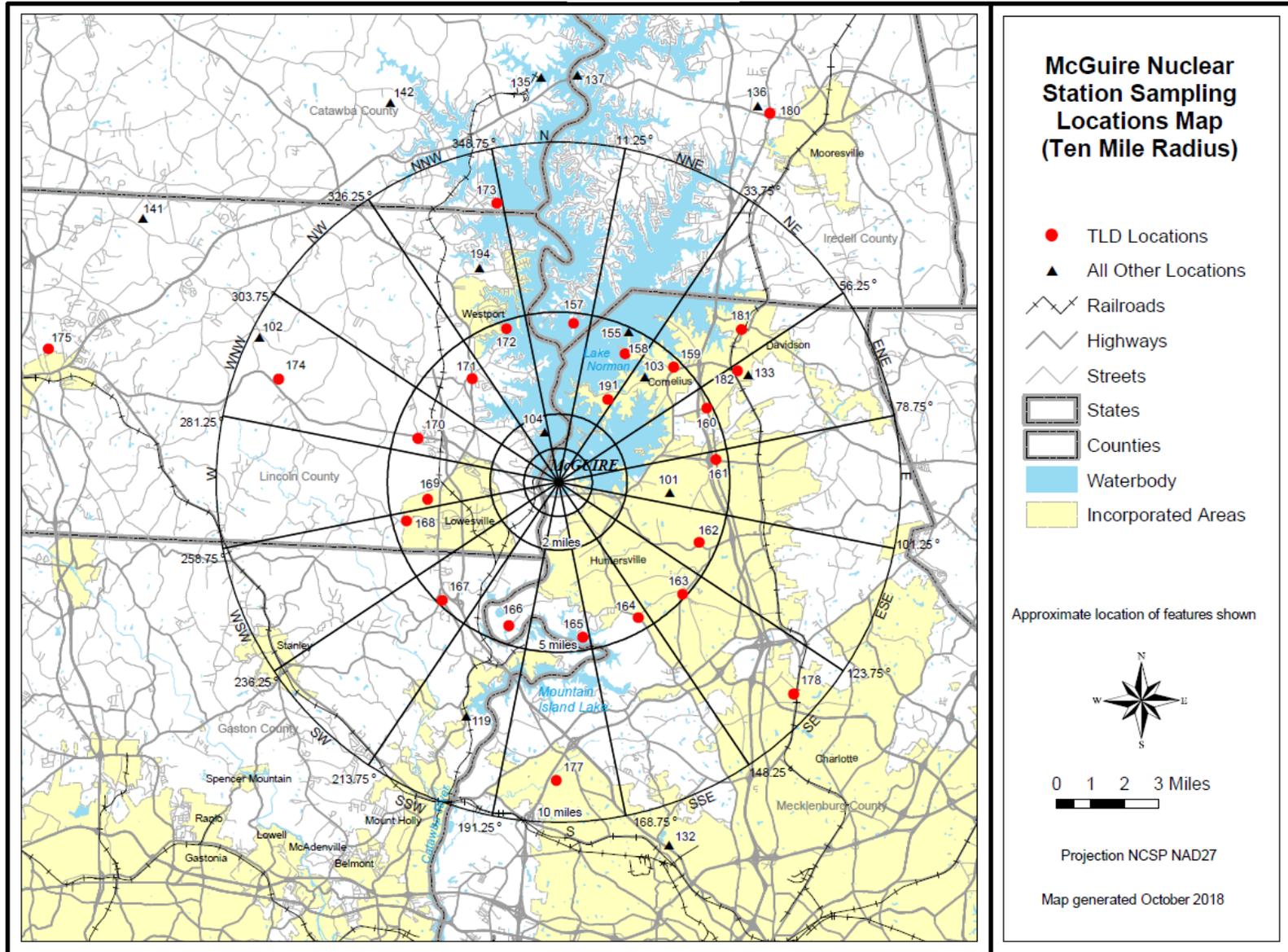


TABLE 2.1-A

**MCGUIRE 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	Fish	Milk	Broad Leaf Veg.
101	I	North Mecklenburg Water Treatment Facility (3.31 mi E)			M					
102	C	Amity Church Road (9.89 mi WNW)	W							M (b)
103	I	Cottonwood Substation (4.20 mi NE)	W							
104	I	5 mile radius Gardens (1.52 mi NNW)					M (a)			
119	I	Mt. Holly Municipal Water Supply (7.40 mi SSW)			M					
120	I	Site Boundary (0.46 mi NNE)	W							M (b)
121	I	Site Boundary (0.47 mi NE)	W							
125	I	Site Boundary (0.38 mi SW)	W							M (b)
128	I	Discharge Canal Bridge (0.45 mi NE)		M						
129	I	Discharge Canal Entrance to Lake Norman (0.51 mi ENE)				SA		SA		
130	I	Hwy 73 Bridge Downstream (0.52 mi SW)				SA				
131	I	Cowans Ford Dam (0.64 mi WNW)		M						
132	I	Charlotte Municipal Water Supply (11.1 mi SSE)			M					
133	I	Cornelius (6.23 mi ENE)	W							
135	C	Plant Marshall Intake Canal (11.9 mi N)		M						
136	C	Mooreville Municipal Water Supply (12.7 mi NNE)			M					
137	C	Pinnacle Access Area (12.0 mi N)				SA		SA		
141	C	Lynch Dairy-Cows (14.8 mi WNW)							SM	
142	C	Lowman Farms-Cows (12.2 mi NNW)							SM	
155	I	Island Forest Drive (4.87 mi NNE)					M (a)			
193	I	Site Boundary (0.19 mi N)								M (b)
194	I	East Lincoln County Water Supply (6.73 mi NNW)			M					
195	I	Fishing Access Road (0.19 mi N)	W							

(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

**MCGUIRE 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
143	IR	SITE BOUNDARY	0.27	NW	164	OR	HAMBRIGHT & BEATTIES FORD ROAD	4.64	SSE
144	IR	SITE BOUNDARY	0.46	NNE	165	OR	ARTHER AUTEN ROAD	4.57	S
145	IR	SITE BOUNDARY	0.47	NE	166	OR	NECK ROAD REFUGUE BOUNDARY	4.44	SSW
146	IR	SITE BOUNDARY	0.42	ENE	167	OR	LUCIA RIVERBEND HWY/OLD FIREHOUSE	4.87	SW
147	IR	SITE BOUNDARY	0.44	E	168	OR	OLD PLANK ROAD BRIDGE	4.60	WSW
148	IR	SITE BOUNDARY	0.46	ESE	169	OR	GLOVER LANE	4.03	W
149	IR	SITE BOUNDARY	0.50	SE	170	OR	LITTLE EGYPT ROAD	4.32	WNW
151	IR	SITE BOUNDARY	0.37	S	171	OR	TRIANGLE ACE HARDWARE	3.95	NW
152	IR	SITE BOUNDARY	0.44	SSW	172	OR	LAKESHORE S RD ISLAND VIEW COURT	4.69	NNW
153	IR	SITE BOUNDARY	0.47	SW	173	SI	KEISTLER STORE / GLENWOOD ROAD	8.39	NNW
154	IR	SITE BOUNDARY	0.45	W	174	SI	EAST LINCOLN JR. HIGH SCHOOL	8.85	WNW
156	IR	SITE BOUNDARY	0.44	WNW	175	C	BOGER CITY	15.5	WNW
189	IR	SITE BOUNDARY	0.43	SSE	177	SI	BELMALLOW RD / COULWOOD	8.77	S
190	IR	SITE BOUNDARY	0.37	WSW	178	SI	FLORIDA STEEL CORPORATION	9.36	SE
157	IR	THE POINTE (MOORESVILLE)	4.69	N	180	SI	MOORESVILLE WATER TREATMENT FACILITY	12.7	NNE
158	OR	BETHEL CHURCH RD	4.33	NNE	181	SI	OLD DAVIDSON WATER FACILITY	7.02	NE
159	OR	HENDERSON ROAD	4.77	NE	182	SI	CORNELIUS AIR SITE # 133	6.23	ENE
160	OR	ANCHORAGE MARINE SHOWROOM	4.89	ENE	186	SI	MCGUIRE FISHING ACCESS ROAD	0.24	NNW
161	OR	SAM FURR ROAD & HWY 21	4.70	E	187	SI	ENERGY EXPLORIUM / AIR SITE # 195	0.19	N
162	OR	RANSON ROAD	4.53	ESE	191	SI	PENINSULA DEV. / JOHN CONNOR ROAD	2.84	NNE
163	OR	MCCOY ROAD	4.94	SE					

* 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)	BroadLeaf Vegetation (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	Weekly	---	---	---	X	---
Particulate	Quarterly Composite	X	---	---	---	---
Direct Radiation	Quarterly	---	---	---	---	X
Surface	Monthly Composite	X	---	---	---	---
Water	Quarterly Composite	---	X	---	---	---
Drinking	Monthly Composite	X	---	(a)	X	---
Water	Quarterly Composite	---	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 *A PRIORI* LOWER LIMITS OF DETECTION**

Analysis	Water (pCi/liter)	Air Particulates or Gases (pCi/m ³)	Fish (pCi/kg-wet)	Milk (pCi/liter)	BroadLeaf Vegetation (pCi/kg-wet)	Sediment (pCi/kg-dry)
Gross Beta	4	0.01	---	---	---	---
H-3	2,000 ^(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 3,000 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 2018 REMP analysis results was performed to detect and identify changes in environmental levels as a result of station operation. The radionuclides with Selected Licensee Commitments reporting levels that indicate consistent detectable activity have been historically trended from preoperation to present. Analyses from 1977 - 1978 have been excluded since these results were much higher than the other preoperational years due to outside influences such as weapons testing. The preoperational analyses from 1981 were combined with the operational analyses from the latter part of 1981 and averaged to give one concentration for each radionuclide for that year. Summary tables containing 2018 information required by Technical Specification Administrative Control 5.6.2 are located in Appendix B. McGuire 2018 REMP results are located in Appendix E.

The highest annual mean concentration of applicable Selected Licensee Commitments radionuclides from the indicator locations for each media type was used for trending purposes. Trending was performed by comparing annual mean concentrations to historical results. Factors evaluated include the frequency of detection and the concentration in terms of the percent of the radionuclide's SLC reporting level (Table 2.2-A). All maximum percent of reporting level values attributable to MNS plant operation were well below the 100% action level. The highest value attributable to MNS plant operations during 2018 was 2.93% for drinking water tritium at the North Mecklenburg Water Treatment Facility (Location 101). Only Selected Licensee Commitments radionuclides were detected in 2018.

Ground water monitoring wells located on the MNS site are part of the Nuclear Energy Institute (NEI) 07-07 radiological groundwater monitoring wells and are reported in the MNS Annual Radioactive Effluent Release Report (ARERR). NEI 07-07 was developed to describe the industry's Ground Water Protection Initiative. NEI 07-07 radiological groundwater monitoring wells are used to assure timely detection and effective response to situations involving inadvertent radiological releases to ground water to prevent migration of licensed radioactive material off-site and to quantify impacts on decommissioning. These monitoring wells are not used for Radiological Environmental Monitoring Program (REMP), because they do not monitor water supply for drinking or irrigation purposes. These are not REMP wells because there is no dose associated with this pathway. The McGuire site is bounded to the west by the Catawba River channel and the hydraulic gradient for McGuire flows toward the Catawba River. Sentinel wells are installed and monitored at regular intervals for early detection purposes (NCR # 02035750).

Changes in sample location, analytical technique, and presentation of results must be considered when reviewing for trends. Calculation of the annual mean concentrations has been performed differently over the history of the REMP. During 1979-1986, all net results (sample minus background) positive and negative, were included in the calculation of the mean. Only positive net activity results were used to calculate the mean for the other years. All negative values were replaced with a zero for calculational and graphical purposes to properly represent environmental conditions. A change in gamma spectroscopy analysis systems in 1987 ended a period when many measurements yielded detectable low-level activity for both indicator and control location samples. It is possible that the method the previous system used to estimate net activity may have been vulnerable to false-positive results.

This section includes tables and graphs containing the highest annual mean concentrations of any effluent related radionuclide detected since the change in analysis systems in 1987. Any zero concentrations used in tables or graphs represent activity measurements less than detectable levels. Only the specific radionuclides that represent the highest dose contributors or demonstrate consistent detectable activity are shown graphically.

Data presented in Sections 3.1 through 3.9 support the conclusion that there was no significant increase in radioactivity in the environment around McGuire Nuclear Station due to station operations in 2018. Similarly, there was no significant increase in ambient background radiation levels in the surrounding areas. The 2018 land use census data, shown in Section 3.10, indicates that no program changes are required as a result of the census.

3.1 AIRBORNE RADIOIODINE AND PARTICULATES

In 2018, 364 radioiodine and particulate samples were analyzed, 312 from six indicator locations and 52 from 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.

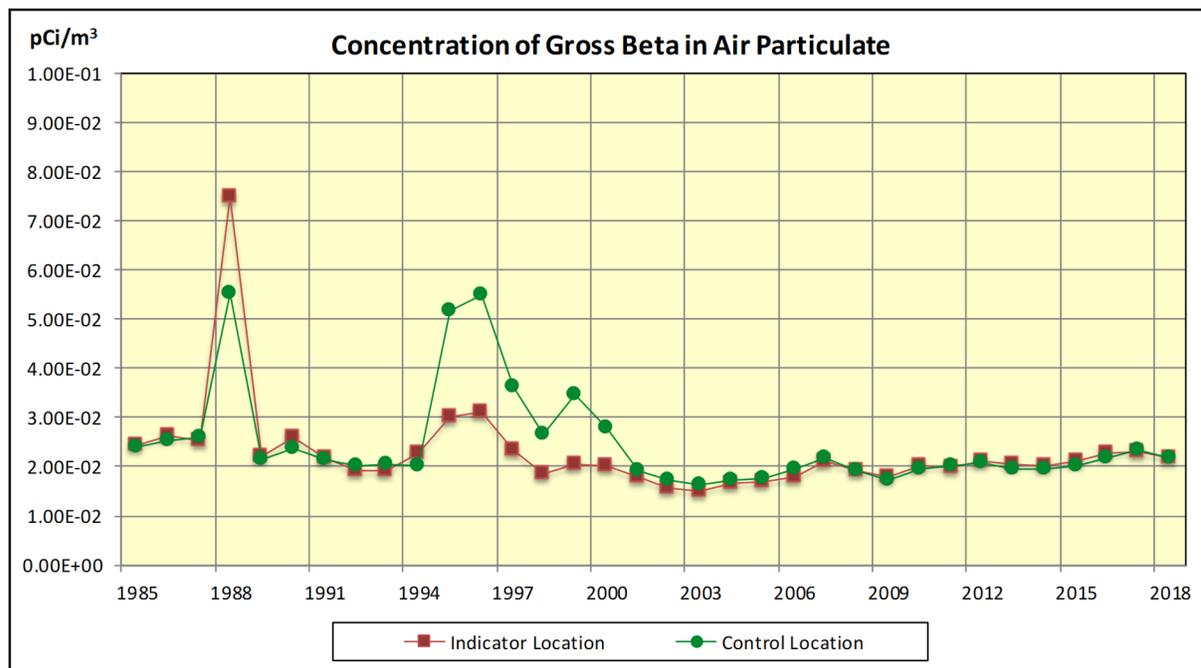
Gross beta analyses indicated $2.17E-2$ pCi/m³ at the location with the highest annual mean and $2.17E-2$ pCi/m³ at the control location. No gamma emitting radionuclide attributable to MNS plant operation has been detected in any air samples since 2004 when Co-58 was observed (NCR # 01552730).

Figure 3.1 shows gross beta highest annual mean indicator and control location concentrations since 1985. There is no reporting level for gross beta. Table 3.1-A shows indicator and control location highest annual means for Cs-137 and gross beta.

Table 3.1-B gives indicator location highest annual means and control means since 1979 for I-131. Preoperational and ten year averages are also shown. No I-131 activity due to MNS plant operation has been detected since 1989. Since no activity was detected in 2018, no reporting levels were approached.

K-40 and Be-7 observed in air samples are naturally occurring radionuclides.

Figure 3.1



There is no reporting level for Gross Beta in air particulate

Table 3.1-A Mean Concentrations of Radionuclides in Air Particulate

YEAR	Cs-137 Indicator (pCi/m³)	Cs-137 Control (pCi/m³)	Beta Indicator (pCi/m³)	Beta Control (pCi/m³)
1979*	4.40E-3	1.47E-3	Not Performed	Not Performed
1980*	6.70E-3	4.53E-3	Not Performed	Not Performed
1981*	6.16E-3	5.32E-3	Not Performed	Not Performed
1982*	3.82E-3	2.29E-3	Not Performed	Not Performed
1983*	2.93E-3	3.21E-3	Not Performed	Not Performed
1984	1.74E-3	8.29E-4	Not Performed	Not Performed
1985	1.86E-3	1.32E-3	2.44E-2	2.40E-2
1986	4.98E-3	3.03E-3	2.64E-2	2.52E-2
1987 ⁽¹⁾	1.07E-2	7.91E-3	2.54E-2	2.59E-2
1988	0.00E0	0.00E0	7.49E-2	5.51E-2
1989	0.00E0	0.00E0	2.22E-2	2.14E-2
1990	0.00E0	0.00E0	2.58E-2	2.37E-2
1991	0.00E0	0.00E0	2.16E-2	2.15E-2
1992	0.00E0	0.00E0	1.92E-2	2.02E-2
1993	0.00E0	0.00E0	1.93E-2	2.04E-2
1994	0.00E0	0.00E0	2.28E-2	2.02E-2
1995	0.00E0	0.00E0	3.02E-2	5.17E-2
1996	0.00E0	0.00E0	3.11E-2	5.49E-2
1997	0.00E0	0.00E0	2.34E-2	3.62E-2
1998	0.00E0	0.00E0	1.86E-2	2.66E-2
1999	0.00E0	0.00E0	2.06E-2	3.47E-2
2000	0.00E0	0.00E0	2.00E-2	2.77E-2
2001	0.00E0	0.00E0	1.79E-2	1.91E-2
2002	0.00E0	0.00E0	1.57E-2	1.72E-2
2003	0.00E0	0.00E0	1.50E-2	1.63E-2
2004	0.00E0	0.00E0	1.67E-2	1.71E-2
2005	0.00E0	0.00E0	1.68E-2	1.77E-2
2006	0.00E0	0.00E0	1.79E-2	1.94E-2
2007	0.00E0	0.00E0	2.12E-2	2.18E-2
2008	0.00E0	0.00E0	1.92E-2	1.93E-2
2009	0.00E0	0.00E0	1.79E-2	1.76E-2
2010	0.00E0	0.00E0	2.01E-2	1.95E-2
2011 ⁽²⁾	7.06E-3	0.00E0	1.99E-2	2.00E-2
2012	0.00E0	0.00E0	2.10E-2	2.08E-2
2013	0.00E0	0.00E0	2.04E-2	1.96E-2
2014 ⁽³⁾	0.00E0	0.00E0	2.02E-2	1.94E-2
2015	0.00E0	0.00E0	2.10E-2	2.02E-2
2016	0.00E0	0.00E0	2.26E-2	2.19E-2
2017	0.00E0	0.00E0	2.31E-2	2.33E-2
2018	0.00E0	0.00E0	2.17E-2	2.17E-2

0.00E0 indicates no detectable measurements

* Radioiodine and Particulates analyzed together

(1) 1987 – Gamma spectroscopy system change

(2) 2011 – Concentration affected by Fukushima Daiichi

(3) 2014 – Gamma spectroscopy system was replaced 10JUL2014. Gamma spectroscopy system hardware, detector cooling apparatus, software, electronics, nuclide identification libraries, and analytical test matrix components for test matrices were modified (NCR # 0739995). No analytical changes were noted due to the 2014 gamma spectroscopy system change.

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

Year	Indicator Location (pCi/m³)	Control Location (pCi/m³)
1979*	3.28E-3	1.04E-3
1980*	2.01E-3	1.10E-3
1981*	4.17E-3	6.27E-4
1982*	1.42E-3	2.48E-3
1983*	1.99E-3	2.01E-4
1984	3.17E-3	0.00E0
1985	3.15E-3	1.04E-3
1986	1.27E-2	6.10E-3
1987 ⁽¹⁾	1.07E-2	6.60E-3
1988	0.00E0	0.00E0
1989	2.18E-2	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 ⁽²⁾	6.00E-2	5.46E-2
2012	0.00E0	0.00E0
2013	0.00E0	0.00E0
2014 ⁽³⁾	0.00E0	0.00E0
2015	0.00E0	0.00E0
2016	0.00E0	0.00E0
2017	0.00E0	0.00E0
2018	0.00E0	0.00E0

0.00E0 indicates no detectable measurements

* Radioiodine and Particulate analyzed together.

(1) 1987 – Gamma spectroscopy system change

(2) 2011– Concentration affected by Fukushima Daiichi

(3) 2014 – Gamma spectroscopy system was replaced 10JUL2014. Gamma spectroscopy system hardware, detector cooling apparatus, software, electronics, nuclide identification libraries, and analytical test matrix components for test matrices were modified (NCR # 0739995). No analytical changes were noted due to the 2014 gamma spectroscopy system change.

3.2 DRINKING WATER

In 2018, 65 drinking water samples were analyzed for gross beta and gamma emitting radionuclides. Fifty-two samples were from the four indicator locations and 13 from the control location. These samples were composited to create 20 quarterly composite period samples for tritium analysis.

No detectable gamma activity attributable to MNS plant operation was found in drinking water samples in 2018 and has not been detected since 1987. K-40 and Be-7 observed in some drinking water samples are naturally occurring radionuclides. Figure 3.2-1 and Table 3.2 shows highest annual mean gross beta concentrations for the indicator location and control location since preoperation. Gross beta analyses indicated 1.80 pCi/l at the location with the highest annual mean and 1.57 pCi/l at the control location.

Tritium was detected in 12 of the 16 indicator composite samples taken in 2018. The 2018 highest mean indicator tritium concentration from location 101 was 585 pCi/liter, which is 2.93% of the 20,000 pCi/l tritium reporting level. Tritium was not detected in any of the four control location samples. The dose for consumption of water was less than one mrem per year, historically and for 2018; therefore low-level iodine analysis is not required. Figure 3.2-2 shows tritium highest annual mean indicator and control location concentrations with comparisons to 20% of the reporting level. Table 3.2 gives indicator location highest annual means and control means since 1979 for tritium and gross beta. There is no reporting level for gross beta.

Drinking water Location 101 was added to the sampling program in 1999. Figure 3.2 shows an increase beginning in that year. There was an increase in tritium releases in 2006 due to silica removal from the spent fuel pools which resulted in additional water volume being released from the plant. An extreme drought during the second half of 2007 and much of 2008 affecting the Catawba River Basin resulted in less dilution volume available in Lake Norman.

Figure 3.2-1

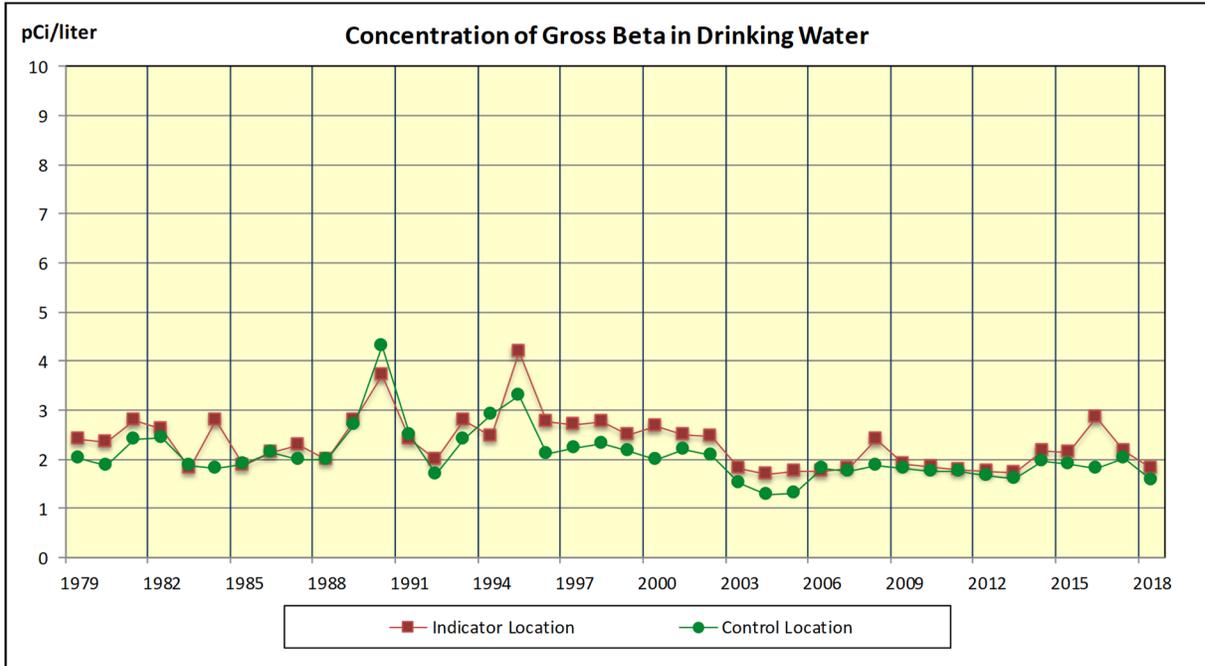


Figure 3.2-2

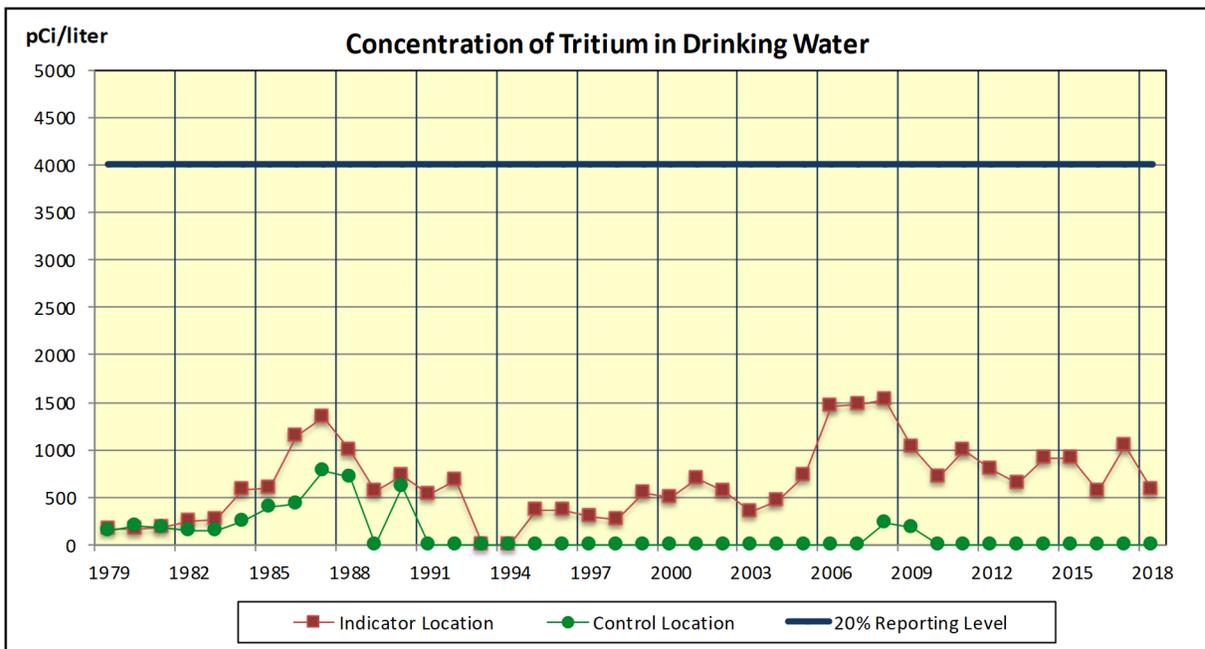


Table 3.2 Mean Concentrations of Radionuclides in Drinking Water

YEAR	Gross Beta (pCi/l)		Tritium (pCi/l)	
	Indicator Location	Control Location	Indicator Location	Control Location
1979	2.40E0	2.03E0	1.65E2	1.50E2
1980	2.34E0	1.87E0	1.63E2	2.05E2
1981	2.79E0	2.41E0	1.88E2	1.78E2
1982	2.62E0	2.43E0	2.43E2	1.45E2
1983	1.80E0	1.87E0	2.65E2	1.45E2
1984	2.78E0	1.81E0	5.77E2	2.45E2
1985	1.88E0	1.90E0	5.93E2	4.00E2
1986	2.13E0	2.15E0	1.14E3	4.37E2
1987	2.30E0	2.00E0	1.35E3	7.75E2
1988	2.00E0	2.00E0	9.92E2	7.11E2
1989	2.80E0	2.70E0	5.62E2	0.00E0
1990	3.70E0	4.30E0	7.32E2	6.11E2
1991	2.40E0	2.50E0	5.22E2	0.00E0
1992	2.00E0	1.70E0	6.73E2	0.00E0
1993	2.80E0	2.40E0	0.00E0	0.00E0
1994	2.47E0	2.90E0	0.00E0	0.00E0
1995	4.20E0	3.30E0	3.58E2	0.00E0
1996	2.75E0	2.11E0	3.60E2	0.00E0
1997	2.70E0	2.24E0	2.90E2	0.00E0
1998	2.75E0	2.33E0	2.68E2	0.00E0
1999	2.48E0	2.17E0	5.49E2	0.00E0
2000	2.66E0	1.99E0	5.04E2	0.00E0
2001	2.48E0	2.19E0	6.98E2	0.00E0
2002	2.47E0	2.08E0	5.64E2	0.00E0
2003	1.81E0	1.52E0	3.51E2	0.00E0
2004	1.68E0	1.29E0	4.61E2	0.00E0
2005	1.74E0	1.30E0	7.35E2	0.00E0
2006	1.75E0	1.80E0	1.46E3	0.00E0
2007	1.81E0	1.76E0	1.48E3	0.00E0
2008	2.40E0	1.87E0	1.52E3	2.26E2
2009	1.90E0	1.81E0	1.03E3	1.86E2
2010	1.85E0	1.74E0	7.20E2	0.00E0
2011	1.77E0	1.75E0	9.97E2	0.00E0
2012	1.74E0	1.66E0	7.95E2	0.00E0
2013	1.73E0	1.61E0	6.47E2	0.00E0
2014	2.18E0	1.95E0	9.07E2	0.00E0
2015	2.14E0	1.91E0	9.19E2	0.00E0
2016	2.85E0	1.80E0	5.69E2	0.00E0
2017	2.18E0	2.02E0	1.05E3	0.00E0
2018	1.80E0	1.57E0	5.85E2	0.00E0

0.00E0 indicates no detectable measurements

3.3 SURFACE WATER

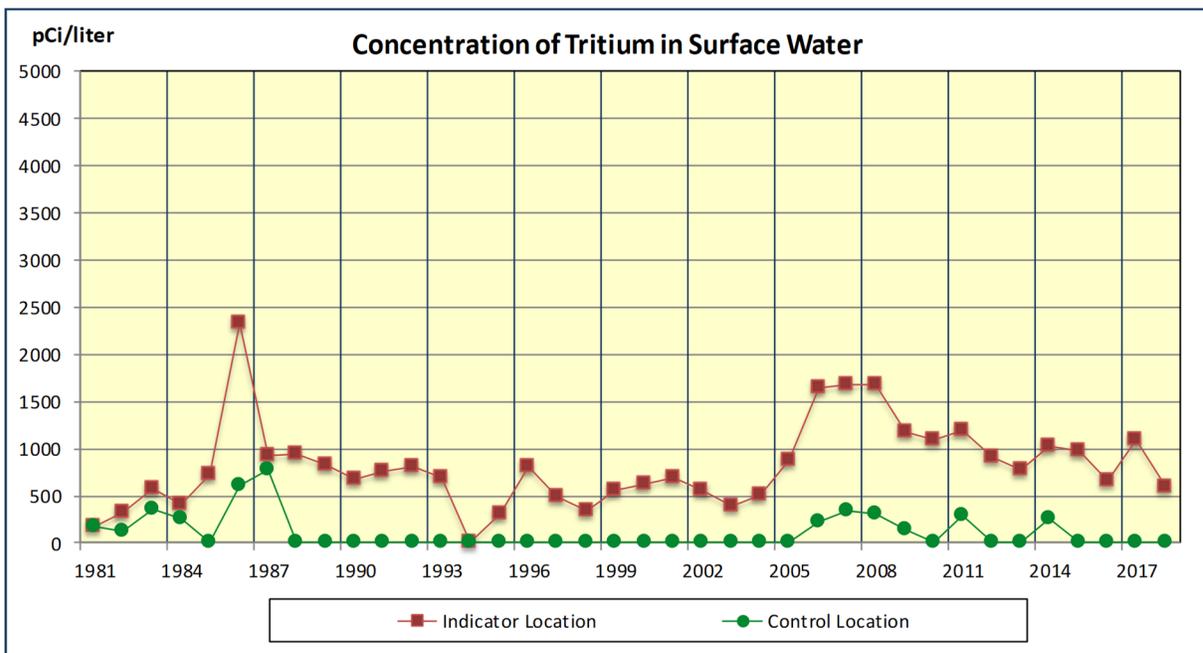
In 2018, 39 surface water samples were analyzed for gamma emitting radionuclides, 26 at the two indicator locations and 13 at the control location. The samples were composited to create 12 quarterly composite period samples for tritium analysis.

No detectable gamma activity attributable to MNS plant operation was found in surface water samples in 2018 and has not been detected since 1988. K-40 and Be-7 observed in some surface water samples are naturally occurring radionuclides. Tritium was detected in all of the eight indicator composite samples taken in 2018. Tritium was not detected in any of the four control location composite samples in 2018.

Figure 3.3 shows tritium highest annual mean indicator and control location concentrations. Table 3.3 gives indicator and control location highest annual means since 1979 for tritium.

There was an increase in surface water tritium in 2006 due to silica removal from the spent fuel pools which resulted in additional water volume being released from the plant. An extreme drought during the second half of 2007 and much of 2008 affecting the Catawba River Basin resulted in less dilution volume available in Lake Norman.

Figure 3.3



There is no reporting level for tritium in surface water

Table 3.3 Mean Concentrations of Tritium in Surface Water

YEAR	H-3 Indicator (pCi/l)	H-3 Control (pCi/l)
1979	1.85E2	1.66E2
1980	2.13E2	1.93E2
1981	1.75E2	1.70E2
1982	3.30E2	1.23E2
1983	5.75E2	3.67E2
1984	4.10E2	2.65E2
1985	7.33E2	0.00E0
1986	2.33E3	6.13E2
1987	9.20E2	7.70E2
1988	9.40E2	0.00E0
1989	8.22E2	0.00E0
1990	6.77E2	0.00E0
1991	7.53E2	0.00E0
1992	8.13E2	0.00E0
1993	6.85E2	0.00E0
1994	0.00E0	0.00E0
1995	3.15E2	0.00E0
1996	8.08E2	0.00E0
1997	4.85E2	0.00E0
1998	3.40E2	0.00E0
1999	5.60E2	0.00E0
2000	6.22E2	0.00E0
2001	6.98E2	0.00E0
2002	5.65E2	0.00E0
2003	3.91E2	0.00E0
2004	5.04E2	0.00E0
2005	8.74E2	0.00E0
2006	1.65E3	2.19E2
2007	1.68E3	3.42E2
2008	1.67E3	3.13E2
2009	1.18E3	1.41E2
2010	1.09E3	0.00E0
2011	1.19E3	2.94E2
2012	9.06E2	0.00E0
2013	7.73E2	0.00E0
2014	1.03E3	2.57E2
2015	9.79E2	0.00E0
2016	6.63E2	0.00E0
2017	1.09E3	0.00E0
2018	6.85E2	0.00E0

0.00E0 indicates no detectable measurements

3.4 MILK

In 2018, 26 milk samples from the control location were analyzed for low level I-131 and other gamma emitting radionuclides. Control milk location 141 (WNW sector 14.8 miles) ceased operation during 2018 and was replaced with control milk location 142 (NNW sector 12.2 miles) (NCR # 02188997). No indicator dairies were sampled during 2018 and none were identified by the 2018 land use census.

There were no gamma emitting radionuclides due to MNS plant operations identified in milk samples in 2018. Cs-137 is the only radionuclide, other than naturally occurring, reported in milk samples since 1990 (excluding Fukushima Daiichi). 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.

Table 3.4 gives indicator location highest annual means and control means since 1979 for Cs-137. Since no Cs-137 was detected in 2018, no reporting levels were approached.

K-40 observed in milk samples is a naturally occurring radionuclide.

Table 3.4 Mean Concentrations of Cs-137 in Milk

YEAR	Cs-137 Indicator (pCi/l)	Cs-137 Control (pCi/l)
1979	2.48E1	6.04E0
1980	1.72E1	4.13E0
1981	2.04E1	4.15E0
1982	1.21E1	5.20E0
1983	2.01E1	2.82E0
1984	1.48E1	2.56E0
1985	1.42E1	2.72E0
1986	3.74E0	3.45E0
1987 ⁽¹⁾	5.20E0	8.60E0
1988	3.40E0	2.90E0
1989	6.00E0	5.60E0
1990	5.30E0	2.60E0
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	No Indicator Location	0.00E0
2003	No Indicator Location	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
2014 ⁽²⁾	No Indicator Location	0.00E0
2015	No Indicator Location	0.00E0
2016	No Indicator Location	0.00E0
2017	No Indicator Location	0.00E0
2018	No Indicator Location	0.00E0

0.00E0 indicates no detectable measurements

(1) 1987 – Gamma spectroscopy system change

(2) 2014 – Gamma spectroscopy system was replaced 10JUL2014. Gamma spectroscopy system hardware, detector cooling apparatus, software, electronics, nuclide identification libraries, and analytical test matrix components for test matrices were modified (NCR # 0739995). No analytical changes were noted due to the 2014 gamma spectroscopy system change.

3.5 BROADLEAF VEGETATION

In 2018, 48 broadleaf vegetation samples were analyzed, 36 at the three indicator locations and twelve at the control location.

There were no gamma emitting radionuclides attributable to MNS plant operation identified in any indicator or control location broadleaf vegetation samples in 2018. Cs-137 is the only radionuclide, other than naturally occurring, reported in vegetation samples since the change in gamma spectroscopy analysis systems in 1987. No airborne Cs-137 has been released from the plant since 1998.

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 3.5 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.

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

Table 3.5 Mean Concentrations of Cs-137 in Broadleaf Vegetation

YEAR	Cs-137 Indicator (pCi/kg)	Cs-137 Control (pCi/kg)
1979	2.19E1	1.93E1
1980	2.30E1	1.92E1
1981	3.04E1	2.02E1
1982	2.46E1	1.22E1
1983	9.07E0	7.85E0
1984	1.02E1	1.05E1
1985	8.05E0	2.37E-2
1986	4.03E1	1.27E1
1987 ⁽¹⁾	2.20E1	1.70E1
1988	3.90E1	3.40E1
1989	9.60E1	0.00E0
1990	4.00E1	0.00E0
1991	3.30E1	0.00E0
1992	4.90E1	0.00E0
1993	1.60E1	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	2.69E1
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	2.98E1	0.00E0
2007	1.34E1	0.00E0
2008	0.00E0	0.00E0
2009	0.00E0	0.00E0
2010	0.00E0	0.00E0
2011 ⁽²⁾	2.29E1	0.00E0
2012	0.00E0	0.00E0
2013	0.00E0	0.00E0
2014 ⁽³⁾	0.00E0	0.00E0
2015	0.00E0	0.00E0
2016	1.22E1	0.00E0
2017	3.03E1	0.00E0
2018	0.00E0	0.00E0

0.00E0 indicates no detectable measurements

(1) 1987 – Gamma spectroscopy system change

(2) 2011 – Concentration affected by Fukushima Daiichi

(3) 2014 – Gamma spectroscopy system was replaced 10JUL2014. Gamma spectroscopy system hardware, detector cooling apparatus, software, electronics, nuclide identification libraries, and analytical test matrix components for test matrices were modified (NCR # 0739995). No analytical changes were noted due to the 2014 gamma spectroscopy system change.

3.6 FOOD PRODUCTS

In 2018, six food products (crops) samples were analyzed from one indicator location. There is no control location for this media.

No detectable activity attributable to MNS station operation has been detected in this media since 1987. Table 3.6 shows Cs-137 indicator highest annual means with preoperational data. Since no activity was detected in 2017, no reporting levels were approached.

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

Table 3.6 Mean Concentrations of Cs-137 in Food Products

YEAR	Cs-137 Indicator (pCi/kg)
1979	2.19E1
1980	2.30E1
1981	3.04E1
1982	2.46E1
1983	9.07E0
1984	8.45E0
1985	7.99E0
1986	2.15E1
1987 ⁽¹⁾	2.90E1
1988	0.00E0
1989	0.00E0
1990	0.00E0
1991	0.00E0
1992	0.00E0
1993	0.00E0
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 ⁽²⁾	3.06E1
2012	0.00E0
2013	0.00E0
2014 ⁽³⁾	0.00E0
2015	0.00E0
2016	0.00E0
2017	0.00E0
2018	0.00E0

0.00E0 indicates no detectable measurements

(1) 1987 – Gamma spectroscopy system change

(2) 2011 – Concentration affected by Fukushima Daiichi

(3) 2014 – Gamma spectroscopy system was replaced 10JUL2014. Gamma spectroscopy system hardware, detector cooling apparatus, software, electronics, nuclide identification libraries, and analytical test matrix components for test matrices were modified (NCR # 0739995). No analytical changes were noted due to the 2014 gamma spectroscopy system change.

3.7 FISH

In 2018, 12 fish samples were analyzed for gamma emitting radionuclides, six at the indicator location and six at the control location.

Gamma spectroscopy analysis indicated no gamma emitting radionuclides attributable to MNS plant operation identified in any indicator or control location fish samples in 2018.

Figure 3.7 shows Cs-137 highest annual mean indicator and control location concentrations with comparisons to 5% of the reporting level. Table 3.7 gives indicator location highest annual means since 1980 for all radionuclides detected since the analysis change in 1988. All other radionuclides not shown in the table have demonstrated no detectable activity since 1986.

K-40 is a naturally occurring radionuclide observed in fish samples.

Figure 3.7

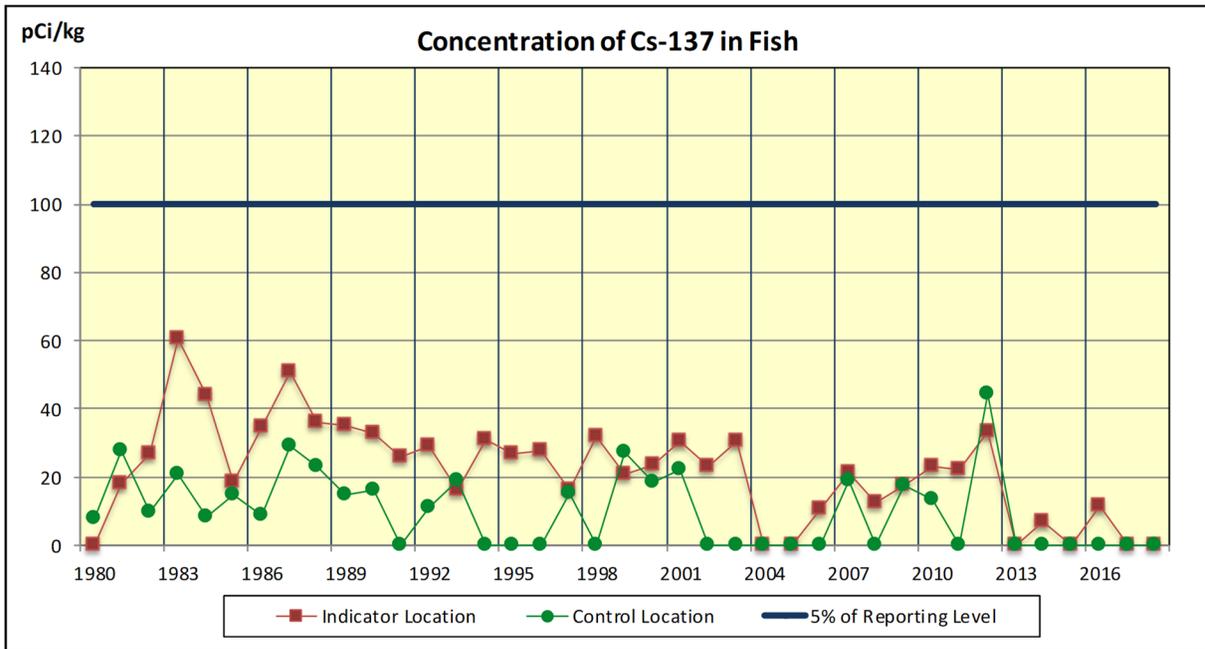


Table 3.7 Mean Concentrations of Radionuclides in Fish (pCi/kg)

YEAR	Mn-54 Indicator	Co-58 Indicator	Co-60 Indicator	Cs-134 Indicator	Cs-137 Indicator
1980	-1.97E1	8.36E0	-2.25E1	-2.70E1	-4.13E0
1981	-2.71E0	-2.98E0	-2.65E0	-1.99E0	1.80E1
1982	-3.83E0	8.16E0	-4.34E-1	-8.22E-1	2.69E1
1983	-2.60E0	2.60E1	1.11E1	-1.32E0	6.03E1
1984	3.61E0	1.45E2	2.82E1	3.11E1	4.38E1
1985	2.53E-1	7.19E0	1.72E1	-1.56E0	1.86E1
1986	1.03E0	3.17E1	2.96E1	1.67E1	3.49E1
1987 ⁽¹⁾	0.00E0	2.71E2	1.25E2	2.60E1	5.10E1
1988	1.20E1	7.70E1	0.00E0	2.70E1	3.60E1
1989	9.00E1	4.05E2	2.99E2	1.10E1	3.50E1
1990	0.00E0	5.60E1	4.10E1	0.00E0	3.30E1
1991	6.20E0	1.40E1	6.50E1	5.90E0	2.60E1
1992	0.00E0	0.00E0	0.00E0	0.00E0	2.90E1
1993	0.00E0	8.20E1	1.30E1	0.00E0	1.60E1
1994	0.00E0	0.00E0	0.00E0	0.00E0	3.10E1
1995	0.00E0	0.00E0	0.00E0	0.00E0	2.70E1
1996	0.00E0	0.00E0	0.00E0	0.00E0	2.78E1
1997	0.00E0	0.00E0	0.00E0	0.00E0	1.62E1
1998	0.00E0	0.00E0	0.00E0	0.00E0	3.21E1
1999	0.00E0	3.53E1	0.00E0	0.00E0	2.10E1
2000	0.00E0	4.28E1	0.00E0	0.00E0	2.34E1
2001	0.00E0	1.32E1	0.00E0	0.00E0	3.04E1
2002	0.00E0	0.00E0	0.00E0	0.00E0	2.33E1
2003	0.00E0	0.00E0	0.00E0	0.00E0	3.05E1
2004	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0
2005	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0
2006	0.00E0	0.00E0	0.00E0	0.00E0	1.08E1
2007	0.00E0	0.00E0	0.00E0	0.00E0	2.11E1
2008	0.00E0	0.00E0	0.00E0	0.00E0	1.24E1
2009	0.00E0	0.00E0	0.00E0	0.00E0	1.76E1
2010	0.00E0	0.00E0	0.00E0	0.00E0	2.33E1
2011	0.00E0	0.00E0	0.00E0	0.00E0	2.23E1
2012	0.00E0	0.00E0	0.00E0	0.00E0	3.34E1
2013	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0
2014 ⁽²⁾	0.00E0	0.00E0	0.00E0	0.00E0	6.75E0
2015	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0
2016	0.00E0	0.00E0	0.00E0	0.00E0	1.14E1
2017	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0
2018	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0

0.00E0 indicates no detectable measurements

(1) 1987 – Gamma spectroscopy system change

(2) 2014 – Gamma spectroscopy system was replaced 10JUL2014. Gamma spectroscopy system hardware, detector cooling apparatus, software, electronics, nuclide identification libraries, and analytical test matrix components for test matrices were modified (NCR # 0739995). No analytical changes were noted due to the 2014 gamma spectroscopy system change.

3.8 SHORELINE SEDIMENT

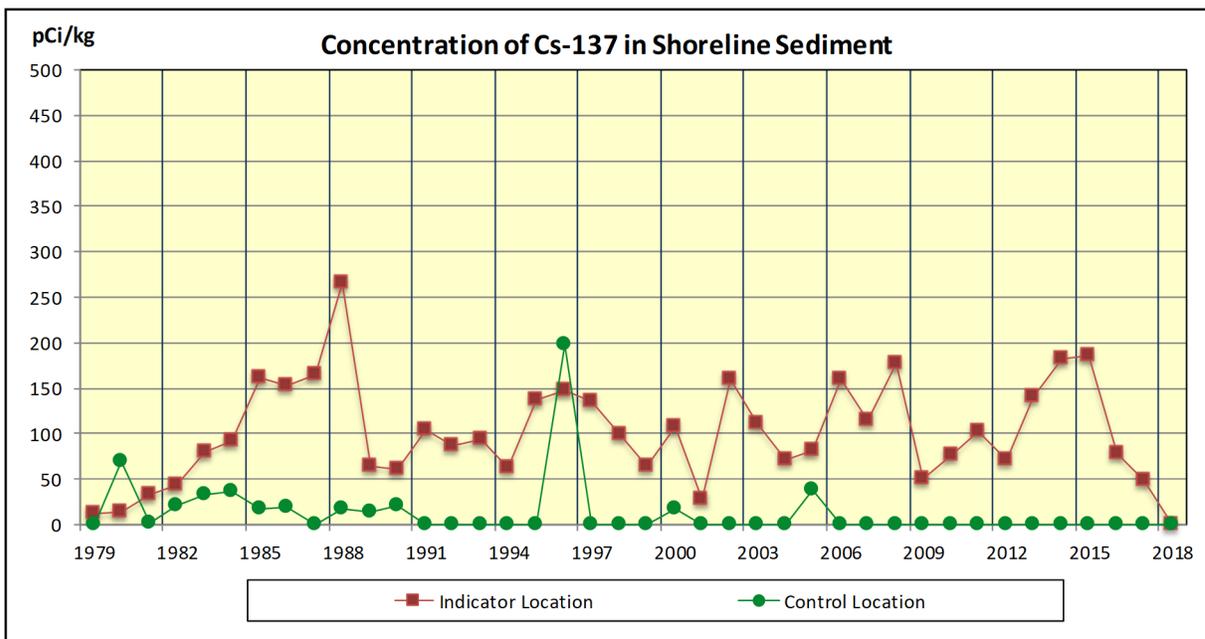
In 2018, six shoreline sediment samples were analyzed, four from two indicator locations and two at the control location.

Gamma spectroscopy analysis indicated no gamma emitting radionuclides attributable to MNS plant operation identified in any indicator or control location shoreline sediment samples in 2018.

Figure 3.8 shows Cs-137 highest annual mean indicator and control location concentrations since 1979. Table 3.8 gives indicator location highest annual means since 1979 for all radionuclides detected since the analysis change in 1988. There is no reporting level for shoreline sediment.

K-40 and Be-7 observed in shoreline samples are naturally occurring radionuclides.

Figure 3.8



There is no reporting level for Cs-137 in shoreline sediment

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

YEAR	Mn-54 Indicator	Co-58 Indicator	Co-60 Indicator	Cs-134 Indicator	Cs-137 Indicator
1979	-1.07E1	2.25E1	-6.50E0	0.00E0	1.20E1
1980	1.06E1	-8.74E0	2.36E1	-3.53E0	1.44E1
1981	2.13E1	1.20E1	8.21E0	3.97E1	3.36E1
1982	5.38E1	1.66E1	-1.69E0	7.67E1	4.40E1
1983	4.40E0	3.43E1	2.12E1	7.65E1	8.02E1
1984	1.19E1	7.11E1	3.04E1	3.34E1	9.13E1
1985	4.77E0	1.46E1	9.20E0	2.02E1	1.61E2
1986	1.37E1	1.02E1	1.16E1	6.35E1	1.53E2
1987 ⁽¹⁾	0.00E0	1.06E2	2.10E1	4.20E1	1.65E2
1988	6.50E0	9.20E1	1.20E1	9.10E0	2.66E2
1989	2.90E1	3.80E1	2.90E1	5.30E1	6.50E1
1990	3.80E1	2.70E1	1.68E2	0.00E0	6.10E1
1991	2.80E1	5.30E1	1.31E2	0.00E0	1.03E2
1992	9.40E0	0.00E0	5.10E1	9.20E0	8.60E1
1993	0.00E0	2.20E1	8.60E1	0.00E0	9.30E1
1994	4.10E1	0.00E0	0.00E0	0.00E0	8.00E1
1995	1.70E1	0.00E0	2.30E1	0.00E0	1.38E2
1996	2.90E1	1.78E1	3.50E1	0.00E0	1.47E2
1997	0.00E0	0.00E0	1.11E2	3.10E1	1.36E2
1998	0.00E0	0.00E0	5.21E1	0.00E0	9.97E1
1999	0.00E0	2.47E1	8.49E1	0.00E0	6.51E1
2000	0.00E0	3.04E1	0.00E0	0.00E0	1.08E2
2001	0.00E0	0.00E0	0.00E0	0.00E0	2.77E1
2002	2.24E1	0.00E0	0.00E0	0.00E0	1.59E2
2003	0.00E0	0.00E0	0.00E0	0.00E0	1.11E2
2004	0.00E0	0.00E0	0.00E0	0.00E0	7.17E1
2005	0.00E0	0.00E0	0.00E0	0.00E0	8.08E1
2006	0.00E0	0.00E0	0.00E0	0.00E0	1.59E2
2007	0.00E0	0.00E0	0.00E0	0.00E0	1.14E2
2008	0.00E0	0.00E0	0.00E0	0.00E0	1.77E2
2009	0.00E0	0.00E0	0.00E0	0.00E0	5.08E1
2010	0.00E0	0.00E0	0.00E0	0.00E0	7.58E1
2011	0.00E0	0.00E0	0.00E0	0.00E0	1.02E2
2012	0.00E0	0.00E0	0.00E0	0.00E0	7.13E1
2013	0.00E0	0.00E0	0.00E0	0.00E0	1.41E2
2014 ⁽²⁾	0.00E0	0.00E0	0.00E0	0.00E0	1.82E2
2015	0.00E0	0.00E0	0.00E0	0.00E0	1.85E2
2016	0.00E0	0.00E0	0.00E0	0.00E0	7.84E1
2017	0.00E0	0.00E0	0.00E0	0.00E0	4.87E1
2018	0.00E0	0.00E0	0.00E0	0.00E0	0.00E0

0.00E0 indicates no detectable measurements

(1) 1987 – Gamma spectroscopy system change

(2) 2014 – Gamma spectroscopy system was replaced 10JUL2014. Gamma spectroscopy system hardware, detector cooling apparatus, software, electronics, nuclide identification libraries, and analytical test matrix components for test matrices were modified (NCR # 0739995). No analytical changes were noted due to the 2014 gamma spectroscopy system change.

3.9 DIRECT GAMMA RADIATION

3.9.1 ENVIRONMENTAL TLD

McGuire is licensed with an exclusion area boundary defined by UFSAR Section 2.1.2.1 as a 2500 foot radius from station center. This is the same boundary established for determining radioactive effluent release limits. No permanent public access is permitted within the exclusion area. TLD locations designated as "inner ring" are within a 0.5 mile radius from station center and all are used as indicators. Due to close proximity with McGuire, and most being within the exclusion area boundary, inner ring TLD locations are not good indicators of radiation exposure to a member of the public, but are good at determining nearby environmental effects due to plant operation. Based on their placement, inner ring TLD locations are expected to occasionally be influenced by normal plant operation. TLD locations designated as "outer ring" are outside the 0.5 mile "inner ring" but within a 5 mile radius of station center. All outer ring TLD locations are used as indicators. A subset of TLD locations are designated as "special interest". The nearest "special interest" locations are within the Owner Control Area approximately 0.2 miles from station center. They are located near public access areas for fishing and the Energy Explorium. The remaining "special interest" locations are within a 3 to 13 mile radius from station center. The one "control" location is greater than 15 miles from station center. This location was chosen to reduce the probability of influence from McGuire operation on data. The control location is not used as background subtraction in the TLD analysis. Its purpose is to provide a comparison to indicator locations.

In 2018, 163 total TLDs were analyzed, 159 at indicator locations and 4 at the control location. TLDs are collected and analyzed quarterly. Transit and laboratory background dose is determined and subtracted from gross field readings as required by ANSI N545-1975. Based on Appendix B TLD data, the highest annual total dose was 98.2 mrem at indicator location 180, 12.7 miles NNE of station center. Figure 3.9 and Table 3.9 show TLD inner ring, outer ring, and control location annual averages in mrem per year. Data is provided from 1979 to show preoperational values. As shown in the graph, doses measured by environmental TLDs show little or no change since the current TLD system was implemented. As shown in the graph, historical inner and outer ring averages compare similarly, while control data is somewhat higher. This is most likely an artifact of the underlying geologic structures at the control location. Comparing data from the 2018 McGuire Annual Radiological Effluent Release Report (ARERR), dose to a member of the public resulting from gaseous effluent releases at McGuire is a small fraction of measured TLD dose. Therefore, it can be concluded that gaseous effluents from McGuire had negligible impact on measured TLD values.

Starting in 2014, enhanced analytical methods were implemented. Quarterly and annual baseline dose was determined using appropriate statistical methods considering data from 2000 through 2012. Quarterly and annual dose for 2018 was compared to baseline values to determine if an Investigation Level had been exceeded for evaluation of potential dose to a member of the public. No TLD location exceeded the Quarterly or Annual Investigation Level in 2018, therefore no evaluation of dose to a member of the public from direct or scattered radiation was performed. Table 3.9-B summarizes the data.

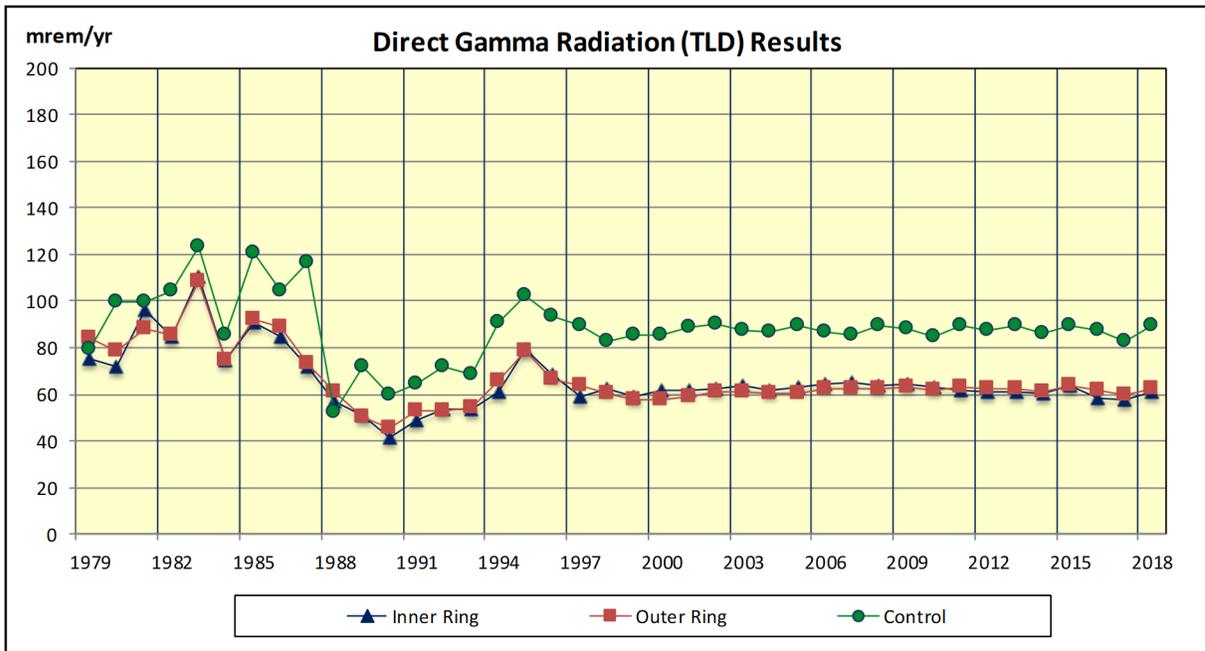
A TLD intercomparison program is conducted as part of the quality assurance program. Results of this program are included in section 5.7.

3.9.2 ISFSI

The McGuire ISFSI began operation in 2000. It is located approximately 0.15 miles west of station center in a secured area specifically constructed to provide dry storage for spent nuclear fuel. The ISFSI is situated at a lower elevation compared to other structures in the protected area. Exposure from direct radiation north of the ISFSI is shielded by the berm on the south boundary of Lake Norman. Exposure from direct radiation at the exclusion area boundary west of the ISFSI is shielded by the decrease in elevation at the ISFSI to the river bank below Cowan's Ford Dam. These geographic features lessen the potential dose to a member of the public in accessible areas within the exclusion area boundary. The ISFSI employs the multiple vertical storage designs. Irradiated fuel assemblies are confined, protected, and shielded by reinforced concrete modules. All designs used are completely passive and designed to provide radiation shielding and safe confinement for a range of accident conditions and natural events. They each use a passive natural circulation ventilation system to remove decay heat from the modules. No radiological liquid or gaseous effluents are expected from the passive storage provided by the ISFSI. Therefore any dose to offsite locations would be from direct and scattered gamma radiation.

Environmental TLD results described in 3.9.1 above are reviewed quarterly to identify trends and demonstrate compliance with dose and dose rate limits at the 2500 foot exclusion area boundary. Additional TLD locations not associated with REMP are presently located on the McGuire protected area fence near the ISFSI and on the ISFSI boundary. These are used to demonstrate compliance with occupational exposure controls and augment REMP TLD results. Doses measured by environmental TLDs show little or no change since the ISFSI began operation.

Figure 3.9



There is no reporting level for Direct Radiation (TLD)

Table 3.9-A Direct Gamma Radiation (TLD) Results⁽¹⁾

YEAR	Inner Ring Average (mrem/yr)	Outer Ring Average (mrem/yr)	Control (mrem/yr)
1979	7.51E1	8.38E1	7.90E1
1980	7.16E1 [†]	7.88E1 [†]	9.98E1 [†]
1981	9.60E1	8.84E1	9.98E1
1982	8.50E1	8.52E1	1.05E2
1983	1.10E2	1.08E2	1.24E2
1984	7.46E1	7.44E1	8.57E1
1985	9.06E1	9.21E1	1.21E2
1986	8.46E1	8.88E1	1.05E2
1987	7.20E1	7.32E1	1.17E2
1988	5.73E1	6.10E1	5.21E1
1989	5.10E1	5.04E1	7.17E1
1990	4.12E1	4.54E1	5.94E1
1991	4.88E1	5.31E1	6.46E1
1992	5.37E1	5.27E1	7.22E1
1993	5.33E1	5.42E1	6.84E1
1994	6.08E1	6.58E1	9.07E1
1995	7.94E1	7.84E1	1.03E2
1996	6.82E1	6.67E1	9.39E1
1997	5.91E1	6.35E1	8.98E1
1998	6.26E1	6.00E1	8.26E1
1999	5.92E1	5.75E1	8.51E1
2000	6.18E1	5.77E1	8.52E1
2001	6.16E1	5.91E1	8.86E1
2002	6.24E1	6.11E1	9.01E1
2003	6.41E1	6.13E1	8.74E1
2004	6.14E1	6.02E1	8.70E1
2005	6.29E1	6.06E1	8.97E1
2006	6.41E1	6.25E1	8.70E1
2007	6.50E1	6.27E1	8.55E1
2008	6.36E1	6.25E1	8.93E1
2009	6.43E1	6.31E1	8.78E1
2010	6.30E1	6.20E1	8.47E1
2011	6.18E1	6.32E1	8.97E1
2012	6.13E1	6.24E1	8.74E1
2013	6.09E1	6.23E1	8.97E1
2014	6.03E1	6.08E1	8.57E1
2015	6.35E1	6.40E1	8.93E1
2016	5.84E1	6.14E1	8.73E1
2017	5.74E1	5.94E1	8.25E1
2018	6.07E1	6.24E1	8.94E1

[†] Values are based on two quarters due to change in TLD locations.

(1) 2014 AREOR, tabular results converted from mR/yr to mrem/yr (n * 0.95)

Table 3.9-B Direct Gamma Radiation (TLD) McGuire 2018 Investigation Level

McGuire 2018 MDD _Q : 6	McGuire 2018 MDD _A : 11
-----------------------------------	------------------------------------

Quarterly (mrem)										Annual(mrem)		
Location	B _Q	M _Q Q1	M _Q Q2	M _Q Q3	M _Q Q4	L _Q Q1	L _Q Q2	L _Q Q3	L _Q Q4	B _A	M _A [*]	L _A
143	15.9	17.2	16.9	13.8	15.9	ND	ND	ND	ND	65.0	63.7	ND
144	14.3	14.3	14.7	12.2	14.0	ND	ND	ND	ND	57.5	55.2	ND
145	14.5	15.9	15.3	12.0	15.9	ND	ND	ND	ND	58.5	59.0	ND
146	13.6	15.8	14.2	13.2	16.0	ND	ND	ND	ND	54.9	59.1	ND
147	14.4	14.9	14.2	13.1	14.3	ND	ND	ND	ND	57.7	56.4	ND
148	12.6	15.7	12.8	11.8	13.0	ND	ND	ND	ND	51.2	53.3	ND
149	12.1	12.5	12.3	11.8	12.2	ND	ND	ND	ND	48.7	48.7	ND
151	14.6	14.4	15.3	13.1	14.1	ND	ND	ND	ND	59.2	56.9	ND
152	14.1	14.0	13.5	12.4	13.1	ND	ND	ND	ND	56.9	53.0	ND
153	18.7	19.0	17.2	16.2	18.1	ND	ND	ND	ND	75.0	70.5	ND
154	20.7	20.0	18.0	14.9	16.2	ND	ND	ND	ND	82.8	69.2	ND
156	16.3	17.8	17.5	14.1	15.3	ND	ND	ND	ND	68.3	64.6	ND
157	14.8	15.8	15.7	13.8	14.6	ND	ND	ND	ND	60.3	59.9	ND
158	14.2	17.4	15.4	12.4	13.7	ND	ND	ND	ND	57.8	58.8	ND
159	20.7	17.6	16.8	13.8	13.9	ND	ND	ND	ND	86.0	62.0	ND
160	16.1	15.1	13.8	12.7	12.9	ND	ND	ND	ND	65.4	54.5	ND
161	15.3	15.9	13.2	12.9	13.1	ND	ND	ND	ND	62.1	55.1	ND
162	11.4	12.1	12.4	10.2	11.9	ND	ND	ND	ND	45.8	46.6	ND
163	10.9	13.4	11.8	10.3	9.9	ND	ND	ND	ND	44.4	45.3	ND
164	10.9	12.0	10.5	10.4	10.1	ND	ND	ND	ND	43.7	42.9	ND
165	18.3	20.3	19.3	17.1	17.2	ND	ND	ND	ND	74.5	73.9	ND
166	17.1	17.5	17.3	15.5	---	ND	ND	ND	ND	68.4	67.0	ND
167	18.3	20.1	17.7	17.5	18.5	ND	ND	ND	ND	73.2	73.8	ND
168	15.3	18.5	16.8	16.0	16.8	ND	ND	ND	ND	59.9	68.1	ND
169	13.7	15.0	14.3	12.7	13.6	ND	ND	ND	ND	55.4	55.6	ND
170	23.9	26.2	24.6	22.2	24.5	ND	ND	ND	ND	95.4	97.6	ND
171	15.9	21.9	18.2	17.9	20.8	ND	ND	ND	ND	63.9	78.9	15.0 ⁽¹⁾
172	15.2	15.8	13.9	12.9	15.1	ND	ND	ND	ND	62.9	57.7	ND
173	23.6	24.8	22.7	21.6	23.0	ND	ND	ND	ND	94.4	92.1	ND
174	21.4	24.0	21.9	19.2	19.8	ND	ND	ND	ND	87.5	84.9	ND
175	21.9	24.6	22.8	20.1	21.9	ND	ND	ND	ND	87.6	89.4	ND
177	13.3	13.9	14.3	12.4	12.6	ND	ND	ND	ND	53.2	53.2	ND
178	14.1	16.2	14.2	12.6	15.5	ND	ND	ND	ND	56.5	58.5	ND
180	25.5	26.1	23.7	24.2	24.2	ND	ND	ND	ND	102.0	98.2	ND
181	15.7	17.2	15.3	14.5	16.3	ND	ND	ND	ND	63.7	63.4	ND
182	15.6	20.6	18.7	15.2	16.7	ND	ND	ND	ND	62.3	71.3	ND
186	16.5	16.8	15.1	15.4	16.2	ND	ND	ND	ND	66.6	63.6	ND
187	16.6	18.1	17.1	15.2	16.2	ND	ND	ND	ND	68.0	66.7	ND
189	15.2	16.6	15.5	14.2	14.4	ND	ND	ND	ND	60.5	60.7	ND
190	19.5	19.3	20.0	17.7	18.7	ND	ND	ND	ND	78.0	75.6	ND
191	15.9	17.6	15.7	15.3	16.2	ND	ND	ND	ND	63.1	64.8	ND

* M_A determined by normalizing available quarterly data to 4 full quarters

‘ --- ‘ indicates no data resulting from missing TLD, erroneous TLD reading, or omitted after investigation^{Note}

(1) Result considered valid, but not related to McGuire operation.

Note: Data may be omitted after investigation considering the following: (1) Other TLD locations’ data from upwind, downwind, and adjacent sectors (2) Review of documentation on location’s characteristics, geography, topography, etc. (3) Comparison with other radiological data (i.e. gaseous effluent releases, direct radiation reports, surveys, dose calculations, Area TLDs, etc.).

Table 3.9-B definition of terms

- MDD_Q = minimum differential dose, quarterly, 3 times 90th percentile s_Q determined from analysis in mrem
- MDD_A = minimum differential dose, annual, 3 times 90th percentile s_A determined from analysis in mrem
- B_Q = Quarterly baseline (mrem)
- M_Q = location's 91 day standard quarter normalized dose (mrem per standard quarter)
- L_Q = quarterly investigation level dose (mrem)
- B_A = baseline background dose (mrem) (annual)
- M_A = annual monitoring data - M_a determined by normalizing available quarterly data to 4 full quarters
- L_A = annual investigation level dose (mrem)
- ND = not detected

3.10 LAND USE CENSUS

The land use census was conducted 6/6 – 6/7/2018 as required by SLC 16.11.14. Table 3.10 summarizes census results. A map indicating identified locations is shown in Figure 3.10.

During the 2018 census, no new residences (nearer to the plant), no new irrigated gardens (superior to existing gardens) or milk locations were identified. The nearest residence is located in the East sector at 0.52 miles. No environmental program changes were required as a result of the 2018 land use census.

Table 3.10 McGuire 2018 Land Use Census Results

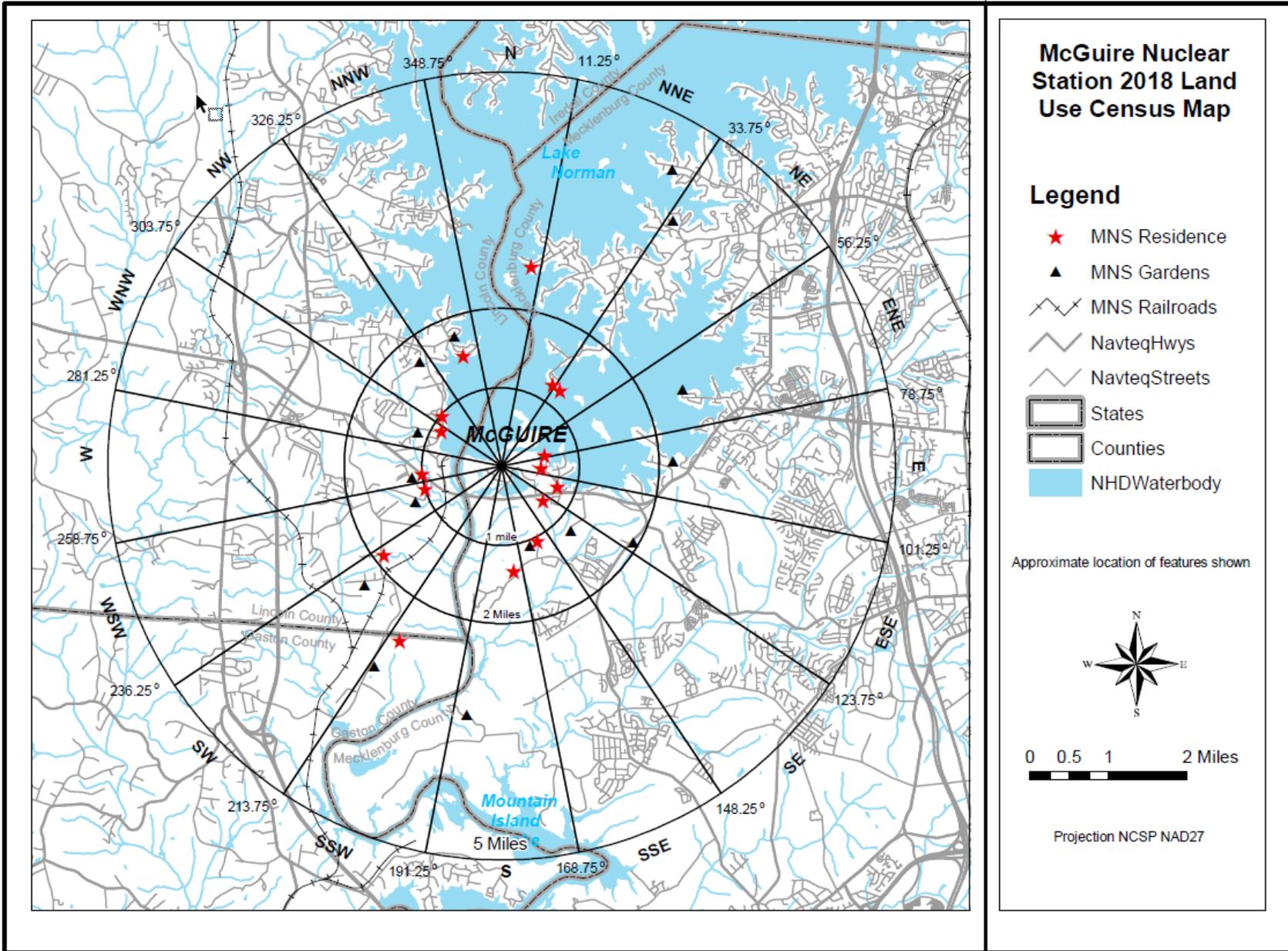
**Performed 6/6 - 6/7/2018
Nearest Pathways (Miles)**

SECTOR	RESIDENCE		GARDEN		MILK ANIMAL	
	2017	2018	2017	2018	2017	2018
North	2.53	2.53	---	---	---	---
North-Northeast	1.23	1.23	4.38	4.34*	---	---
Northeast	1.21	1.21	3.80	3.80	---	---
East-Northeast	0.56	0.56	2.50	2.50	---	---
East	0.50	0.50	2.11	2.11	---	---
East-Southeast	0.65	0.71*	1.93	1.93	---	---
Southeast	0.67	0.67	1.20	1.20	---	---
South-Southeast	1.06	1.06	1.06	1.06	---	---
South	1.35	1.35	3.19	3.19	---	---
South-Southwest	2.56	2.56	2.94	2.94	---	---
Southwest	1.88	1.88	2.31	2.31	---	---
West-Southwest	1.01	1.01	1.10	1.10	---	---
West	1.15	1.15	1.15	1.15	---	---
West-Northwest	0.88	0.88	1.15	1.15	---	---
Northwest	0.95	0.95	1.68	1.68	---	---
North-Northwest	1.48	1.48	1.52	1.76*	---	---

NOTE: Sector and distances were determined by Global Positioning System

* Represents a change from the previous year

Figure 3.10



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 2018 MNS 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 drinking water and 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, broadleaf vegetation, food crops, milk, and shoreline sediment sample types because no radionuclides attributable to MNS station 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 3.9.

The maximum environmental organ dose estimate for any single sample type (excluding TLD results) collected during 2018 was 6.06E-2 mrem to the child liver, total body, thyroid, kidney, lung, and GI-LLI from the consumption of drinking water.

4.2 ESTIMATED DOSE FROM RELEASES

Throughout the year, dose estimates were calculated based on actual 2018 liquid and gaseous effluent release data. Effluent-based dose estimates were calculated using the OpenEMS 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 OpenEMS dose calculations are reported in the Annual Radioactive Effluent Release Report.

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 indicates 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 McGuire 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 cannot be easily measured in the environment and therefore, environmental and effluent doses from C-14 cannot be compared directly.

In calculations based on liquid release pathways, drinking water consumption was the predominant dose pathway based on environmental and effluent data. The maximum total organ dose based on 2018 environmental sample results was 6.15E-2 mrem to the child liver, total body, thyroid, kidney, lung, and GI-LLI. The maximum total organ dose of 1.26E-1 mrem for liquid effluent-based estimates was to the child liver.

In calculations based on gaseous release pathways, inhalation was the predominant dose pathway for effluent samples. The maximum organ dose for gaseous effluent estimates was 7.15E-1 mrem to the child bone, with C-14 being the primary dose contributor.

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 MNS are being maintained well within regulatory limits and are described in the Annual Radiological Effluent Release Report (ARERR).

TABLE 4.1-A

**MCGUIRE NUCLEAR STATION
2018 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.	4.65E-04
Bone	Environmental	-	-	-	0.00E+00
Bone	Effluent	Child	Fresh Water Fish	Discharge Pt.	8.23E-03
Liver	Environmental	Child	Drinking Water	101 (3.31 mi E)	6.15E-02
Liver	Effluent	Child	Drinking Water	3.31 mi E	1.26E-01
T. Body	Environmental	Child	Drinking Water	101 (3.31 mi E)	6.15E-02
T. Body	Effluent	Child	Drinking Water	3.31 mi E	1.21E-01
Thyroid	Environmental	Child	Drinking Water	101 (3.31 mi E)	6.15E-02
Thyroid	Effluent	Child	Drinking Water	3.31 mi E	1.20E-01
Kidney	Environmental	Child	Drinking Water	101 (3.31 mi E)	6.15E-02
Kidney	Effluent	Child	Drinking Water	3.31 mi E	1.22E-01
Lung	Environmental	Child	Drinking Water	101 (3.31 mi E)	6.15E-02
Lung	Effluent	Child	Drinking Water	3.31 mi E	1.20E-01
GI-LLI	Environmental	Child	Drinking Water	101 (3.31 mi E)	6.15E-02
GI-LLI	Effluent	Child	Drinking Water	3.31 mi E	1.20E-01

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

(2) Critical 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	All	Ground Plane	0.5 mi. ENE	7.82E-08
Bone	Environmental	-	-	-	0.00E+00
Bone	Effluent	Child	Inhalation	0.5 mi. ENE	7.15E-01
Liver	Environmental	-	-	-	0.00E+00
Liver	Effluent	Child	Inhalation	0.5 mi. ENE	2.60E-01
T. Body	Environmental	-	-	-	0.00E+00
T. Body	Effluent	Child	Inhalation	0.5 mi. ENE	2.60E-01
Thyroid	Environmental	-	-	-	0.00E+00
Thyroid	Effluent	Child	Inhalation	0.5 mi. ENE	2.60E-01
Kidney	Environmental	-	-	-	0.00E+00
Kidney	Effluent	Child	Inhalation	0.5 mi. ENE	2.60E-01
Lung	Environmental	-	-	-	0.00E+00
Lung	Effluent	Child	Inhalation	0.5 mi. ENE	2.60E-01
GI-LLI	Environmental	-	-	-	0.00E+00
GI-LLI	Effluent	Child	Inhalation	0.5 mi. ENE	2.60E-01

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

(2) Critical 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 2018 based on Environmental Measurements (mrem) for McGuire 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	5.95E-02	5.95E-02	5.95E-02	5.95E-02	5.95E-02	5.95E-02	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
	<u>TOTAL</u>	0.00E+00	5.95E-02	5.95E-02	5.95E-02	5.95E-02	5.95E-02	5.95E-02	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	6.06E-02	6.06E-02	6.06E-02	6.06E-02	6.06E-02	6.06E-02	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	8.64E-04	8.64E-04	8.64E-04	8.64E-04	8.64E-04	8.64E-04	0.00E+00
	<u>Shoreline Sediment</u>	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
<u>TOTAL</u>	0.00E+00	6.15E-02	6.15E-02	6.15E-02	6.15E-02	6.15E-02	6.15E-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	3.16E-02	3.16E-02	3.16E-02	3.16E-02	3.16E-02	3.16E-02	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	1.05E-03	1.05E-03	1.05E-03	1.05E-03	1.05E-03	1.05E-03	0.00E+00
	<u>Shoreline Sediment</u>	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
<u>TOTAL</u>	0.00E+00	3.27E-02	3.27E-02	3.27E-02	3.27E-02	3.27E-02	3.27E-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	4.48E-02	4.48E-02	4.48E-02	4.48E-02	4.48E-02	4.48E-02	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	1.36E-03	1.36E-03	1.36E-03	1.36E-03	1.36E-03	1.36E-03	0.00E+00
	<u>Shoreline Sediment</u>	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
<u>TOTAL</u>	0.00E+00	4.62E-02	4.62E-02	4.62E-02	4.62E-02	4.62E-02	4.62E-02	0.00E+00	

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

*McGuire Nuclear Station
Dose from Drinking Water Pathway for 2018 Data
Maximum Exposed Infant*

Infant Dose from Drinking Water Pathway (mrem) = Usage (l) x Dose Factor (mrem/pCi ingested) x Concentration (pCi/l)

Usage (intake in one year) = 330 l

Radionuclide	<u>Ingestion Dose Factor</u>							<u>Highest Annual Net Mean Concentration</u>		<u>Dose (mrem)</u>						
	Bone	Liver	T. Body	Thyroid	Kidney	Lung	GI-LLI	Indicator Location	Water (pCi/l)	Bone	Liver	T. Body	Thyroid	Kidney	Lung	GI-LLI
Mn-54	NO DATA	1.99E-05	4.51E-06	NO DATA	4.41E-06	NO DATA	7.31E-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	3.60E-06	8.98E-06	NO DATA	NO DATA	NO DATA	8.97E-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
Fe-59	3.08E-05	5.38E-05	2.12E-05	NO DATA	NO DATA	1.59E-05	2.57E-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	1.08E-05	2.55E-05	NO DATA	NO DATA	NO DATA	2.57E-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	1.84E-05	6.31E-05	2.91E-05	NO DATA	3.06E-05	NO DATA	5.33E-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
Nb-95	4.20E-08	1.73E-08	1.00E-08	NO DATA	1.24E-08	NO DATA	1.46E-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
Zr-95	2.06E-07	5.02E-08	3.56E-08	NO DATA	5.41E-08	NO DATA	2.50E-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
I-131	3.59E-05	4.23E-05	1.86E-05	1.39E-02	4.94E-05	NO DATA	1.51E-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	3.77E-04	7.03E-04	7.10E-05	NO DATA	1.81E-04	7.42E-05	1.91E-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	5.22E-04	6.11E-04	4.33E-05	NO DATA	1.64E-04	6.64E-05	1.91E-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
BaLa-140	1.71E-04	1.71E-07	8.81E-06	NO DATA	4.06E-08	1.05E-07	4.20E-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
H-3	NO DATA	3.08E-07	3.08E-07	3.08E-07	3.08E-07	3.08E-07	3.08E-07	101	585	0.00E+00	5.95E-02	5.95E-02	5.95E-02	5.95E-02	5.95E-02	5.95E-02
Dose Commitment (mrem) =										0.00E+00	5.95E-02	5.95E-02	5.95E-02	5.95E-02	5.95E-02	5.95E-02

McGuire Nuclear Station
Dose from Drinking Water Pathway for 2018 Data
Maximum Exposed Child

Child Dose from Drinking Water Pathway (mrem) = Usage (l) x Dose Factor (mrem/pCi ingested) x Concentration (pCi/l)

Usage (intake in one year)= 510 l

Radionuclide	<u>Ingestion Dose Factor</u>							<u>Highest Annual Net Mean Concentration</u>		<u>Dose (mrem)</u>						
	Bone	Liver	T. Body	Thyroid	Kidney	Lung	GI-LLI	Indicator Location	Water (pCi/l)	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
Nb-95	2.25E-08	8.76E-09	6.26E-09	NO DATA	8.23E-09	NO DATA	1.62E-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
Zr-95	1.16E-07	2.55E-08	2.27E-08	NO DATA	3.65E-08	NO DATA	2.66E-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
I-131	1.72E-05	1.73E-05	9.83E-06	5.72E-03	2.84E-05	NO DATA	1.54E-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
BaLa-140	8.31E-05	7.28E-08	4.85E-06	NO DATA	2.37E-08	4.34E-08	4.21E-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
H-3	NO DATA	2.03E-07	2.03E-07	2.03E-07	2.03E-07	2.03E-07	2.03E-07	101	585	0.00E+00	6.06E-02	6.06E-02	6.06E-02	6.06E-02	6.06E-02	6.06E-02
Dose Commitment (mrem) =										0.00E+00	6.06E-02	6.06E-02	6.06E-02	6.06E-02	6.06E-02	6.06E-02

McGuire Nuclear Station
Dose from Fish Pathway for 2018 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 = 685 pCi/l x 0.9 = 617 pCi/kg
 Usage (intake in one year) = 6.9 kg

Radionuclide	<u>Ingestion Dose Factor</u>							<u>Highest Annual Net Mean Concentration</u>		<u>Dose (mrem)</u>						
	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	128	617	0.00E+00	8.64E-04	8.64E-04	8.64E-04	8.64E-04	8.64E-04	8.64E-04
Dose Commitment (mrem) =										0.00E+00	8.64E-04	8.64E-04	8.64E-04	8.64E-04	8.64E-04	8.64E-04

McGuire Nuclear Station
Dose from Drinking Water Pathway for 2018 Data
Maximum Exposed Teen

Teen Dose from Drinking Water Pathway (mrem) = Usage (l) x Dose Factor (mrem/pCi ingested) x Concentration (pCi/l)

Usage (intake in one year)= 510 l

Radionuclide	<u>Ingestion Dose Factor</u>								<u>Highest Annual Net Mean Concentration</u>		<u>Dose (mrem)</u>					
	Bone	Liver	T. Body	Thyroid	Kidney	Lung	GI-LLI	Indicator Location	Water (pCi/l)	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
Nb-95	8.22E-09	4.56E-09	2.51E-09	NO DATA	4.42E-09	NO DATA	1.95E-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
Zr-95	4.12E-08	1.30E-08	8.94E-09	NO DATA	1.91E-08	NO DATA	3.00E-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
I-131	5.85E-06	8.19E-06	4.40E-06	2.39E-03	1.41E-05	NO DATA	1.62E-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
BaLa-140	2.84E-05	3.48E-08	1.83E-06	NO DATA	1.18E-08	2.34E-08	4.38E-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
H-3	NO DATA	1.06E-07	1.06E-07	1.06E-07	1.06E-07	1.06E-07	1.06E-07	101	585	0.00E+00	3.16E-02	3.16E-02	3.16E-02	3.16E-02	3.16E-02	3.16E-02
Dose Commitment (mrem)=										0.00E+00	3.16E-02	3.16E-02	3.16E-02	3.16E-02	3.16E-02	3.16E-02

***McGuire Nuclear Station
Dose from Fish Pathway for 2018 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 = 685 pCi/l x 0.9 = 617 pCi/kg

Usage (intake in one year) = 16 kg

Radionuclide	<u>Ingestion Dose Factor</u>							<u>Highest Annual Net Mean Concentration</u>		<u>Dose (mrem)</u>						
	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	128	617	0.00E+00	1.05E-03	1.05E-03	1.05E-03	1.05E-03	1.05E-03	1.05E-03
Dose Commitment (mrem) =										0.00E+00	1.05E-03	1.05E-03	1.05E-03	1.05E-03	1.05E-03	1.05E-03

*McGuire Nuclear Station
Dose from Drinking Water Pathway for 2018 Data
Maximum Exposed Adult*

Adult Dose from Drinking Water Pathway (mrem) = Usage (l) x Dose Factor (mrem/pCi ingested) x Concentration (pCi/l)

Usage (intake in one year) = 730 l

Radionuclide	<u>Ingestion Dose Factor</u>							<u>Highest Annual Net Mean Concentration</u>		<u>Dose (mrem)</u>						
	Bone	Liver	T. Body	Thyroid	Kidney	Lung	GI-LLI	Indicator Location	Water (pCi/l)	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
Nb-95	6.22E-09	3.46E-09	1.86E-09	NO DATA	3.42E-09	NO DATA	2.10E-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
Zr-95	3.04E-08	9.75E-09	6.60E-09	NO DATA	1.53E-08	NO DATA	3.09E-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
I-131	4.16E-06	5.95E-06	3.41E-06	1.95E-03	1.02E-05	NO DATA	1.57E-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
BaLa-140	2.03E-05	2.55E-08	1.33E-06	NO DATA	8.67E-09	1.46E-08	4.18E-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
H-3	NO DATA	1.05E-07	1.05E-07	1.05E-07	1.05E-07	1.05E-07	1.05E-07	101	585	0.00E+00	4.48E-02	4.48E-02	4.48E-02	4.48E-02	4.48E-02	4.48E-02
Dose Commitment (mrem) =										0.00E+00	4.48E-02	4.48E-02	4.48E-02	4.48E-02	4.48E-02	4.48E-02

**McGuire Nuclear Station
Dose from Fish Pathway for 2018 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 = 685 pCi/l x 0.9 = 617 pCi/kg
Usage (intake in one year) = 21 kg

Radionuclide	<u>Ingestion Dose Factor</u>							<u>Highest Annual Net Mean Concentration</u>			<u>Dose (mrem)</u>					
	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	128	617	0.00E+00	1.36E-03	1.36E-03	1.36E-03	1.36E-03	1.36E-03	1.36E-03
Dose Commitment (mrem) =										0.00E+00	1.36E-03	1.36E-03	1.36E-03	1.36E-03	1.36E-03	1.36E-03

5.0 QUALITY ASSURANCE

5.1 SAMPLE COLLECTION

EnRad Laboratories and the Environmental Services Group 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 in Huntersville, North Carolina, at Duke Energy's Environmental Center.

5.3 DOSIMETRY ANALYSIS

The Dosimetry and Records group performed the environmental dosimetry measurements as specified by approved dosimetry analysis procedures. The Dosimetry and Records Laboratory is in Huntersville, North Carolina, at Duke Energy's Environmental Center.

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 tritium analyses in drinking water, surface water, and ground water samples.

5.5 DUKE ENERGY INTERLABORATORY COMPARISON PROGRAM

In 2018 Duke Energy Environmental Laboratory (EnRad) participated in interlaboratory programs to satisfy Radiological Environmental Monitoring Program requirements in Duke Energy nuclear plant Offsite Dose Calculation Manuals and Selected Licensee Commitments Manuals, as applicable.

EnRad Laboratory participated in an interlaboratory program with Eckert & Ziegler Analytics (EZA) in 2018. EZA results were evaluated against the NRC Inspection Manual Procedure 84750 (IP 84750) acceptance criteria stated in EnRad Procedure 515, Cross Check Program Administration. All regulatory requirements continue to be met by the EZA Cross Check Program.

5.5.1 ECKERT & ZIEGLER ANALYTICS CROSS CHECK PROGRAM

EZA mixed gamma in liquid, mixed gamma in soil, low-level I-131 in liquid, mixed gamma air filter composites, I-131 air cartridges, strontium in water, gross alpha and beta in water, gross alpha and beta in filters, and tritium in water were analyzed at various times of the year at EnRad Laboratories. A summary of the applicable REMP EnRad Laboratory program results for 2018 is documented in Table 5.0-A.

Interlaboratory cross check samples from EZA were received and analyzed in three of the four quarters of 2018. Table 5.0-A lists the performance for specific samples. Forty-six nuclide results were reported to EZA of which forty-six (100 %) met the acceptance criteria based on IP 84750.

5.6 STATE OF NORTH CAROLINA INTERCOMPARISON PROGRAM

EnRad Laboratories routinely participates with the North Carolina Department of Health and Human Services in an intercomparison program. EnRad Laboratories sends McGuire Nuclear Plant Radiological Environmental Monitoring Program air, drinking water, surface water, milk, fish, food products, and shoreline sediment samples to the North Carolina Department of Health and Human Services, Division of Public Health for intercomparison analysis.

5.7 TLD INTERCOMPARISON PROGRAM

5.7.1 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 2018 Nuclear Technology Services Intercomparison Report is documented in Table 5.0-B.

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.

5.7.2 INTERNAL CROSS CHECK (DUKE ENERGY)

Radiation Dosimetry and Records participates in a quarterly TLD internal comparison 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 2018 Internal Cross Check (Duke Energy) Program is documented in Table 5.0-B.

5.8 GENERAL ENGINEERING LABORATORY, LLC (GEL)

General Engineering Laboratory, LLC (GEL) participated in various Quality Assurance Programs for Inter-laboratory, Intra-laboratory, Third Party Cross Check programs, and a number of proficiency testing programs during 2018. A summary of the GEL quality assurance program results for the sample media types sent to GEL during 2018 is documented in Table 5.0-C. Table 5.0-C may not be applicable to all plants or stations.

TABLE 5.0-A

ECKERT & ZIEGLER ANALYTICS

CROSS CHECK PROGRAM

2018 Cross Check Results for EnRad Laboratories

Interlaboratory cross check samples from EZA were received and analyzed in three of the four quarters of 2018. Results are reported directly to Eckert & Ziegler Analytics. Environmental cross check samples were analyzed in replicate, and the result closest to the mean is reported to Eckert & Ziegler Analytics. The acceptance criteria for the program was based on the NRC Inspection Manual Procedure 84750 (IP 84750). Table 5.0-A lists the performance for specific samples. Forty-six nuclide results were reported to EZA of which forty-six (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 in Planchet	E12096	Cs-137	1	pCi	212	207	1.02	Agreement
	E12180	Cs-137	2	pCi	202	210	0.96	Agreement
I-131 in Charcoal Cartridge	E12095	I-131	1	pCi	99.2	95.3	1.04	Agreement
	E12246	I-131	3	pCi	82.0	81.6	1.00	Agreement
Gamma in Composite Filter	E12094	Ce-141	1	pCi	83.8	82.0	1.02	Agreement
		Co-58	1	pCi	124	121	1.02	Agreement
		Co-60	1	pCi	197	199	0.99	Agreement
		Cr-51	1	pCi	349	347	1.01	Agreement
		Cs-134	1	pCi	180	191	0.94	Agreement
		Cs-137	1	pCi	192	183	1.05	Agreement
		Fe-59	1	pCi	160	148	1.08	Agreement
		Mn-54	1	pCi	138	140	0.99	Agreement
		Zn-65	1	pCi	283	260	1.09	Agreement
Gamma in Simulated Soil	E12249	Ce-141	3	pCi/g	0.217	0.221	0.98	Agreement
		Co-58	3	pCi/g	0.239	0.248	0.96	Agreement
		Co-60	3	pCi/g	0.317	0.328	0.97	Agreement
		Cr-51	3	pCi/g	0.407	0.457	0.89	Agreement
		Cs-134	3	pCi/g	0.207	0.212	0.98	Agreement
		Cs-137	3	pCi/g	0.311	0.330	0.94	Agreement
		Fe-59	3	pCi/g	0.196	0.206	0.95	Agreement
		Mn-54	3	pCi/g	0.309	0.289	1.07	Agreement
		Zn-65	3	pCi/g	0.362	0.347	1.04	Agreement

TABLE 5.0-A (Cont.)

Sample	Sample ID	Nuclide	Quarter	Units	EnRad Value	EZA Value	EnRad/EZA Ratio	Evaluation
Gamma in Water	E12250	Ce-141	3	pCi/L	146	137	1.07	Agreement
		Co-58	3	pCi/L	164	153	1.07	Agreement
		Co-60	3	pCi/L	215	202	1.06	Agreement
		Cr-51	3	pCi/L	307	282	1.09	Agreement
		Cs-134	3	pCi/L	127	131	0.97	Agreement
		Cs-137	3	pCi/L	169	157	1.07	Agreement
		Fe-59	3	pCi/L	138	127	1.08	Agreement
		I-131	3	pCi/L	64.7	62.5	1.04	Agreement
		Mn-54	3	pCi/L	193	178	1.08	Agreement
		Zn-65	3	pCi/L	240	214	1.12	Agreement
Gamma in Milk	E12097	Ce-141	1	pCi/L	79.4	77.0	1.03	Agreement
		Co-58	1	pCi/L	116	114	1.02	Agreement
		Co-60	1	pCi/L	192	187	1.03	Agreement
		Cr-51	1	pCi/L	335	326	1.03	Agreement
		Cs-134	1	pCi/L	174	180	0.97	Agreement
		Cs-137	1	pCi/L	183	172	1.06	Agreement
		Fe-59	1	pCi/L	151	139	1.09	Agreement
		Mn-54	1	pCi/L	141	131	1.07	Agreement
		Zn-65	1	pCi/L	266	244	1.09	Agreement
LLI-131 in Milk	E12097	I-131	1	pCi/L	101	108	0.93	Agreement
Gross Beta in Water	E12178	Cs-137	2	pCi/L	224	226	0.99	Agreement
	E12248	Cs-137	3	pCi/L	174	199	0.88	Agreement
Tritium in Water	E12179	H-3	2	pCi/L	11300	11000	1.02	Agreement
	E12247	H-3	3	pCi/L	13100	12900	1.02	Agreement

TABLE 5.0-B

2018 ENVIRONMENTAL DOSIMETER

CROSS-CHECK RESULTS

Nuclear Technology Services

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 Radiation Dosimetry and Records group for analysis of the unknown estimated delivered exposure. 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.

1st Quarter 2018						2nd Quarter 2018					
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
103109	84.34	76.32	10.51	<+/-15%	Pass	100476	57.72	60.80	-5.07	<+/-15%	Pass
103168	83.20	76.32	9.01	<+/-15%	Pass	101207	59.63	60.80	-1.92	<+/-15%	Pass
102842	79.60	76.32	4.30	<+/-15%	Pass	100628	58.40	60.80	-3.95	<+/-15%	Pass
102197	79.34	76.32	3.96	<+/-15%	Pass	100232	54.45	60.80	-10.44	<+/-15%	Pass
102240	79.98	76.32	4.80	<+/-15%	Pass	103236	58.36	60.80	-4.01	<+/-15%	Pass
Average Bias (B)			6.51			Average Bias (B)			-5.08		
Standard Deviation (S)			3.03			Standard Deviation (S)			3.21		
Measure Performance B +S			9.54	<15%	Pass	Measure Performance B +S			8.29	<15%	Pass
3rd Quarter 2018						4th Quarter 2018					
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
102475	18.69	18.84	-0.80	<+/-15%	Pass	103532	67.52	61.93	9.03	<+/-15%	Pass
100674	18.66	18.84	-0.96	<+/-15%	Pass	102805	67.74	61.93	9.38	<+/-15%	Pass
100287	17.66	18.84	-6.96	<+/-15%	Pass	103209	66.84	61.93	7.93	<+/-15%	Pass
101172	18.23	18.84	-3.24	<+/-15%	Pass	103347	69.03	61.93	11.46	<+/-15%	Pass
101202	18.48	18.84	-1.91	<+/-15%	Pass	103399	67.21	61.93	8.53	<+/-15%	Pass
Average Bias (B)			-2.63			Average Bias (B)			9.27		
Standard Deviation (S)			2.25			Standard Deviation (S)			1.35		
Measure Performance B +S			4.88	<15%	Pass	Measure Performance B +S			10.61	<15%	Pass

TABLE 5.0-B (Cont.)

2018 ENVIRONMENTAL DOSIMETER

CROSS CHECK RESULTS

Internal Crosscheck (Duke Energy)

Radiation Dosimetry and Records participates in a quarterly TLD internal comparison program administered internally by the Dosimetry Lab. The Dosimetry Lab Staff irradiates environmental dosimetry quarterly and submits them for analysis of the unknown estimated delivered exposure.

1st Quarter 2018						2nd Quarter 2018						
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	
103932	34.28	37.26	-7.99	<+/-15%	Pass	103049	20.41	18.49	10.38	<+/-15%	Pass	
103952	34.50	37.26	-7.40	<+/-15%	Pass	103360	21.06	18.49	13.90	<+/-15%	Pass	
104007	34.95	37.26	-6.19	<+/-15%	Pass	100021	18.06	18.49	-2.33	<+/-15%	Pass	
103961	35.30	37.26	-5.26	<+/-15%	Pass	102504	20.03	18.49	8.33	<+/-15%	Pass	
103962	35.10	37.26	-5.79	<+/-15%	Pass	102466	19.51	18.49	5.52	<+/-15%	Pass	
103931	35.54	37.26	-4.61	<+/-15%	Pass	100208	17.93	18.49	-3.03	<+/-15%	Pass	
104011	35.22	37.26	-5.47	<+/-15%	Pass	101155	18.66	18.49	0.92	<+/-15%	Pass	
103950	35.48	37.26	-4.77	<+/-15%	Pass	101145	17.93	18.49	-3.03	<+/-15%	Pass	
103949	35.37	37.26	-5.07	<+/-15%	Pass	101272	18.00	18.49	-2.65	<+/-15%	Pass	
103951	35.75	37.26	-4.05	<+/-15%	Pass	100515	17.87	18.49	-3.35	<+/-15%	Pass	
Average Bias (B)			-5.66				Average Bias (B)			2.47		
Standard Deviation (S)			1.24				Standard Deviation (S)			6.52		
Measure Performance B +S			6.90	<15%	Pass	Measure Performance B +S			8.99	<15%	Pass	
3rd Quarter 2018						4th Quarter 2018						
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	
102886	44.09	40.0	10.23	<+/-15%	Pass	102089	46.94	45.0	4.31	<+/-15%	Pass	
102730	44.27	40.0	10.68	<+/-15%	Pass	102442	45.03	45.0	0.07	<+/-15%	Pass	
102248	41.02	40.0	2.55	<+/-15%	Pass	102336	47.40	45.0	5.33	<+/-15%	Pass	
102867	42.58	40.0	6.45	<+/-15%	Pass	103721	48.89	45.0	8.64	<+/-15%	Pass	
102464	40.91	40.0	2.27	<+/-15%	Pass	102738	48.54	45.0	7.87	<+/-15%	Pass	
102752	43.09	40.0	7.73	<+/-15%	Pass	103194	47.94	45.0	6.53	<+/-15%	Pass	
102803	43.80	40.0	9.50	<+/-15%	Pass	102931	47.59	45.0	5.76	<+/-15%	Pass	
103531	43.17	40.0	7.93	<+/-15%	Pass	103742	49.22	45.0	9.38	<+/-15%	Pass	
102880	44.04	40.0	10.10	<+/-15%	Pass	102029	47.14	45.0	4.76	<+/-15%	Pass	
102415	42.26	40.0	5.65	<+/-15%	Pass	102290	46.10	45.0	2.44	<+/-15%	Pass	
Average Bias (B)			7.31				Average Bias (B)			5.51		
Standard Deviation (S)			3.06				Standard Deviation (S)			2.84		
Measure Performance B +S			10.37	<15%	Pass	Measure Performance B +S			8.35	<15%	Pass	

TABLE 5.0-C

2018 GEL Laboratories, LLC QA Results

Interlaboratory cross check samples from Eckert & Ziegler Analytics (EZA) and Proficiency Tests from the Department of Energy Mixed Analyte Performance Evaluation Program (MAPEP) were received and analyzed by GEL in all four quarters of 2018 from EZA and in two quarters from MAPEP. Table 5.0-C lists the performance for specific samples. Table 5.0-C may not be applicable to all plants/stations.

Sample	Sample ID	Nuclide	Quarter	Units	GEL Value	Known Value	Acceptance Range/Ratio	Evaluation
Hard To Detect in Soil	MAPEP -18- MaS38	Fe-55	2	Bq/Kg	67	N/A	False Pos Test	Agreement
		Ni-63	2	Bq/Kg	1.05	N/A	False Pos Test	Agreement
		Sr-90	2	Bq/Kg	-1.08	N/A	False Pos Test	Agreement
	MAPEP -18- MaS39	Fe-55	4	Bq/kg	434	512	358 - 666	Agreement
		Ni-63	4	Bq/kg	793	765	536 - 995	Agreement
		Sr-90	4	Bq/kg	162	193	135 - 251	Agreement
I-131 in Milk with EZA	E12173	I-131	1	pCi/L	105	108	0.97	Agreement
	E12173	I-131	2	pCi/L	78.9	71.9	1.10	Agreement
	E12242	I-131	3	pCi/L	71.8	58.2	1.23	Agreement
	E12348	I-131	4	pCi/L	95.8	93.3	1.03	Agreement
Gross Beta in Water	E12304 ⁽¹⁾	Cs-137	4	pCi/L	241	295	0.82	Agreement

⁽¹⁾ One set of December 2018 Gross Beta in water analyses were analyzed at GEL.

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 McGuire 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, and the Environmental Services.

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

I. CHANGE OF SAMPLING PROCEDURES

Control milk location 141 (WNW sector 14.8 miles) ceased operation during 2018 and was replaced with control milk location 142 (NNW sector 12.2 miles) (NCR # 02188997).

Indicator irrigated crops location 104 (NNW sector 1.52 miles) was no longer cultivated during 2018 and was replaced with indicator irrigated crops location 155 (NNE sector 4.87 miles) (NCR # 02210699).

Control TLD location 175 (WNW sector 15.5 miles) was minimally relocated off private property effective first quarter 2018 monitoring period. The sector and distance did not change and an Offsite Dose Calculation Manual (ODCM) update was not required (NCR # 02162791).

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 by using low-level environmental liquid scintillation analysis technique on a Perkin-Elmer 4910TR liquid scintillation system or Perkin-Elmer 3100TR 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

No analysis procedures were changed during 2018.

IV. SAMPLING AND ANALYSIS PROCEDURES

A.1 AIRBORNE PARTICULATE AND RADIOIODINE

Airborne particulate and radioiodine samples at each of seven 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 and air particulate. A weekly gross beta analysis was performed on each filter. The continuous composite samples were collected from the locations listed below.

Location 102 = Amity Church Road (9.89 mi. WNW)(Control)

Location 103 = Cottonwood (4.20 mi. NE)

Location 120 = Site Boundary (0.46 mi. NNE)

Location 121 = Site Boundary (0.47 mi. NE)

Location 125 = Site Boundary (0.38 mi. SW)

Location 133 = Cornelius (6.23 mi. ENE)

Location 195 = Fishing Access Road (0.19 mi. N)

A.2 DRINKING WATER

Monthly composite samples were collected. 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 101 = North Mecklenburg Water Treatment Facility (3.31 mi E)

Location 119 = Mt. Holly Municipal Water Supply (7.40 mi. SSW)
Location 132 = Charlotte Municipal Water Supply (11.1 mi. SSE)
Location 136 = Mooresville Municipal Water Supply (12.7 mi. NNE) (Control)
Location 194 = East Lincoln County Water Supply (6.73 mi. NNW)

A.3 SURFACE WATER

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

Location 128 = Discharge Canal Bridge (0.45 mi. NE)
Location 131 = Cowans Ford Dam (0.64 mi. WNW)
Location 135 = Plant Marshall Intake Canal (11.9 mi. N) (Control)

A.4 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 141 = Lynch Dairy - Cows (14.8 mi. WNW) (Control)
Final sample taken (dairy closure) 19FEB2018, NCR # 02188997
Location 142 = Lowman Dairy – Cows (12.2 mi. NNW) (Control)
Sampling initiated 5MAR2018, NCR # 02188997

A.5 BROADLEAF VEGETATION

Monthly samples were collected as available and a gamma analysis was performed on each sample. The samples were collected from the locations listed below.

Location 102 = Amity Church Road (9.89 mi. WNW) (Control)
Location 120 = Site Boundary (0.46 mi. NNE)
Location 125 = Site Boundary (0.38 mi. SW)
Location 193 = Site Boundary (0.19 mi. N)

A.6 FOOD PRODUCTS

Samples were collected monthly when available during the harvest season and a gamma analysis was performed on each. The samples were collected at the location listed below.

Location 104 = 5 mile radius Gardens (1.52 mi. NNW)
Garden was not cultivated in 2018
Location 155 = Island Forest Drive (4.87 mi. NNE)
Sampling initiated 2JUL2018, NCR # 02210699

A.7 FISH

Semiannual samples were collected and 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 129 = Discharge Canal Entrance to Lake Norman (0.51 mi. ENE)
Location 137 = Pinnacle Access Area (12.0 mi. N) (Control)

A.8 SHORELINE SEDIMENT

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

Location 129 = Discharge Canal Entrance to Lake Norman (0.51 mi. ENE)
Location 130 = Highway 73 Bridge Downstream (0.52 mi. SW)
Location 137 = Pinnacle Access Area (12.0 mi. N) (Control)

A.9 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 14 TLDs at the site boundary, one in each available meteorological sector. The site boundary locations in the N and NNW sectors are over water; however, two special interest TLD's were placed in these sectors inside the site boundary in March, 1991.
- * 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 control locations.

A.10 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 6/6 - 6/7/2018. Results are shown in Table 3.10. No changes were made to the sampling procedures during 2018 as a result of the 2018 census.

In the environmental program, the air deposition parameters (D/Q) are used to determine air, broadleaf vegetation and milk sampling locations. McGuire's sectors with the three highest values did not change in 2018.

V. GLOBAL POSITIONING SYSTEM (GPS) ANALYSIS

The McGuire site centerline used for GPS measurements was referenced from the McGuire Nuclear Station Updated Final Safety Analysis Report (UFSAR), section 2.1.1, Site Location. Waypoint coordinates used for MNS GPS measurements were latitude 35°-25'-59"N and longitude 80°-56'-55"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. 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

**MCGUIRE NUCLEAR STATION
RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM DATA SUMMARY**

McGuire Nuclear Station
Mecklenburg County, North Carolina

Docket Numbers 50-369, 370
Calendar Year 2018

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 364	See Table 2.2-C	2.10E-2 (312/312) 4.38E-3 – 3.70E-2	195 (0.19 mi N)	2.17E-2 (52/52) 5.55E-3 – 3.27E-2	102 (9.89 mi WNW) 2.17E-2 (52/52) 4.85E-3 – 3.52E-2	0
	Gamma 28	See Table 2.2-C	All less than LLD	----	----	All less than LLD	0
Air Radioiodine (pCi/m ³)	Gamma 364	See Table 2.2-C	All less than LLD	----	----	All less than LLD	0
Drinking Water (pCi/l)	Gross Beta 65	4	1.72E+00 (49/52) 7.20E-01 – 2.76E+00	194 (6.73 mi NNW)	1.80 (11/13) 1.02E+00 – 2.46E+00	136 (12.7 mi NNE) 1.57E+00 (13/13) 9.70E-01 – 2.63E+00	0
	Gamma 65	See Table 2.2-C	All less than LLD	----	----	All less than LLD	0
	Tritium ⁽⁶⁾ 20	2000	4.36E+2 (12/16) 2.51E+02 – 7.39E+02	101 (3.31 mi E)	585 (4/4) 3.99E+02 – 7.39E+02	All less than LLD	0
Surface Water (pCi/l)	Gamma 39 ⁽⁴⁾	See Table 2.2-C	All less than LLD	----	----	All less than LLD	0
	Tritium ⁽⁶⁾ 12 ⁽⁴⁾	2000	5.08E+2 (8/8) 2.19E+02 – 8.57E+02	128 (0.45 mi NE)	6.85E+2 (4/4) 4.86E+02 – 8.57E+02	All less than LLD	0
Milk (pCi/l)	Gamma 26	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

**MCGUIRE NUCLEAR STATION
RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM DATA SUMMARY**

McGuire Nuclear Station
Mecklenburg County, North Carolina

Docket Numbers 50-369, 370
Calendar Year 2018

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)}		
Broadleaf Vegetation (pCi/kg, wet)	Gamma 48	See Table 2.2-C	All less than LLD	-----	-----	All less than LLD	0
Food Products (pCi/kg, wet)	Gamma 6 ⁽⁴⁾	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
Direct Gamma Radiation (TLD) (mR per quarter)	TLD Readout 163 ⁽⁴⁾⁽⁵⁾	-----	1.69E+01 (159/159) 1.04E+01 – 2.76E+01	180 (12.7 mi NNE)	2.58E+01 (4/4) 2.49E+01 – 2.75E+01	175 (15.5 mi WNW) 2.35E+01 (4/4) 2.12E+01 – 2.59E+01	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 Analytical Procedures Section/Gamma Spectrometry 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). TLD data indicated in section 3.9 (Direct Gamma Radiation) are reported in mrem /yr ($n * 0.95 \text{ ergs/g-Roentgen}$)².
6. Quarterly tritium composites determined using quarter days (92 days +/- 25% (23 days)).

² Cember, H. (2009). Introduction to Health Physics, 4th Edition. United States: McGraw-Hill Companies, Inc.

APPENDIX C

**SAMPLING DEVIATIONS
&
UNAVAILABLE ANALYSES**

APPENDIX C

MCGUIRE NUCLEAR STATION SAMPLING DEVIATIONS & UNAVAILABLE ANALYSES

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

C.1 SAMPLING DEVIATIONS

Air Particulate and Air Radioiodine

REMP weekly air samples (Air Particulate (AP) or Air Radioiodine (AR)) that experience any downtime during a surveillance period are reported as a Deviation and classified as a “Sampling Deviation.” However, the sample is counted and the data reported, whereas a Deviation with no available sample is classified as an “Unavailable Analyses” and does not have any data reported. The air samplers operated for a total of 100% availability in 2018. There were no air particulate/air radioiodine sampling deviations or unavailable samples during 2018.

Drinking Water and Surface Water

REMP monthly drinking water samples (Drinking Water (DW)) or surface water samples (Surface Water (SW)) that experience any downtime during a surveillance period are reported as a Deviation and classified as a “Sampling Deviation.” However, the sample is counted and the data reported, whereas a Deviation with no available sample is classified as an “Unavailable Analyses” and does not have any data reported. The drinking and surface water samplers operated for a total of 99.8% availability in 2018.

Location	Scheduled Collection Dates	Code	Description & Action to Prevent Recurrence	Corrective Action
131	1/2 – 1/29/2018 1/29 – 2/26/2018	LC	Sample intake line clogged, resulting in 24 hours of sampler downtime for scheduled collection period 1/2 - 1/29/2018. Work request # 5437 initiated, supply line clog mitigated, normal sampling resumed 1/30/2018, resulting in 30.7 hours of sampler downtime for scheduled period 1/29 – 2/26/2018.	NCR # 02180533 NCR # 02188534
131	5/21 – 6/18/2018	OT	Sample flow interrupted due to maintenance being performed, interrupting flow. Sampler downtime of 13.5 hours.	NCR # 02215013
131	10/8 – 11/5/2018	OT	Sample flow interrupted due to dewatering of the water supply at the dam, resulting in 103.3 hours of sampler downtime. Flow was restored 10/12/2018 and normal sampling resumed.	NCR # 02241571

C.2 UNAVAILABLE ANALYSES

Food Products / Crops

Location	Scheduled Collection Dates	Code	Description & Action to Prevent Recurrence	Corrective Action
104	1/2/2018	SU	Seasonally unavailable.	NCR # 02174500
104	2/5/2018	SU	Seasonally unavailable.	NCR # 02182179
104	3/5/2018	SU	Seasonally unavailable.	NCR # 02188987
104	4/2/2018	SU	Seasonally unavailable.	NCR # 02195713
104	5/7/2018	SU	Seasonally unavailable.	NCR # 02204083
104	6/4/2018	SU	Seasonally unavailable.	NCR # 02210554 NCR # 02210699

TLD

Location	Scheduled Collection Dates	Code	Description & Action to Prevent Recurrence	Corrective Action
166	9/12 – 12/12/2018	VN	TLD missing at time of collection due to construction.	NCR # 02248598

APPENDIX D

ANALYTICAL DEVIATIONS

No Analytical Deviations were incurred for the
2018 Radiological Environmental Monitoring Program

APPENDIX E

**RADIOLOGICAL
ENVIRONMENTAL MONITORING
PROGRAM RESULTS**

2018

This appendix includes sample analysis report summaries and supportive data generated from each sample medium for 2018.

MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 102 [CONTROL - WNW @ 9.89 miles]

Sample ID	Sample Dates	Nuclide	Activity	2 Sigma Error	MDA
465985	1/2/2018 - 1/8/2018	Beta	3.14E-02	3.83E-03	3.49E-03
466194	1/8/2018 - 1/15/2018	Beta	2.05E-02	3.10E-03	3.26E-03
466380	1/15/2018 - 1/22/2018	Beta	2.55E-02	2.89E-03	2.57E-03
466977	1/22/2018 - 1/29/2018	Beta	1.76E-02	2.98E-03	3.36E-03
467327	1/29/2018 - 2/5/2018	Beta	1.79E-02	2.87E-03	3.04E-03
467648	2/5/2018 - 2/12/2018	Beta	1.86E-02	3.05E-03	3.40E-03
468428	2/12/2018 - 2/19/2018	Beta	1.80E-02	2.64E-03	2.82E-03
468755	2/19/2018 - 2/26/2018	Beta	1.65E-02	2.53E-03	2.70E-03
469561	2/26/2018 - 3/5/2018	Beta	2.62E-02	3.34E-03	3.19E-03
470588	3/5/2018 - 3/12/2018	Beta	2.87E-02	3.40E-03	2.96E-03
471150	3/12/2018 - 3/19/2018	Beta	2.75E-02	3.34E-03	3.04E-03
471711	3/19/2018 - 3/26/2018	Beta	1.68E-02	2.89E-03	3.18E-03
472492	3/26/2018 - 4/2/2018	Beta	1.43E-02	2.48E-03	2.90E-03
472499	1/2/2018 - 4/2/2018	Cs-134	<2.08E-03	0.00E+00	2.08E-03
		Cs-137	<1.59E-03	0.00E+00	1.59E-03
		Be-7	1.44E-01	3.91E-02	3.83E-02
		K-40	3.53E-02	1.72E-02	1.56E-02
472972	4/2/2018 - 4/9/2018	Beta	2.32E-02	2.89E-03	2.81E-03
473258	4/9/2018 - 4/16/2018	Beta	2.43E-02	2.93E-03	2.87E-03
473629	4/16/2018 - 4/23/2018	Beta	2.19E-02	2.82E-03	2.80E-03
474143	4/23/2018 - 4/30/2018	Beta	1.32E-02	2.56E-03	2.95E-03
474523	4/30/2018 - 5/7/2018	Beta	3.05E-02	3.16E-03	2.73E-03
474886	5/7/2018 - 5/14/2018	Beta	2.88E-02	3.47E-03	3.37E-03
475210	5/14/2018 - 5/21/2018	Beta	1.84E-02	2.94E-03	3.19E-03
475529	5/21/2018 - 5/29/2018	Beta	1.25E-02	2.19E-03	2.60E-03
476356	5/29/2018 - 6/4/2018	Beta	1.60E-02	3.37E-03	4.26E-03
477372	6/4/2018 - 6/11/2018	Beta	2.85E-02	3.49E-03	3.48E-03



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 102 [CONTROL - WNW @ 9.89 miles]

Sample ID	Sample Dates	Nuclide	Activity	2 Sigma Error	MDA
478102	6/11/2018 - 6/18/2018	Beta	2.34E-02	2.92E-03	2.92E-03
478416	6/18/2018 - 6/25/2018	Beta	2.41E-02	3.22E-03	3.16E-03
478778	6/25/2018 - 7/2/2018	Beta	1.75E-02	2.86E-03	3.06E-03
478785	4/2/2018 - 7/2/2018	Cs-134	<1.02E-03	0.00E+00	1.02E-03
		Cs-137	<3.09E-04	0.00E+00	3.09E-04
		Be-7	1.76E-01	4.01E-02	3.09E-02
		K-40	<1.84E-02	0.00E+00	1.84E-02
479194	7/2/2018 - 7/9/2018	Beta	2.00E-02	2.62E-03	2.53E-03
479878	7/9/2018 - 7/16/2018	Beta	3.52E-02	3.85E-03	3.55E-03
480239	7/16/2018 - 7/23/2018	Beta	2.37E-02	3.29E-03	3.39E-03
481068	7/23/2018 - 7/30/2018	Beta	2.59E-02	3.01E-03	2.85E-03
481510	7/30/2018 - 8/6/2018	Beta	1.39E-02	2.63E-03	3.02E-03
481955	8/6/2018 - 8/13/2018	Beta	1.87E-02	3.15E-03	3.68E-03
482475	8/13/2018 - 8/20/2018	Beta	2.35E-02	3.26E-03	3.43E-03
482802	8/20/2018 - 8/27/2018	Beta	2.33E-02	3.28E-03	3.34E-03
483425	8/27/2018 - 9/4/2018	Beta	2.17E-02	2.93E-03	3.08E-03
484012	9/4/2018 - 9/10/2018	Beta	2.04E-02	3.44E-03	3.73E-03
484594	9/10/2018 - 9/17/2018	Beta	4.85E-03	2.02E-03	3.02E-03
485021	9/17/2018 - 9/24/2018	Beta	2.74E-02	3.48E-03	3.41E-03
485472	9/24/2018 - 10/1/2018	Beta	1.51E-02	2.73E-03	3.13E-03
485479	7/2/2018 - 10/1/2018	Cs-134	<9.69E-04	0.00E+00	9.69E-04
		Cs-137	<1.16E-03	0.00E+00	1.16E-03
		Be-7	1.16E-01	3.25E-02	3.07E-02
		K-40	<2.57E-02	0.00E+00	2.57E-02
486151	10/1/2018 - 10/8/2018	Beta	3.48E-02	3.33E-03	2.72E-03
486691	10/8/2018 - 10/15/2018	Beta	1.95E-02	2.81E-03	2.66E-03
487732	10/15/2018 - 10/22/2018	Beta	2.66E-02	3.35E-03	3.22E-03
487977	10/22/2018 - 10/29/2018	Beta	1.90E-02	2.74E-03	3.00E-03
488468	10/29/2018 - 11/5/2018	Beta	1.80E-02	2.95E-03	3.19E-03



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 102 [CONTROL - WNW @ 9.89 miles]

Sample ID	Sample Dates	Nuclide	Activity	2 Sigma Error	MDA
488841	11/5/2018 - 11/12/2018	Beta	1.81E-02	2.65E-03	2.83E-03
489144	11/12/2018 - 11/19/2018	Beta	2.01E-02	2.78E-03	2.94E-03
489727	11/19/2018 - 11/26/2018	Beta	2.95E-02	3.10E-03	2.76E-03
490149	11/26/2018 - 12/3/2018	Beta	2.43E-02	2.98E-03	2.95E-03
490790	12/3/2018 - 12/10/2018	Beta	2.07E-02	3.12E-03	3.33E-03
491171	12/10/2018 - 12/18/2018	Beta	2.07E-02	2.88E-03	2.97E-03
491473	12/18/2018 - 12/26/2018	Beta	1.90E-02	2.77E-03	2.92E-03
491744	12/26/2018 - 12/31/2018	Beta	2.37E-02	3.58E-03	3.79E-03
491751	10/1/2018 - 12/31/2018	Cs-134	<1.90E-03	0.00E+00	1.90E-03
		Cs-137	<1.19E-03	0.00E+00	1.19E-03
		Be-7	1.14E-01	3.66E-02	4.28E-02
		K-40	1.34E-02	9.55E-03	4.54E-03

Sample Point 103 [INDICATOR - NE @ 4.2 miles]

Sample ID	Sample Dates	Nuclide	Activity	2 Sigma Error	MDA
465986	1/2/2018 - 1/8/2018	Beta	2.70E-02	3.66E-03	3.54E-03
466195	1/8/2018 - 1/15/2018	Beta	1.88E-02	3.01E-03	3.27E-03
466381	1/15/2018 - 1/22/2018	Beta	2.74E-02	2.97E-03	2.57E-03
466978	1/22/2018 - 1/29/2018	Beta	2.20E-02	3.18E-03	3.33E-03
467328	1/29/2018 - 2/5/2018	Beta	1.87E-02	2.92E-03	3.07E-03
467649	2/5/2018 - 2/12/2018	Beta	2.09E-02	3.17E-03	3.41E-03
468429	2/12/2018 - 2/19/2018	Beta	1.52E-02	2.50E-03	2.83E-03
468756	2/19/2018 - 2/26/2018	Beta	1.23E-02	2.29E-03	2.67E-03
469562	2/26/2018 - 3/5/2018	Beta	2.32E-02	3.21E-03	3.21E-03
470589	3/5/2018 - 3/12/2018	Beta	2.63E-02	3.30E-03	2.97E-03
471151	3/12/2018 - 3/19/2018	Beta	2.57E-02	3.30E-03	3.09E-03
471712	3/19/2018 - 3/26/2018	Beta	1.60E-02	2.78E-03	3.10E-03
472493	3/26/2018 - 4/2/2018	Beta	1.28E-02	2.46E-03	2.99E-03
472500	1/2/2018 - 4/2/2018	Cs-134	<1.98E-03	0.00E+00	1.98E-03
		Cs-137	<1.41E-03	0.00E+00	1.41E-03
		Be-7	1.48E-01	3.88E-02	3.70E-02
		K-40	<2.95E-02	0.00E+00	2.95E-02

MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 103 [INDICATOR - NE @ 4.2 miles]

Sample ID	Sample Dates	Nuclide	Activity	2 Sigma Error	MDA
472973	4/2/2018 - 4/9/2018	Beta	2.20E-02	2.79E-03	2.75E-03
473259	4/9/2018 - 4/16/2018	Beta	2.26E-02	2.89E-03	2.93E-03
473630	4/16/2018 - 4/23/2018	Beta	1.95E-02	2.66E-03	2.71E-03
474144	4/23/2018 - 4/30/2018	Beta	1.34E-02	2.64E-03	3.05E-03
474524	4/30/2018 - 5/7/2018	Beta	2.21E-02	2.77E-03	2.66E-03
474887	5/7/2018 - 5/14/2018	Beta	2.71E-02	3.45E-03	3.44E-03
475211	5/14/2018 - 5/21/2018	Beta	1.73E-02	2.84E-03	3.10E-03
475530	5/21/2018 - 5/29/2018	Beta	9.99E-03	2.11E-03	2.66E-03
476357	5/29/2018 - 6/4/2018	Beta	1.21E-02	3.10E-03	4.16E-03
477373	6/4/2018 - 6/11/2018	Beta	2.63E-02	3.45E-03	3.55E-03
478103	6/11/2018 - 6/18/2018	Beta	2.17E-02	2.80E-03	2.83E-03
478417	6/18/2018 - 6/25/2018	Beta	2.57E-02	3.36E-03	3.25E-03
478779	6/25/2018 - 7/2/2018	Beta	1.83E-02	2.86E-03	2.99E-03
478786	4/2/2018 - 7/2/2018	Cs-134	<1.62E-03	0.00E+00	1.62E-03
		Cs-137	<1.19E-03	0.00E+00	1.19E-03
		Be-7	1.63E-01	4.08E-02	3.97E-02
		K-40	1.67E-02	1.07E-02	4.54E-03
479195	7/2/2018 - 7/9/2018	Beta	1.63E-02	2.48E-03	2.59E-03
479879	7/9/2018 - 7/16/2018	Beta	3.30E-02	3.69E-03	3.44E-03
480240	7/16/2018 - 7/23/2018	Beta	2.12E-02	3.23E-03	3.49E-03
481069	7/23/2018 - 7/30/2018	Beta	2.36E-02	2.88E-03	2.80E-03
481511	7/30/2018 - 8/6/2018	Beta	1.30E-02	2.61E-03	3.08E-03
481956	8/6/2018 - 8/13/2018	Beta	1.95E-02	3.10E-03	3.55E-03
482476	8/13/2018 - 8/20/2018	Beta	2.32E-02	3.33E-03	3.56E-03
482803	8/20/2018 - 8/27/2018	Beta	2.38E-02	3.25E-03	3.28E-03
483426	8/27/2018 - 9/4/2018	Beta	2.08E-02	2.92E-03	3.11E-03
484013	9/4/2018 - 9/10/2018	Beta	2.02E-02	3.36E-03	3.62E-03



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 103 [INDICATOR - NE @ 4.2 miles]

Sample ID	Sample Dates	Nuclide	Activity	2 Sigma Error	MDA
484595	9/10/2018 - 9/17/2018	Beta	4.41E-03	2.04E-03	3.10E-03
485022	9/17/2018 - 9/24/2018	Beta	2.33E-02	3.26E-03	3.36E-03
485473	9/24/2018 - 10/1/2018	Beta	1.70E-02	2.88E-03	3.21E-03
485480	7/2/2018 - 10/1/2018	Cs-134	<1.45E-03	0.00E+00	1.45E-03
		Cs-137	<2.99E-04	0.00E+00	2.99E-04
		Be-7	1.36E-01	3.80E-02	4.02E-02
		K-40	<2.52E-02	0.00E+00	2.52E-02
486152	10/1/2018 - 10/8/2018	Beta	2.96E-02	3.06E-03	2.62E-03
486692	10/8/2018 - 10/15/2018	Beta	1.68E-02	2.71E-03	2.72E-03
487733	10/15/2018 - 10/22/2018	Beta	2.73E-02	3.35E-03	3.18E-03
487978	10/22/2018 - 10/29/2018	Beta	1.73E-02	2.70E-03	3.05E-03
488469	10/29/2018 - 11/5/2018	Beta	1.59E-02	2.78E-03	3.09E-03
488842	11/5/2018 - 11/12/2018	Beta	1.71E-02	2.65E-03	2.92E-03
489145	11/12/2018 - 11/19/2018	Beta	1.84E-02	2.68E-03	2.90E-03
489728	11/19/2018 - 11/26/2018	Beta	2.85E-02	3.09E-03	2.81E-03
490150	11/26/2018 - 12/3/2018	Beta	2.40E-02	2.91E-03	2.88E-03
490791	12/3/2018 - 12/10/2018	Beta	2.07E-02	3.17E-03	3.42E-03
491172	12/10/2018 - 12/18/2018	Beta	1.82E-02	2.73E-03	2.93E-03
491474	12/18/2018 - 12/26/2018	Beta	1.75E-02	2.74E-03	2.98E-03
491745	12/26/2018 - 12/31/2018	Beta	2.36E-02	3.47E-03	3.64E-03
491752	10/1/2018 - 12/31/2018	Cs-134	<1.66E-03	0.00E+00	1.66E-03
		Cs-137	<1.49E-03	0.00E+00	1.49E-03
		Be-7	1.28E-01	3.55E-02	3.46E-02
		K-40	<2.57E-02	0.00E+00	2.57E-02

Sample Point 120 [INDICATOR - NNE @ 0.46 miles]

Sample ID	Sample Dates	Nuclide	Activity	2 Sigma Error	MDA
465987	1/2/2018 - 1/8/2018	Beta	3.25E-02	3.99E-03	3.65E-03
466196	1/8/2018 - 1/15/2018	Beta	1.88E-02	3.02E-03	3.26E-03
466382	1/15/2018 - 1/22/2018	Beta	2.99E-02	3.08E-03	2.57E-03
466979	1/22/2018 - 1/29/2018	Beta	1.48E-02	2.77E-03	3.26E-03
467329	1/29/2018 - 2/5/2018	Beta	1.79E-02	2.91E-03	3.13E-03



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 120 [INDICATOR - NNE @ 0.46 miles]

Sample ID	Sample Dates	Nuclide	Activity	2 Sigma Error	MDA
467650	2/5/2018 - 2/12/2018	Beta	1.91E-02	3.08E-03	3.41E-03
468430	2/12/2018 - 2/19/2018	Beta	1.56E-02	2.53E-03	2.84E-03
468757	2/19/2018 - 2/26/2018	Beta	1.17E-02	2.23E-03	2.62E-03
469563	2/26/2018 - 3/5/2018	Beta	2.52E-02	3.34E-03	3.27E-03
470590	3/5/2018 - 3/12/2018	Beta	2.37E-02	3.18E-03	2.97E-03
471152	3/12/2018 - 3/19/2018	Beta	2.50E-02	3.26E-03	3.09E-03
471713	3/19/2018 - 3/26/2018	Beta	1.69E-02	2.82E-03	3.06E-03
472494	3/26/2018 - 4/2/2018	Beta	1.30E-02	2.49E-03	3.02E-03
472501	1/2/2018 - 4/2/2018	Cs-134	<1.92E-03	0.00E+00	1.92E-03
		Cs-137	<1.45E-03	0.00E+00	1.45E-03
		Be-7	1.64E-01	3.95E-02	3.22E-02
		K-40	<2.53E-02	0.00E+00	2.53E-02
472974	4/2/2018 - 4/9/2018	Beta	2.41E-02	2.88E-03	2.75E-03
473260	4/9/2018 - 4/16/2018	Beta	2.24E-02	2.89E-03	2.93E-03
473631	4/16/2018 - 4/23/2018	Beta	1.98E-02	2.63E-03	2.66E-03
474145	4/23/2018 - 4/30/2018	Beta	1.16E-02	2.57E-03	3.12E-03
474525	4/30/2018 - 5/7/2018	Beta	2.49E-02	2.89E-03	2.65E-03
474888	5/7/2018 - 5/14/2018	Beta	2.73E-02	3.46E-03	3.45E-03
475212	5/14/2018 - 5/21/2018	Beta	1.47E-02	2.66E-03	3.04E-03
475531	5/21/2018 - 5/29/2018	Beta	1.07E-02	2.18E-03	2.71E-03
476358	5/29/2018 - 6/4/2018	Beta	1.46E-02	3.24E-03	4.17E-03
477374	6/4/2018 - 6/11/2018	Beta	3.24E-02	3.70E-03	3.55E-03
478104	6/11/2018 - 6/18/2018	Beta	2.29E-02	2.81E-03	2.78E-03
478418	6/18/2018 - 6/25/2018	Beta	2.62E-02	3.43E-03	3.32E-03
478780	6/25/2018 - 7/2/2018	Beta	1.67E-02	2.79E-03	3.02E-03
478787	4/2/2018 - 7/2/2018	Cs-134	<1.70E-03	0.00E+00	1.70E-03
		Cs-137	<1.52E-03	0.00E+00	1.52E-03
		Be-7	1.79E-01	4.04E-02	3.00E-02
		K-40	2.96E-02	1.45E-02	4.71E-03



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 120 [INDICATOR - NNE @ 0.46 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
479196	7/2/2018 - 7/9/2018	Beta	1.70E-02	2.50E-03	2.56E-03
479880	7/9/2018 - 7/16/2018	Beta	3.34E-02	3.67E-03	3.37E-03
480241	7/16/2018 - 7/23/2018	Beta	2.14E-02	3.29E-03	3.57E-03
481070	7/23/2018 - 7/30/2018	Beta	2.32E-02	2.86E-03	2.81E-03
481512	7/30/2018 - 8/6/2018	Beta	1.60E-02	2.77E-03	3.06E-03
481957	8/6/2018 - 8/13/2018	Beta	1.76E-02	2.98E-03	3.50E-03
482477	8/13/2018 - 8/20/2018	Beta	2.40E-02	3.40E-03	3.62E-03
482804	8/20/2018 - 8/27/2018	Beta	2.13E-02	3.14E-03	3.28E-03
483427	8/27/2018 - 9/4/2018	Beta	2.03E-02	2.89E-03	3.10E-03
484014	9/4/2018 - 9/10/2018	Beta	1.93E-02	3.27E-03	3.55E-03
484596	9/10/2018 - 9/17/2018	Beta	5.47E-03	2.15E-03	3.17E-03
485023	9/17/2018 - 9/24/2018	Beta	2.41E-02	3.29E-03	3.35E-03
485474	9/24/2018 - 10/1/2018	Beta	1.40E-02	2.70E-03	3.18E-03
485481	7/2/2018 - 10/1/2018	Cs-134	<1.52E-03	0.00E+00	1.52E-03
		Cs-137	<1.64E-03	0.00E+00	1.64E-03
		Be-7	1.45E-01	3.77E-02	3.48E-02
		K-40	<3.50E-02	0.00E+00	3.50E-02
486153	10/1/2018 - 10/8/2018	Beta	3.37E-02	3.19E-03	2.59E-03
486693	10/8/2018 - 10/15/2018	Beta	1.60E-02	2.67E-03	2.74E-03
487734	10/15/2018 - 10/22/2018	Beta	2.76E-02	3.40E-03	3.23E-03
487979	10/22/2018 - 10/29/2018	Beta	1.96E-02	2.80E-03	3.05E-03
488470	10/29/2018 - 11/5/2018	Beta	1.81E-02	2.87E-03	3.04E-03
488843	11/5/2018 - 11/12/2018	Beta	1.92E-02	2.78E-03	2.97E-03
489146	11/12/2018 - 11/19/2018	Beta	1.84E-02	2.68E-03	2.90E-03
489729	11/19/2018 - 11/26/2018	Beta	2.70E-02	3.03E-03	2.80E-03
490151	11/26/2018 - 12/3/2018	Beta	2.20E-02	2.79E-03	2.82E-03
490792	12/3/2018 - 12/10/2018	Beta	2.24E-02	3.30E-03	3.49E-03



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 120 [INDICATOR - NNE @ 0.46 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
491173	12/10/2018 - 12/18/2018	Beta	1.72E-02	2.68E-03	2.93E-03
491475	12/18/2018 - 12/26/2018	Beta	1.84E-02	2.75E-03	2.94E-03
491746	12/26/2018 - 12/31/2018	Beta	2.26E-02	3.37E-03	3.55E-03
491753	10/1/2018 - 12/31/2018	Cs-134	<1.58E-03	0.00E+00	1.58E-03
		Cs-137	<1.70E-03	0.00E+00	1.70E-03
		Be-7	1.58E-01	3.59E-02	1.79E-02
		K-40	<2.56E-02	0.00E+00	2.56E-02

Sample Point 121 [INDICATOR - NE @ 0.47 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
465988	1/2/2018 - 1/8/2018	Beta	2.68E-02	3.71E-03	3.63E-03
466197	1/8/2018 - 1/15/2018	Beta	2.17E-02	3.15E-03	3.27E-03
466383	1/15/2018 - 1/22/2018	Beta	2.62E-02	2.92E-03	2.57E-03
466980	1/22/2018 - 1/29/2018	Beta	1.55E-02	2.81E-03	3.26E-03
467330	1/29/2018 - 2/5/2018	Beta	1.76E-02	2.90E-03	3.12E-03
467651	2/5/2018 - 2/12/2018	Beta	1.88E-02	3.06E-03	3.40E-03
468431	2/12/2018 - 2/19/2018	Beta	1.55E-02	2.53E-03	2.83E-03
468758	2/19/2018 - 2/26/2018	Beta	1.30E-02	2.31E-03	2.63E-03
469564	2/26/2018 - 3/5/2018	Beta	2.27E-02	3.22E-03	3.26E-03
470591	3/5/2018 - 3/12/2018	Beta	2.56E-02	3.27E-03	2.97E-03
471153	3/12/2018 - 3/19/2018	Beta	2.63E-02	3.32E-03	3.09E-03
471714	3/19/2018 - 3/26/2018	Beta	1.61E-02	2.76E-03	3.05E-03
472495	3/26/2018 - 4/2/2018	Beta	1.34E-02	2.52E-03	3.03E-03
472502	1/2/2018 - 4/2/2018	Cs-134	<1.55E-03	0.00E+00	1.55E-03
		Cs-137	<1.96E-03	0.00E+00	1.96E-03
		Be-7	1.34E-01	3.81E-02	3.69E-02
		K-40	<3.33E-02	0.00E+00	3.33E-02
472975	4/2/2018 - 4/9/2018	Beta	2.20E-02	2.80E-03	2.75E-03
473261	4/9/2018 - 4/16/2018	Beta	2.29E-02	2.91E-03	2.93E-03
473632	4/16/2018 - 4/23/2018	Beta	2.03E-02	2.67E-03	2.67E-03
474146	4/23/2018 - 4/30/2018	Beta	1.36E-02	2.68E-03	3.10E-03
474526	4/30/2018 - 5/7/2018	Beta	2.40E-02	2.85E-03	2.66E-03



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 121 [INDICATOR - NE @ 0.47 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
474889	5/7/2018 - 5/14/2018	Beta	2.97E-02	3.56E-03	3.44E-03
475213	5/14/2018 - 5/21/2018	Beta	1.74E-02	2.81E-03	3.05E-03
475532	5/21/2018 - 5/29/2018	Beta	1.07E-02	2.17E-03	2.70E-03
476359	5/29/2018 - 6/4/2018	Beta	1.43E-02	3.23E-03	4.17E-03
477375	6/4/2018 - 6/11/2018	Beta	2.75E-02	3.49E-03	3.54E-03
478105	6/11/2018 - 6/18/2018	Beta	2.40E-02	2.87E-03	2.80E-03
478419	6/18/2018 - 6/25/2018	Beta	2.59E-02	3.40E-03	3.31E-03
478781	6/25/2018 - 7/2/2018	Beta	1.96E-02	2.94E-03	3.03E-03
478788	4/2/2018 - 7/2/2018	Cs-134	<2.12E-03	0.00E+00	2.12E-03
		Cs-137	<1.31E-03	0.00E+00	1.31E-03
		Be-7	1.73E-01	3.96E-02	3.29E-02
		K-40	<2.77E-02	0.00E+00	2.77E-02
479197	7/2/2018 - 7/9/2018	Beta	1.96E-02	2.62E-03	2.56E-03
479881	7/9/2018 - 7/16/2018	Beta	3.27E-02	3.64E-03	3.38E-03
480242	7/16/2018 - 7/23/2018	Beta	2.39E-02	3.40E-03	3.56E-03
481071	7/23/2018 - 7/30/2018	Beta	2.05E-02	2.74E-03	2.81E-03
481513	7/30/2018 - 8/6/2018	Beta	1.46E-02	2.69E-03	3.06E-03
481958	8/6/2018 - 8/13/2018	Beta	2.07E-02	3.13E-03	3.50E-03
482478	8/13/2018 - 8/20/2018	Beta	2.37E-02	3.38E-03	3.61E-03
482805	8/20/2018 - 8/27/2018	Beta	2.44E-02	3.28E-03	3.28E-03
483428	8/27/2018 - 9/4/2018	Beta	2.27E-02	2.99E-03	3.10E-03
484015	9/4/2018 - 9/10/2018	Beta	2.43E-02	3.54E-03	3.56E-03
484597	9/10/2018 - 9/17/2018	Beta	5.60E-03	2.16E-03	3.16E-03
485024	9/17/2018 - 9/24/2018	Beta	3.03E-02	3.57E-03	3.35E-03
485475	9/24/2018 - 10/1/2018	Beta	1.77E-02	2.90E-03	3.19E-03
485482	7/2/2018 - 10/1/2018	Cs-134	<2.00E-03	0.00E+00	2.00E-03
		Cs-137	<1.31E-03	0.00E+00	1.31E-03
		Be-7	1.66E-01	3.88E-02	3.31E-02
		K-40	<3.12E-02	0.00E+00	3.12E-02



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 121 [INDICATOR - NE @ 0.47 miles]

Sample ID	Sample Dates	Nuclide	Activity	2 Sigma Error	MDA
486154	10/1/2018 - 10/8/2018	Beta	3.70E-02	3.32E-03	2.59E-03
486694	10/8/2018 - 10/15/2018	Beta	1.98E-02	2.88E-03	2.73E-03
487735	10/15/2018 - 10/22/2018	Beta	2.96E-02	3.49E-03	3.23E-03
487980	10/22/2018 - 10/29/2018	Beta	1.99E-02	2.81E-03	3.05E-03
488471	10/29/2018 - 11/5/2018	Beta	2.23E-02	3.08E-03	3.04E-03
488844	11/5/2018 - 11/12/2018	Beta	2.43E-02	3.01E-03	2.97E-03
489147	11/12/2018 - 11/19/2018	Beta	1.98E-02	2.75E-03	2.90E-03
489730	11/19/2018 - 11/26/2018	Beta	3.00E-02	3.15E-03	2.80E-03
490152	11/26/2018 - 12/3/2018	Beta	2.20E-02	2.80E-03	2.83E-03
490793	12/3/2018 - 12/10/2018	Beta	2.03E-02	3.20E-03	3.48E-03
491174	12/10/2018 - 12/18/2018	Beta	1.86E-02	2.75E-03	2.93E-03
491476	12/18/2018 - 12/26/2018	Beta	1.61E-02	2.66E-03	2.96E-03
491747	12/26/2018 - 12/31/2018	Beta	2.84E-02	3.65E-03	3.56E-03
491754	10/1/2018 - 12/31/2018	Cs-134	<1.00E-03	0.00E+00	1.00E-03
		Cs-137	<1.57E-03	0.00E+00	1.57E-03
		Be-7	1.42E-01	3.73E-02	3.64E-02
		K-40	2.00E-02	1.42E-02	1.78E-02

Sample Point 125 [INDICATOR - SW @ 0.38 miles]

Sample ID	Sample Dates	Nuclide	Activity	2 Sigma Error	MDA
465989	1/2/2018 - 1/8/2018	Beta	3.30E-02	4.01E-03	3.63E-03
466198	1/8/2018 - 1/15/2018	Beta	2.00E-02	3.08E-03	3.27E-03
466384	1/15/2018 - 1/22/2018	Beta	2.99E-02	3.07E-03	2.57E-03
466981	1/22/2018 - 1/29/2018	Beta	1.65E-02	2.86E-03	3.27E-03
467331	1/29/2018 - 2/5/2018	Beta	1.84E-02	2.94E-03	3.13E-03
467652	2/5/2018 - 2/12/2018	Beta	1.70E-02	2.97E-03	3.40E-03
468432	2/12/2018 - 2/19/2018	Beta	1.66E-02	2.58E-03	2.83E-03
468759	2/19/2018 - 2/26/2018	Beta	1.33E-02	2.32E-03	2.63E-03
469565	2/26/2018 - 3/5/2018	Beta	2.76E-02	3.45E-03	3.26E-03
470592	3/5/2018 - 3/12/2018	Beta	2.66E-02	3.31E-03	2.97E-03



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 125 [INDICATOR - SW @ 0.38 miles]

Sample ID	Sample Dates	Nuclide	Activity	2 Sigma Error	MDA
471154	3/12/2018 - 3/19/2018	Beta	2.56E-02	3.29E-03	3.09E-03
471715	3/19/2018 - 3/26/2018	Beta	1.70E-02	2.81E-03	3.04E-03
472496	3/26/2018 - 4/2/2018	Beta	1.39E-02	2.55E-03	3.05E-03
472503	1/2/2018 - 4/2/2018	Cs-134	<1.80E-03	0.00E+00	1.80E-03
		Cs-137	<1.21E-03	0.00E+00	1.21E-03
		Be-7	1.79E-01	3.89E-02	1.96E-02
		K-40	1.57E-02	1.12E-02	1.14E-02
472976	4/2/2018 - 4/9/2018	Beta	2.19E-02	2.79E-03	2.75E-03
473262	4/9/2018 - 4/16/2018	Beta	2.06E-02	2.81E-03	2.93E-03
473633	4/16/2018 - 4/23/2018	Beta	1.88E-02	2.60E-03	2.67E-03
474147	4/23/2018 - 4/30/2018	Beta	1.22E-02	2.60E-03	3.10E-03
474527	4/30/2018 - 5/7/2018	Beta	2.81E-02	3.02E-03	2.66E-03
474890	5/7/2018 - 5/14/2018	Beta	2.89E-02	3.52E-03	3.44E-03
475214	5/14/2018 - 5/21/2018	Beta	1.46E-02	2.66E-03	3.05E-03
475533	5/21/2018 - 5/29/2018	Beta	1.27E-02	2.28E-03	2.70E-03
476360	5/29/2018 - 6/4/2018	Beta	1.57E-02	3.31E-03	4.17E-03
477376	6/4/2018 - 6/11/2018	Beta	3.22E-02	3.69E-03	3.54E-03
478106	6/11/2018 - 6/18/2018	Beta	2.26E-02	2.80E-03	2.79E-03
478420	6/18/2018 - 6/25/2018	Beta	2.88E-02	3.54E-03	3.31E-03
478782	6/25/2018 - 7/2/2018	Beta	2.03E-02	2.98E-03	3.03E-03
478789	4/2/2018 - 7/2/2018	Cs-134	<1.55E-03	0.00E+00	1.55E-03
		Cs-137	<1.14E-03	0.00E+00	1.14E-03
		Be-7	1.73E-01	3.82E-02	2.77E-02
		K-40	<2.41E-02	0.00E+00	2.41E-02
479198	7/2/2018 - 7/9/2018	Beta	1.74E-02	2.52E-03	2.56E-03
479882	7/9/2018 - 7/16/2018	Beta	3.27E-02	3.64E-03	3.38E-03
480243	7/16/2018 - 7/23/2018	Beta	2.12E-02	3.28E-03	3.56E-03
481072	7/23/2018 - 7/30/2018	Beta	2.04E-02	2.73E-03	2.79E-03
481514	7/30/2018 - 8/6/2018	Beta	1.47E-02	2.70E-03	3.08E-03



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 125 [INDICATOR - SW @ 0.38 miles]

Sample ID	Sample Dates	Nuclide	Activity	2 Sigma Error	MDA
481959	8/6/2018 - 8/13/2018	Beta	1.67E-02	2.95E-03	3.50E-03
482479	8/13/2018 - 8/20/2018	Beta	2.80E-02	3.58E-03	3.61E-03
482806	8/20/2018 - 8/27/2018	Beta	2.27E-02	3.20E-03	3.28E-03
483429	8/27/2018 - 9/4/2018	Beta	2.17E-02	2.95E-03	3.10E-03
484016	9/4/2018 - 9/10/2018	Beta	2.22E-02	3.44E-03	3.56E-03
484598	9/10/2018 - 9/17/2018	Beta	4.38E-03	2.07E-03	3.16E-03
485025	9/17/2018 - 9/24/2018	Beta	2.69E-02	3.42E-03	3.35E-03
485476	9/24/2018 - 10/1/2018	Beta	1.64E-02	2.83E-03	3.19E-03
485483	7/2/2018 - 10/1/2018	Cs-134	<1.93E-03	0.00E+00	1.93E-03
		Cs-137	<1.58E-03	0.00E+00	1.58E-03
		Be-7	1.50E-01	4.11E-02	4.50E-02
		K-40	2.89E-02	1.42E-02	4.61E-03
486155	10/1/2018 - 10/8/2018	Beta	3.48E-02	3.24E-03	2.59E-03
486695	10/8/2018 - 10/15/2018	Beta	1.91E-02	2.84E-03	2.73E-03
487736	10/15/2018 - 10/22/2018	Beta	2.86E-02	3.45E-03	3.24E-03
487981	10/22/2018 - 10/29/2018	Beta	1.91E-02	2.77E-03	3.05E-03
488472	10/29/2018 - 11/5/2018	Beta	1.95E-02	2.94E-03	3.04E-03
488845	11/5/2018 - 11/12/2018	Beta	2.29E-02	2.94E-03	2.96E-03
489148	11/12/2018 - 11/19/2018	Beta	2.00E-02	2.76E-03	2.90E-03
489731	11/19/2018 - 11/26/2018	Beta	2.99E-02	3.15E-03	2.80E-03
490153	11/26/2018 - 12/3/2018	Beta	2.35E-02	2.86E-03	2.83E-03
490794	12/3/2018 - 12/10/2018	Beta	1.76E-02	3.06E-03	3.48E-03
491175	12/10/2018 - 12/18/2018	Beta	1.80E-02	2.72E-03	2.93E-03
491477	12/18/2018 - 12/26/2018	Beta	1.52E-02	2.62E-03	2.96E-03
491748	12/26/2018 - 12/31/2018	Beta	2.16E-02	3.33E-03	3.57E-03
491755	10/1/2018 - 12/31/2018	Cs-134	<1.43E-03	0.00E+00	1.43E-03
		Cs-137	<1.89E-03	0.00E+00	1.89E-03
		Be-7	8.14E-02	2.91E-02	3.33E-02
		K-40	<2.49E-02	0.00E+00	2.49E-02



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 133 [INDICATOR - ENE @ 6.23 miles]

Sample ID	Sample Dates	Nuclide	Activity	2 Sigma Error	MDA
465990	1/2/2018 - 1/8/2018	Beta	3.06E-02	3.83E-03	3.54E-03
466199	1/8/2018 - 1/15/2018	Beta	1.96E-02	3.05E-03	3.26E-03
466385	1/15/2018 - 1/22/2018	Beta	2.82E-02	3.01E-03	2.57E-03
466982	1/22/2018 - 1/29/2018	Beta	1.58E-02	2.86E-03	3.33E-03
467332	1/29/2018 - 2/5/2018	Beta	1.41E-02	2.67E-03	3.07E-03
467653	2/5/2018 - 2/12/2018	Beta	1.76E-02	3.01E-03	3.41E-03
468433	2/12/2018 - 2/19/2018	Beta	1.61E-02	2.55E-03	2.83E-03
468760	2/19/2018 - 2/26/2018	Beta	1.27E-02	2.31E-03	2.67E-03
469566	2/26/2018 - 3/5/2018	Beta	2.53E-02	3.31E-03	3.21E-03
470593	3/5/2018 - 3/12/2018	Beta	2.47E-02	3.22E-03	2.97E-03
471155	3/12/2018 - 3/19/2018	Beta	2.28E-02	3.15E-03	3.09E-03
471716	3/19/2018 - 3/26/2018	Beta	1.72E-02	2.85E-03	3.10E-03
472497	3/26/2018 - 4/2/2018	Beta	1.04E-02	2.33E-03	2.98E-03
472504	1/2/2018 - 4/2/2018	Cs-134	<1.81E-03	0.00E+00	1.81E-03
		Cs-137	<1.61E-03	0.00E+00	1.61E-03
		Be-7	1.78E-01	4.35E-02	3.64E-02
		K-40	<2.42E-02	0.00E+00	2.42E-02
472977	4/2/2018 - 4/9/2018	Beta	2.02E-02	2.72E-03	2.76E-03
473263	4/9/2018 - 4/16/2018	Beta	2.34E-02	2.92E-03	2.92E-03
473634	4/16/2018 - 4/23/2018	Beta	1.93E-02	2.65E-03	2.72E-03
474148	4/23/2018 - 4/30/2018	Beta	1.17E-02	2.54E-03	3.05E-03
474528	4/30/2018 - 5/7/2018	Beta	2.39E-02	2.85E-03	2.66E-03
474891	5/7/2018 - 5/14/2018	Beta	2.73E-02	3.45E-03	3.44E-03
475215	5/14/2018 - 5/21/2018	Beta	1.38E-02	2.66E-03	3.11E-03
475534	5/21/2018 - 5/29/2018	Beta	1.30E-02	2.26E-03	2.66E-03
476361	5/29/2018 - 6/4/2018	Beta	1.49E-02	3.26E-03	4.16E-03
477377	6/4/2018 - 6/11/2018	Beta	2.74E-02	3.50E-03	3.55E-03



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 133 [INDICATOR - ENE @ 6.23 miles]

Sample ID	Sample Dates	Nuclide	Activity	2 Sigma Error	MDA
478107	6/11/2018 - 6/18/2018	Beta	2.09E-02	2.77E-03	2.84E-03
478421	6/18/2018 - 6/25/2018	Beta	2.53E-02	3.35E-03	3.25E-03
478783	6/25/2018 - 7/2/2018	Beta	1.74E-02	2.81E-03	2.99E-03
478790	4/2/2018 - 7/2/2018	Cs-134	<2.28E-03	0.00E+00	2.28E-03
		Cs-137	<1.04E-03	0.00E+00	1.04E-03
		Be-7	1.64E-01	3.86E-02	3.21E-02
		K-40	<3.92E-02	0.00E+00	3.92E-02
479199	7/2/2018 - 7/9/2018	Beta	1.75E-02	2.54E-03	2.60E-03
479883	7/9/2018 - 7/16/2018	Beta	2.75E-02	3.47E-03	3.44E-03
480244	7/16/2018 - 7/23/2018	Beta	2.33E-02	3.33E-03	3.49E-03
481073	7/23/2018 - 7/30/2018	Beta	2.23E-02	2.82E-03	2.80E-03
481515	7/30/2018 - 8/6/2018	Beta	1.41E-02	2.67E-03	3.08E-03
481960	8/6/2018 - 8/13/2018	Beta	2.09E-02	3.17E-03	3.55E-03
482480	8/13/2018 - 8/20/2018	Beta	2.59E-02	3.45E-03	3.56E-03
482807	8/20/2018 - 8/27/2018	Beta	2.00E-02	3.07E-03	3.28E-03
483430	8/27/2018 - 9/4/2018	Beta	2.15E-02	2.96E-03	3.13E-03
484017	9/4/2018 - 9/10/2018	Beta	1.95E-02	3.32E-03	3.60E-03
484599	9/10/2018 - 9/17/2018	Beta	5.63E-03	2.11E-03	3.10E-03
485026	9/17/2018 - 9/24/2018	Beta	2.53E-02	3.35E-03	3.36E-03
485477	9/24/2018 - 10/1/2018	Beta	1.70E-02	2.88E-03	3.21E-03
485484	7/2/2018 - 10/1/2018	Cs-134	<1.73E-03	0.00E+00	1.73E-03
		Cs-137	<1.01E-03	0.00E+00	1.01E-03
		Be-7	1.36E-01	3.27E-02	2.26E-02
		K-40	<2.29E-02	0.00E+00	2.29E-02
486156	10/1/2018 - 10/8/2018	Beta	3.37E-02	3.22E-03	2.63E-03
486696	10/8/2018 - 10/15/2018	Beta	1.68E-02	2.71E-03	2.72E-03
487737	10/15/2018 - 10/22/2018	Beta	2.77E-02	3.37E-03	3.18E-03
487982	10/22/2018 - 10/29/2018	Beta	1.64E-02	2.65E-03	3.05E-03
488473	10/29/2018 - 11/5/2018	Beta	2.14E-02	3.06E-03	3.08E-03



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 133 [INDICATOR - ENE @ 6.23 miles]

Sample ID	Sample Dates	Nuclide	Activity	2 Sigma Error	MDA
488846	11/5/2018 - 11/12/2018	Beta	1.93E-02	2.75E-03	2.92E-03
489149	11/12/2018 - 11/19/2018	Beta	1.89E-02	2.70E-03	2.90E-03
489732	11/19/2018 - 11/26/2018	Beta	2.77E-02	3.07E-03	2.80E-03
490154	11/26/2018 - 12/3/2018	Beta	2.03E-02	2.75E-03	2.87E-03
490795	12/3/2018 - 12/10/2018	Beta	2.01E-02	3.15E-03	3.43E-03
491176	12/10/2018 - 12/18/2018	Beta	2.11E-02	2.87E-03	2.93E-03
491478	12/18/2018 - 12/26/2018	Beta	1.36E-02	2.53E-03	2.96E-03
491749	12/26/2018 - 12/31/2018	Beta	2.30E-02	3.45E-03	3.64E-03
491756	10/1/2018 - 12/31/2018	Cs-134	<1.62E-03	0.00E+00	1.62E-03
		Cs-137	<1.02E-03	0.00E+00	1.02E-03
		Be-7	1.04E-01	3.44E-02	4.00E-02
		K-40	<2.52E-02	0.00E+00	2.52E-02

Sample Point 195 [INDICATOR - N @ 0.19 miles]

Sample ID	Sample Dates	Nuclide	Activity	2 Sigma Error	MDA
465991	1/2/2018 - 1/8/2018	Beta	2.87E-02	3.81E-03	3.65E-03
466200	1/8/2018 - 1/15/2018	Beta	2.02E-02	3.08E-03	3.27E-03
466386	1/15/2018 - 1/22/2018	Beta	3.06E-02	3.11E-03	2.57E-03
466983	1/22/2018 - 1/29/2018	Beta	1.96E-02	3.01E-03	3.26E-03
467333	1/29/2018 - 2/5/2018	Beta	1.80E-02	2.92E-03	3.13E-03
467654	2/5/2018 - 2/12/2018	Beta	1.87E-02	3.06E-03	3.40E-03
468434	2/12/2018 - 2/19/2018	Beta	1.93E-02	2.71E-03	2.83E-03
468761	2/19/2018 - 2/26/2018	Beta	1.41E-02	2.35E-03	2.62E-03
469567	2/26/2018 - 3/5/2018	Beta	2.54E-02	3.35E-03	3.27E-03
470594	3/5/2018 - 3/12/2018	Beta	2.79E-02	3.38E-03	2.97E-03
471156	3/12/2018 - 3/19/2018	Beta	2.74E-02	3.37E-03	3.09E-03
471717	3/19/2018 - 3/26/2018	Beta	1.53E-02	2.72E-03	3.05E-03
472498	3/26/2018 - 4/2/2018	Beta	1.39E-02	2.54E-03	3.03E-03
472505	1/2/2018 - 4/2/2018	Cs-134	<1.26E-03	0.00E+00	1.26E-03
		Cs-137	<1.33E-03	0.00E+00	1.33E-03
		Be-7	1.62E-01	4.09E-02	3.84E-02
		K-40	<2.37E-02	0.00E+00	2.37E-02



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 195 [INDICATOR - N @ 0.19 miles]

Sample ID	Sample Dates	Nuclide	Activity	2 Sigma Error	MDA
472978	4/2/2018 - 4/9/2018	Beta	2.53E-02	2.94E-03	2.75E-03
473264	4/9/2018 - 4/16/2018	Beta	2.38E-02	2.95E-03	2.93E-03
473635	4/16/2018 - 4/23/2018	Beta	2.03E-02	2.66E-03	2.67E-03
474149	4/23/2018 - 4/30/2018	Beta	1.12E-02	2.54E-03	3.11E-03
474529	4/30/2018 - 5/7/2018	Beta	2.80E-02	3.02E-03	2.66E-03
474892	5/7/2018 - 5/14/2018	Beta	2.77E-02	3.48E-03	3.44E-03
475216	5/14/2018 - 5/21/2018	Beta	1.56E-02	2.71E-03	3.04E-03
475535	5/21/2018 - 5/29/2018	Beta	1.33E-02	2.31E-03	2.71E-03
476362	5/29/2018 - 6/4/2018	Beta	1.32E-02	3.17E-03	4.17E-03
477378	6/4/2018 - 6/11/2018	Beta	2.47E-02	3.38E-03	3.55E-03
478108	6/11/2018 - 6/18/2018	Beta	2.44E-02	2.88E-03	2.78E-03
478422	6/18/2018 - 6/25/2018	Beta	2.57E-02	3.41E-03	3.32E-03
478784	6/25/2018 - 7/2/2018	Beta	1.85E-02	2.89E-03	3.03E-03
478791	4/2/2018 - 7/2/2018	Cs-134	<1.98E-03	0.00E+00	1.98E-03
		Cs-137	<1.30E-03	0.00E+00	1.30E-03
		Be-7	2.01E-01	4.46E-02	4.08E-02
		K-40	2.92E-02	1.40E-02	4.39E-03
479200	7/2/2018 - 7/9/2018	Beta	1.99E-02	2.64E-03	2.56E-03
479884	7/9/2018 - 7/16/2018	Beta	3.22E-02	3.62E-03	3.37E-03
480245	7/16/2018 - 7/23/2018	Beta	2.35E-02	3.39E-03	3.57E-03
481074	7/23/2018 - 7/30/2018	Beta	2.08E-02	2.76E-03	2.81E-03
481516	7/30/2018 - 8/6/2018	Beta	1.50E-02	2.72E-03	3.06E-03
481961	8/6/2018 - 8/13/2018	Beta	1.99E-02	3.09E-03	3.50E-03
482481	8/13/2018 - 8/20/2018	Beta	2.82E-02	3.59E-03	3.62E-03
482808	8/20/2018 - 8/27/2018	Beta	2.27E-02	3.20E-03	3.28E-03
483431	8/27/2018 - 9/4/2018	Beta	2.31E-02	3.02E-03	3.10E-03
484018	9/4/2018 - 9/10/2018	Beta	2.27E-02	3.45E-03	3.55E-03



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 195 [INDICATOR - N @ 0.19 miles]

Sample ID	Sample Dates	Nuclide	Activity	2 Sigma Error	MDA
484600	9/10/2018 - 9/17/2018	Beta	5.55E-03	2.15E-03	3.17E-03
485027	9/17/2018 - 9/24/2018	Beta	2.64E-02	3.40E-03	3.35E-03
485478	9/24/2018 - 10/1/2018	Beta	1.37E-02	2.70E-03	3.19E-03
485485	7/2/2018 - 10/1/2018	Cs-134	<1.79E-03	0.00E+00	1.79E-03
		Cs-137	<1.86E-03	0.00E+00	1.86E-03
		Be-7	1.47E-01	3.79E-02	3.59E-02
		K-40	2.89E-02	1.42E-02	4.61E-03
486157	10/1/2018 - 10/8/2018	Beta	3.25E-02	3.15E-03	2.59E-03
486697	10/8/2018 - 10/15/2018	Beta	1.86E-02	2.82E-03	2.74E-03
487738	10/15/2018 - 10/22/2018	Beta	3.06E-02	3.53E-03	3.23E-03
487983	10/22/2018 - 10/29/2018	Beta	1.78E-02	2.72E-03	3.05E-03
488474	10/29/2018 - 11/5/2018	Beta	2.15E-02	3.03E-03	3.04E-03
488847	11/5/2018 - 11/12/2018	Beta	2.38E-02	2.99E-03	2.97E-03
489150	11/12/2018 - 11/19/2018	Beta	1.96E-02	2.74E-03	2.90E-03
489733	11/19/2018 - 11/26/2018	Beta	3.27E-02	3.26E-03	2.80E-03
490155	11/26/2018 - 12/3/2018	Beta	2.67E-02	2.99E-03	2.82E-03
490796	12/3/2018 - 12/10/2018	Beta	2.09E-02	3.23E-03	3.49E-03
491177	12/10/2018 - 12/18/2018	Beta	1.78E-02	2.72E-03	2.93E-03
491479	12/18/2018 - 12/26/2018	Beta	2.02E-02	2.86E-03	2.96E-03
491750	12/26/2018 - 12/31/2018	Beta	2.08E-02	3.29E-03	3.55E-03
491757	10/1/2018 - 12/31/2018	Cs-134	<1.66E-03	0.00E+00	1.66E-03
		Cs-137	<1.06E-03	0.00E+00	1.06E-03
		Be-7	1.28E-01	3.56E-02	3.52E-02
		K-40	<2.56E-02	0.00E+00	2.56E-02

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

Sample Point 102 [CONTROL - WNW @ 9.89 miles]

Sample ID	Sample Dates	Nuclide	Activity	2 Sigma Error	MDA
465992	1/2/2018 - 1/8/2018	I-131	<2.46E-02	0.00E+00	2.46E-02
		Cs-134	<2.17E-02	0.00E+00	2.17E-02
		Cs-137	<2.29E-02	0.00E+00	2.29E-02
		Be-7	<1.47E-01	0.00E+00	1.47E-01
		K-40	5.65E-01	2.23E-01	2.35E-01
466201	1/8/2018 - 1/15/2018	I-131	<1.71E-02	0.00E+00	1.71E-02
		Cs-134	<2.09E-02	0.00E+00	2.09E-02
		Cs-137	<1.64E-02	0.00E+00	1.64E-02
		Be-7	<1.25E-01	0.00E+00	1.25E-01



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 102 [CONTROL - WNW @ 9.89 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466201	1/8/2018 - 1/15/2018	K-40	6.01E-01	2.19E-01	2.36E-01
466387	1/15/2018 - 1/22/2018	I-131	<2.01E-02	0.00E+00	2.01E-02
		Cs-134	<1.92E-02	0.00E+00	1.92E-02
		Cs-137	<1.64E-02	0.00E+00	1.64E-02
		Be-7	<1.43E-01	0.00E+00	1.43E-01
		K-40	4.09E-01	1.98E-01	2.50E-01
466984	1/22/2018 - 1/29/2018	I-131	<2.15E-02	0.00E+00	2.15E-02
		Cs-134	<1.80E-02	0.00E+00	1.80E-02
		Cs-137	<1.59E-02	0.00E+00	1.59E-02
		Be-7	<1.39E-01	0.00E+00	1.39E-01
		K-40	6.30E-01	2.22E-01	2.34E-01
467334	1/29/2018 - 2/5/2018	I-131	<1.76E-02	0.00E+00	1.76E-02
		Cs-134	<1.74E-02	0.00E+00	1.74E-02
		Cs-137	<1.59E-02	0.00E+00	1.59E-02
		Be-7	<1.13E-01	0.00E+00	1.13E-01
		K-40	4.41E-01	2.05E-01	2.56E-01
467655	2/5/2018 - 2/12/2018	I-131	<1.87E-02	0.00E+00	1.87E-02
		Cs-134	<1.74E-02	0.00E+00	1.74E-02
		Cs-137	<1.48E-02	0.00E+00	1.48E-02
		Be-7	<1.36E-01	0.00E+00	1.36E-01
		K-40	4.00E-01	1.71E-01	1.80E-01
468435	2/12/2018 - 2/19/2018	I-131	<2.31E-02	0.00E+00	2.31E-02
		Cs-134	<2.25E-02	0.00E+00	2.25E-02
		Cs-137	<1.64E-02	0.00E+00	1.64E-02
		Be-7	<1.38E-01	0.00E+00	1.38E-01
		K-40	<4.13E-01	0.00E+00	4.13E-01
468762	2/19/2018 - 2/26/2018	I-131	<2.17E-02	0.00E+00	2.17E-02
		Cs-134	<1.03E-02	0.00E+00	1.03E-02
		Cs-137	<1.74E-02	0.00E+00	1.74E-02
		Be-7	<1.27E-01	0.00E+00	1.27E-01
		K-40	5.76E-01	1.99E-01	1.82E-01
469568	2/26/2018 - 3/5/2018	I-131	<2.27E-02	0.00E+00	2.27E-02
		Cs-134	<2.18E-02	0.00E+00	2.18E-02
		Cs-137	<1.73E-02	0.00E+00	1.73E-02
		Be-7	1.59E-02	6.77E-02	1.22E-01
		K-40	4.99E-01	2.04E-01	2.35E-01
470595	3/5/2018 - 3/12/2018	I-131	<2.15E-02	0.00E+00	2.15E-02
		Cs-134	<2.00E-02	0.00E+00	2.00E-02
		Cs-137	<1.76E-02	0.00E+00	1.76E-02
		Be-7	<1.23E-01	0.00E+00	1.23E-01
		K-40	5.96E-01	1.93E-01	1.41E-01
471157	3/12/2018 - 3/19/2018	I-131	<2.14E-02	0.00E+00	2.14E-02
		Cs-134	<1.57E-02	0.00E+00	1.57E-02
		Cs-137	<1.52E-02	0.00E+00	1.52E-02
		Be-7	<9.59E-02	0.00E+00	9.59E-02
		K-40	5.16E-01	1.92E-01	1.90E-01
471718	3/19/2018 - 3/26/2018	I-131	<2.31E-02	0.00E+00	2.31E-02
		Cs-134	<1.76E-02	0.00E+00	1.76E-02
		Cs-137	<1.81E-02	0.00E+00	1.81E-02
		Be-7	<1.36E-01	0.00E+00	1.36E-01



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 102 [CONTROL - WNW @ 9.89 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
471718	3/19/2018 - 3/26/2018	K-40	4.50E-01	2.00E-01	2.38E-01
472506	3/26/2018 - 4/2/2018	I-131	<1.95E-02	0.00E+00	1.95E-02
		Cs-134	<1.96E-02	0.00E+00	1.96E-02
		Cs-137	<1.90E-02	0.00E+00	1.90E-02
		Be-7	<1.27E-01	0.00E+00	1.27E-01
		K-40	4.46E-01	1.66E-01	1.33E-01
472979	4/2/2018 - 4/9/2018	I-131	<1.89E-02	0.00E+00	1.89E-02
		Cs-134	<1.76E-02	0.00E+00	1.76E-02
		Cs-137	<1.81E-02	0.00E+00	1.81E-02
		Be-7	<1.12E-01	0.00E+00	1.12E-01
		K-40	4.06E-01	1.85E-01	2.18E-01
473265	4/9/2018 - 4/16/2018	I-131	<1.96E-02	0.00E+00	1.96E-02
		Cs-134	<1.77E-02	0.00E+00	1.77E-02
		Cs-137	<1.62E-02	0.00E+00	1.62E-02
		Be-7	<1.31E-01	0.00E+00	1.31E-01
		K-40	4.45E-01	2.15E-01	2.81E-01
473636	4/16/2018 - 4/23/2018	I-131	<1.95E-02	0.00E+00	1.95E-02
		Cs-134	<1.68E-02	0.00E+00	1.68E-02
		Cs-137	<1.50E-02	0.00E+00	1.50E-02
		Be-7	<1.27E-01	0.00E+00	1.27E-01
		K-40	6.17E-01	2.10E-01	1.97E-01
474150	4/23/2018 - 4/30/2018	I-131	<2.03E-02	0.00E+00	2.03E-02
		Cs-134	<1.57E-02	0.00E+00	1.57E-02
		Cs-137	<1.81E-02	0.00E+00	1.81E-02
		Be-7	<1.16E-01	0.00E+00	1.16E-01
		K-40	3.38E-01	1.97E-01	2.72E-01
474530	4/30/2018 - 5/7/2018	I-131	<2.01E-02	0.00E+00	2.01E-02
		Cs-134	<1.69E-02	0.00E+00	1.69E-02
		Cs-137	<1.95E-02	0.00E+00	1.95E-02
		Be-7	<1.24E-01	0.00E+00	1.24E-01
		K-40	4.68E-01	1.95E-01	2.18E-01
474893	5/7/2018 - 5/14/2018	I-131	<2.35E-02	0.00E+00	2.35E-02
		Cs-134	<1.14E-02	0.00E+00	1.14E-02
		Cs-137	<1.73E-02	0.00E+00	1.73E-02
		Be-7	<1.44E-01	0.00E+00	1.44E-01
		K-40	4.43E-01	1.94E-01	2.27E-01
475217	5/14/2018 - 5/21/2018	I-131	<2.21E-02	0.00E+00	2.21E-02
		Cs-134	<1.26E-02	0.00E+00	1.26E-02
		Cs-137	<1.65E-02	0.00E+00	1.65E-02
		Be-7	<1.25E-01	0.00E+00	1.25E-01
		K-40	5.44E-01	1.83E-01	1.32E-01
475536	5/21/2018 - 5/29/2018	I-131	<1.29E-02	0.00E+00	1.29E-02
		Cs-134	<9.35E-03	0.00E+00	9.35E-03
		Cs-137	<1.41E-02	0.00E+00	1.41E-02
		Be-7	<9.43E-02	0.00E+00	9.43E-02
		K-40	3.92E-01	1.60E-01	1.70E-01
476363	5/29/2018 - 6/4/2018	I-131	<1.78E-02	0.00E+00	1.78E-02
		Cs-134	<2.13E-02	0.00E+00	2.13E-02
		Cs-137	<1.75E-02	0.00E+00	1.75E-02
		Be-7	<1.37E-01	0.00E+00	1.37E-01



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 102 [CONTROL - WNW @ 9.89 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
476363	5/29/2018 - 6/4/2018	K-40	4.55E-01	2.08E-01	2.37E-01
477379	6/4/2018 - 6/11/2018	I-131	<2.10E-02	0.00E+00	2.10E-02
		Cs-134	<2.22E-02	0.00E+00	2.22E-02
		Cs-137	<1.77E-02	0.00E+00	1.77E-02
		Be-7	<1.36E-01	0.00E+00	1.36E-01
		K-40	5.01E-01	1.83E-01	1.67E-01
478109	6/11/2018 - 6/18/2018	I-131	<2.38E-02	0.00E+00	2.38E-02
		Cs-134	<1.61E-02	0.00E+00	1.61E-02
		Cs-137	<1.55E-02	0.00E+00	1.55E-02
		Be-7	<1.27E-01	0.00E+00	1.27E-01
		K-40	4.77E-01	1.98E-01	2.22E-01
478423	6/18/2018 - 6/25/2018	I-131	<2.16E-02	0.00E+00	2.16E-02
		Cs-134	<1.42E-02	0.00E+00	1.42E-02
		Cs-137	<1.90E-02	0.00E+00	1.90E-02
		Be-7	<1.01E-01	0.00E+00	1.01E-01
		K-40	4.44E-01	1.67E-01	1.39E-01
478792	6/25/2018 - 7/2/2018	I-131	<1.84E-02	0.00E+00	1.84E-02
		Cs-134	<1.89E-02	0.00E+00	1.89E-02
		Cs-137	<1.90E-02	0.00E+00	1.90E-02
		Be-7	<1.12E-01	0.00E+00	1.12E-01
		K-40	5.68E-01	2.14E-01	2.32E-01
479201	7/2/2018 - 7/9/2018	I-131	<1.80E-02	0.00E+00	1.80E-02
		Cs-134	<1.49E-02	0.00E+00	1.49E-02
		Cs-137	<1.80E-02	0.00E+00	1.80E-02
		Be-7	<1.28E-01	0.00E+00	1.28E-01
		K-40	6.05E-01	1.81E-01	3.42E-02
479885	7/9/2018 - 7/16/2018	I-131	<1.87E-02	0.00E+00	1.87E-02
		Cs-134	<1.82E-02	0.00E+00	1.82E-02
		Cs-137	<1.56E-02	0.00E+00	1.56E-02
		Be-7	<1.39E-01	0.00E+00	1.39E-01
		K-40	5.11E-01	2.16E-01	2.60E-01
480246	7/16/2018 - 7/23/2018	I-131	<2.22E-02	0.00E+00	2.22E-02
		Cs-134	<1.58E-02	0.00E+00	1.58E-02
		Cs-137	<1.90E-02	0.00E+00	1.90E-02
		Be-7	<1.34E-01	0.00E+00	1.34E-01
		K-40	3.60E-01	1.73E-01	2.05E-01
481075	7/23/2018 - 7/30/2018	I-131	<2.40E-02	0.00E+00	2.40E-02
		Cs-134	<1.88E-02	0.00E+00	1.88E-02
		Cs-137	<1.89E-02	0.00E+00	1.89E-02
		Be-7	<1.19E-01	0.00E+00	1.19E-01
		K-40	4.04E-01	1.94E-01	2.41E-01
481517	7/30/2018 - 8/6/2018	I-131	<2.32E-02	0.00E+00	2.32E-02
		Cs-134	<2.27E-02	0.00E+00	2.27E-02
		Cs-137	<1.57E-02	0.00E+00	1.57E-02
		Be-7	<1.16E-01	0.00E+00	1.16E-01
		K-40	4.64E-01	1.95E-01	2.24E-01
481962	8/6/2018 - 8/13/2018	I-131	<1.77E-02	0.00E+00	1.77E-02
		Cs-134	<9.39E-03	0.00E+00	9.39E-03
		Cs-137	<8.03E-03	0.00E+00	8.03E-03
		Be-7	<5.39E-02	0.00E+00	5.39E-02



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 102 [CONTROL - WNW @ 9.89 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
481962	8/6/2018 - 8/13/2018	K-40	2.40E-01	9.66E-02	1.25E-01
482482	8/13/2018 - 8/20/2018	I-131	<1.67E-02	0.00E+00	1.67E-02
		Cs-134	<1.54E-02	0.00E+00	1.54E-02
		Cs-137	<1.44E-02	0.00E+00	1.44E-02
		Be-7	<1.04E-01	0.00E+00	1.04E-01
		K-40	2.44E-01	1.48E-01	1.97E-01
482809	8/20/2018 - 8/27/2018	I-131	<1.35E-02	0.00E+00	1.35E-02
		Cs-134	<1.01E-02	0.00E+00	1.01E-02
		Cs-137	<1.78E-02	0.00E+00	1.78E-02
		Be-7	<9.39E-02	0.00E+00	9.39E-02
		K-40	<2.67E-01	0.00E+00	2.67E-01
483432	8/27/2018 - 9/4/2018	I-131	<1.11E-02	0.00E+00	1.11E-02
		Cs-134	<1.48E-02	0.00E+00	1.48E-02
		Cs-137	<1.33E-02	0.00E+00	1.33E-02
		Be-7	<7.38E-02	0.00E+00	7.38E-02
		K-40	<2.95E-01	0.00E+00	2.95E-01
484019	9/4/2018 - 9/10/2018	I-131	<2.30E-02	0.00E+00	2.30E-02
		Cs-134	<2.18E-02	0.00E+00	2.18E-02
		Cs-137	<2.22E-02	0.00E+00	2.22E-02
		Be-7	<1.45E-01	0.00E+00	1.45E-01
		K-40	6.62E-01	2.31E-01	2.01E-01
484601	9/10/2018 - 9/17/2018	I-131	<2.19E-02	0.00E+00	2.19E-02
		Cs-134	<1.87E-02	0.00E+00	1.87E-02
		Cs-137	<1.66E-02	0.00E+00	1.66E-02
		Be-7	<9.26E-02	0.00E+00	9.26E-02
		K-40	4.41E-01	1.90E-01	2.21E-01
485028	9/17/2018 - 9/24/2018	I-131	<3.00E-02	0.00E+00	3.00E-02
		Cs-134	<1.70E-02	0.00E+00	1.70E-02
		Cs-137	<1.76E-02	0.00E+00	1.76E-02
		Be-7	<1.48E-01	0.00E+00	1.48E-01
		K-40	4.70E-01	1.71E-01	1.33E-01
485486	9/24/2018 - 10/1/2018	I-131	<2.01E-02	0.00E+00	2.01E-02
		Cs-134	<1.49E-02	0.00E+00	1.49E-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	6.32E-01	2.02E-01	1.68E-01
486158	10/1/2018 - 10/8/2018	I-131	<2.27E-02	0.00E+00	2.27E-02
		Cs-134	<1.69E-02	0.00E+00	1.69E-02
		Cs-137	<1.71E-02	0.00E+00	1.71E-02
		Be-7	<1.29E-01	0.00E+00	1.29E-01
		K-40	4.68E-01	1.96E-01	2.22E-01
486698	10/8/2018 - 10/15/2018	I-131	<2.19E-02	0.00E+00	2.19E-02
		Cs-134	<1.58E-02	0.00E+00	1.58E-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	4.04E-01	1.86E-01	2.22E-01
487739	10/15/2018 - 10/22/2018	I-131	<2.48E-02	0.00E+00	2.48E-02
		Cs-134	<1.36E-02	0.00E+00	1.36E-02
		Cs-137	<1.37E-02	0.00E+00	1.37E-02
		Be-7	<1.24E-01	0.00E+00	1.24E-01



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 102 [CONTROL - WNW @ 9.89 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
487739	10/15/2018 - 10/22/2018	K-40	4.53E-01	2.21E-01	2.92E-01
487984	10/22/2018 - 10/29/2018	I-131	<1.89E-02	0.00E+00	1.89E-02
		Cs-134	<1.65E-02	0.00E+00	1.65E-02
		Cs-137	<1.81E-02	0.00E+00	1.81E-02
		Be-7	<1.33E-01	0.00E+00	1.33E-01
		K-40	3.92E-01	1.58E-01	1.40E-01
488475	10/29/2018 - 11/5/2018	I-131	<2.08E-02	0.00E+00	2.08E-02
		Cs-134	<1.76E-02	0.00E+00	1.76E-02
		Cs-137	<1.76E-02	0.00E+00	1.76E-02
		Be-7	<1.22E-01	0.00E+00	1.22E-01
		K-40	4.58E-01	1.81E-01	1.79E-01
488848	11/5/2018 - 11/12/2018	I-131	<1.90E-02	0.00E+00	1.90E-02
		Cs-134	<1.65E-02	0.00E+00	1.65E-02
		Cs-137	<1.77E-02	0.00E+00	1.77E-02
		Be-7	<1.21E-01	0.00E+00	1.21E-01
		K-40	3.71E-01	1.75E-01	2.06E-01
489151	11/12/2018 - 11/19/2018	I-131	<2.07E-02	0.00E+00	2.07E-02
		Cs-134	<1.68E-02	0.00E+00	1.68E-02
		Cs-137	<1.98E-02	0.00E+00	1.98E-02
		Be-7	<1.20E-01	0.00E+00	1.20E-01
		K-40	4.46E-01	1.97E-01	2.34E-01
489734	11/19/2018 - 11/26/2018	I-131	<1.94E-02	0.00E+00	1.94E-02
		Cs-134	<1.72E-02	0.00E+00	1.72E-02
		Cs-137	<1.77E-02	0.00E+00	1.77E-02
		Be-7	<1.41E-01	0.00E+00	1.41E-01
		K-40	4.31E-01	1.52E-01	3.44E-02
490156	11/26/2018 - 12/3/2018	I-131	<1.78E-02	0.00E+00	1.78E-02
		Cs-134	<1.75E-02	0.00E+00	1.75E-02
		Cs-137	<1.76E-02	0.00E+00	1.76E-02
		Be-7	<1.13E-01	0.00E+00	1.13E-01
		K-40	4.29E-01	1.77E-01	1.83E-01
490797	12/3/2018 - 12/10/2018	I-131	<2.27E-02	0.00E+00	2.27E-02
		Cs-134	<1.78E-02	0.00E+00	1.78E-02
		Cs-137	<1.81E-02	0.00E+00	1.81E-02
		Be-7	<1.13E-01	0.00E+00	1.13E-01
		K-40	4.20E-01	1.75E-01	1.84E-01
491178	12/10/2018 - 12/18/2018	I-131	<2.94E-02	0.00E+00	2.94E-02
		Cs-134	<1.49E-02	0.00E+00	1.49E-02
		Cs-137	<1.28E-02	0.00E+00	1.28E-02
		Be-7	<9.13E-02	0.00E+00	9.13E-02
		K-40	<2.33E-01	0.00E+00	2.33E-01
491480	12/18/2018 - 12/26/2018	I-131	<1.89E-02	0.00E+00	1.89E-02
		Cs-134	<1.67E-02	0.00E+00	1.67E-02
		Cs-137	<1.77E-02	0.00E+00	1.77E-02
		Be-7	<1.04E-01	0.00E+00	1.04E-01
		K-40	4.52E-01	1.68E-01	1.66E-01
491758	12/26/2018 - 12/31/2018	I-131	<4.75E-02	0.00E+00	4.75E-02
		Cs-134	<2.36E-02	0.00E+00	2.36E-02
		Cs-137	<2.09E-02	0.00E+00	2.09E-02
		Be-7	<1.62E-01	0.00E+00	1.62E-01



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 102 [CONTROL - WNW @ 9.89 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
491758	12/26/2018 - 12/31/2018	K-40	<5.18E-01	0.00E+00	5.18E-01

Sample Point 103 [INDICATOR - NE @ 4.2 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
465993	1/2/2018 - 1/8/2018	I-131	<2.34E-02	0.00E+00	2.34E-02
		Cs-134	<2.28E-02	0.00E+00	2.28E-02
		Cs-137	<2.47E-02	0.00E+00	2.47E-02
		Be-7	<1.42E-01	0.00E+00	1.42E-01
		K-40	4.40E-01	2.27E-01	2.94E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466202	1/8/2018 - 1/15/2018	I-131	<2.02E-02	0.00E+00	2.02E-02
		Cs-134	<1.44E-02	0.00E+00	1.44E-02
		Cs-137	<2.00E-02	0.00E+00	2.00E-02
		Be-7	<1.28E-01	0.00E+00	1.28E-01
		K-40	4.66E-01	1.80E-01	1.73E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466388	1/15/2018 - 1/22/2018	I-131	<1.87E-02	0.00E+00	1.87E-02
		Cs-134	<2.14E-02	0.00E+00	2.14E-02
		Cs-137	<1.96E-02	0.00E+00	1.96E-02
		Be-7	<1.04E-01	0.00E+00	1.04E-01
		K-40	4.41E-01	2.14E-01	2.80E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466985	1/22/2018 - 1/29/2018	I-131	<1.91E-02	0.00E+00	1.91E-02
		Cs-134	<1.96E-02	0.00E+00	1.96E-02
		Cs-137	<1.81E-02	0.00E+00	1.81E-02
		Be-7	<1.13E-01	0.00E+00	1.13E-01
		K-40	3.80E-01	1.89E-01	2.39E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467335	1/29/2018 - 2/5/2018	I-131	<1.91E-02	0.00E+00	1.91E-02
		Cs-134	<1.45E-02	0.00E+00	1.45E-02
		Cs-137	<1.66E-02	0.00E+00	1.66E-02
		Be-7	<1.51E-01	0.00E+00	1.51E-01
		K-40	4.00E-01	1.85E-01	2.20E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467656	2/5/2018 - 2/12/2018	I-131	<2.14E-02	0.00E+00	2.14E-02
		Cs-134	<1.87E-02	0.00E+00	1.87E-02
		Cs-137	<1.65E-02	0.00E+00	1.65E-02
		Be-7	<1.20E-01	0.00E+00	1.20E-01
		K-40	5.66E-01	1.98E-01	1.83E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
468436	2/12/2018 - 2/19/2018	I-131	<1.73E-02	0.00E+00	1.73E-02
		Cs-134	<1.59E-02	0.00E+00	1.59E-02
		Cs-137	<1.88E-02	0.00E+00	1.88E-02
		Be-7	<1.33E-01	0.00E+00	1.33E-01
		K-40	4.49E-01	2.00E-01	2.42E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
468763	2/19/2018 - 2/26/2018	I-131	<1.99E-02	0.00E+00	1.99E-02
		Cs-134	<1.71E-02	0.00E+00	1.71E-02
		Cs-137	<1.06E-02	0.00E+00	1.06E-02
		Be-7	<1.10E-01	0.00E+00	1.10E-01
		K-40	6.38E-01	2.02E-01	1.61E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
469569	2/26/2018 - 3/5/2018	I-131	<2.09E-02	0.00E+00	2.09E-02
		Cs-134	<1.67E-02	0.00E+00	1.67E-02
		Cs-137	<1.88E-02	0.00E+00	1.88E-02
		Be-7	<1.08E-01	0.00E+00	1.08E-01
		K-40	5.89E-01	1.80E-01	3.47E-02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
470596	3/5/2018 - 3/12/2018	I-131	<1.88E-02	0.00E+00	1.88E-02
		Cs-134	<1.54E-02	0.00E+00	1.54E-02



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 103 [INDICATOR - NE @ 4.2 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
470596	3/5/2018 - 3/12/2018	Cs-137	<1.50E-02	0.00E+00	1.50E-02
		Be-7	<1.37E-01	0.00E+00	1.37E-01
		K-40	4.22E-01	2.17E-01	2.90E-01
471158	3/12/2018 - 3/19/2018	I-131	<2.38E-02	0.00E+00	2.38E-02
		Cs-134	<1.52E-02	0.00E+00	1.52E-02
		Cs-137	<1.84E-02	0.00E+00	1.84E-02
		Be-7	<1.24E-01	0.00E+00	1.24E-01
		K-40	5.59E-01	1.83E-01	1.21E-01
471719	3/19/2018 - 3/26/2018	I-131	<2.34E-02	0.00E+00	2.34E-02
		Cs-134	<1.64E-02	0.00E+00	1.64E-02
		Cs-137	<1.40E-02	0.00E+00	1.40E-02
		Be-7	<1.16E-01	0.00E+00	1.16E-01
		K-40	4.91E-01	1.87E-01	1.87E-01
472507	3/26/2018 - 4/2/2018	I-131	<1.91E-02	0.00E+00	1.91E-02
		Cs-134	<1.70E-02	0.00E+00	1.70E-02
		Cs-137	<1.57E-02	0.00E+00	1.57E-02
		Be-7	<1.28E-01	0.00E+00	1.28E-01
		K-40	4.55E-01	2.18E-01	2.82E-01
472980	4/2/2018 - 4/9/2018	I-131	<1.86E-02	0.00E+00	1.86E-02
		Cs-134	<1.58E-02	0.00E+00	1.58E-02
		Cs-137	<1.72E-02	0.00E+00	1.72E-02
		Be-7	<1.12E-01	0.00E+00	1.12E-01
		K-40	3.92E-01	1.73E-01	1.91E-01
473266	4/9/2018 - 4/16/2018	I-131	<1.98E-02	0.00E+00	1.98E-02
		Cs-134	<1.68E-02	0.00E+00	1.68E-02
		Cs-137	<1.65E-02	0.00E+00	1.65E-02
		Be-7	<1.31E-01	0.00E+00	1.31E-01
		K-40	<3.91E-01	0.00E+00	3.91E-01
473637	4/16/2018 - 4/23/2018	I-131	<2.19E-02	0.00E+00	2.19E-02
		Cs-134	<2.00E-02	0.00E+00	2.00E-02
		Cs-137	<9.60E-03	0.00E+00	9.60E-03
		Be-7	<1.31E-01	0.00E+00	1.31E-01
		K-40	5.13E-01	2.16E-01	2.62E-01
474151	4/23/2018 - 4/30/2018	I-131	<2.14E-02	0.00E+00	2.14E-02
		Cs-134	<2.24E-02	0.00E+00	2.24E-02
		Cs-137	<1.62E-02	0.00E+00	1.62E-02
		Be-7	<1.17E-01	0.00E+00	1.17E-01
		K-40	6.28E-01	2.09E-01	1.85E-01
474531	4/30/2018 - 5/7/2018	I-131	<1.97E-02	0.00E+00	1.97E-02
		Cs-134	<1.85E-02	0.00E+00	1.85E-02
		Cs-137	<1.68E-02	0.00E+00	1.68E-02
		Be-7	<1.06E-01	0.00E+00	1.06E-01
		K-40	4.50E-01	1.87E-01	2.05E-01
474894	5/7/2018 - 5/14/2018	I-131	<2.19E-02	0.00E+00	2.19E-02
		Cs-134	<1.76E-02	0.00E+00	1.76E-02
		Cs-137	<1.50E-02	0.00E+00	1.50E-02
		Be-7	<1.10E-01	0.00E+00	1.10E-01
		K-40	5.91E-01	1.97E-01	1.62E-01
475218	5/14/2018 - 5/21/2018	I-131	<2.22E-02	0.00E+00	2.22E-02
		Cs-134	<1.32E-02	0.00E+00	1.32E-02



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 103 [INDICATOR - NE @ 4.2 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
475218	5/14/2018 - 5/21/2018	Cs-137	<1.88E-02	0.00E+00	1.88E-02
		Be-7	<1.18E-01	0.00E+00	1.18E-01
		K-40	4.35E-01	1.67E-01	1.51E-01
475537	5/21/2018 - 5/29/2018	I-131	<1.29E-02	0.00E+00	1.29E-02
		Cs-134	<1.78E-02	0.00E+00	1.78E-02
		Cs-137	<1.34E-02	0.00E+00	1.34E-02
		Be-7	<1.04E-01	0.00E+00	1.04E-01
		K-40	5.33E-01	1.59E-01	3.01E-02
476364	5/29/2018 - 6/4/2018	I-131	<2.65E-02	0.00E+00	2.65E-02
		Cs-134	<1.92E-02	0.00E+00	1.92E-02
		Cs-137	<2.07E-02	0.00E+00	2.07E-02
		Be-7	<1.47E-01	0.00E+00	1.47E-01
		K-40	5.42E-01	2.28E-01	2.62E-01
477380	6/4/2018 - 6/11/2018	I-131	<2.29E-02	0.00E+00	2.29E-02
		Cs-134	<1.88E-02	0.00E+00	1.88E-02
		Cs-137	<1.94E-02	0.00E+00	1.94E-02
		Be-7	<1.26E-01	0.00E+00	1.26E-01
		K-40	6.22E-01	2.10E-01	1.95E-01
478110	6/11/2018 - 6/18/2018	I-131	<2.28E-02	0.00E+00	2.28E-02
		Cs-134	<1.56E-02	0.00E+00	1.56E-02
		Cs-137	<1.39E-02	0.00E+00	1.39E-02
		Be-7	<1.26E-01	0.00E+00	1.26E-01
		K-40	4.90E-01	1.62E-01	3.41E-02
478424	6/18/2018 - 6/25/2018	I-131	<2.48E-02	0.00E+00	2.48E-02
		Cs-134	<2.02E-02	0.00E+00	2.02E-02
		Cs-137	<1.57E-02	0.00E+00	1.57E-02
		Be-7	<1.33E-01	0.00E+00	1.33E-01
		K-40	3.62E-01	1.61E-01	1.64E-01
478793	6/25/2018 - 7/2/2018	I-131	<1.88E-02	0.00E+00	1.88E-02
		Cs-134	<1.42E-02	0.00E+00	1.42E-02
		Cs-137	<1.90E-02	0.00E+00	1.90E-02
		Be-7	<1.30E-01	0.00E+00	1.30E-01
		K-40	4.75E-01	1.93E-01	2.13E-01
479202	7/2/2018 - 7/9/2018	I-131	<2.07E-02	0.00E+00	2.07E-02
		Cs-134	<1.93E-02	0.00E+00	1.93E-02
		Cs-137	<2.01E-02	0.00E+00	2.01E-02
		Be-7	<1.28E-01	0.00E+00	1.28E-01
		K-40	3.76E-01	1.90E-01	2.43E-01
479886	7/9/2018 - 7/16/2018	I-131	<2.08E-02	0.00E+00	2.08E-02
		Cs-134	<1.23E-02	0.00E+00	1.23E-02
		Cs-137	<1.85E-02	0.00E+00	1.85E-02
		Be-7	<1.10E-01	0.00E+00	1.10E-01
		K-40	5.55E-01	1.94E-01	1.79E-01
480247	7/16/2018 - 7/23/2018	I-131	<2.15E-02	0.00E+00	2.15E-02
		Cs-134	<1.70E-02	0.00E+00	1.70E-02
		Cs-137	<1.39E-02	0.00E+00	1.39E-02
		Be-7	<1.22E-01	0.00E+00	1.22E-01
		K-40	4.58E-01	2.07E-01	2.54E-01
481076	7/23/2018 - 7/30/2018	I-131	<1.96E-02	0.00E+00	1.96E-02
		Cs-134	<1.72E-02	0.00E+00	1.72E-02



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 103 [INDICATOR - NE @ 4.2 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
481076	7/23/2018 - 7/30/2018	Cs-137	<1.47E-02	0.00E+00	1.47E-02
		Be-7	<1.29E-01	0.00E+00	1.29E-01
		K-40	6.65E-01	2.08E-01	1.68E-01
481518	7/30/2018 - 8/6/2018	I-131	<2.15E-02	0.00E+00	2.15E-02
		Cs-134	<1.87E-02	0.00E+00	1.87E-02
		Cs-137	<1.43E-02	0.00E+00	1.43E-02
		Be-7	<1.27E-01	0.00E+00	1.27E-01
		K-40	5.30E-01	1.81E-01	1.36E-01
481963	8/6/2018 - 8/13/2018	I-131	<2.28E-02	0.00E+00	2.28E-02
		Cs-134	<1.99E-02	0.00E+00	1.99E-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	5.13E-01	2.06E-01	2.36E-01
482483	8/13/2018 - 8/20/2018	I-131	<2.21E-02	0.00E+00	2.21E-02
		Cs-134	<1.58E-02	0.00E+00	1.58E-02
		Cs-137	<1.55E-02	0.00E+00	1.55E-02
		Be-7	<9.10E-02	0.00E+00	9.10E-02
		K-40	3.18E-01	1.62E-01	1.95E-01
482810	8/20/2018 - 8/27/2018	I-131	<1.61E-02	0.00E+00	1.61E-02
		Cs-134	<1.60E-02	0.00E+00	1.60E-02
		Cs-137	<1.31E-02	0.00E+00	1.31E-02
		Be-7	<1.16E-01	0.00E+00	1.16E-01
		K-40	3.68E-01	1.87E-01	2.42E-01
483433	8/27/2018 - 9/4/2018	I-131	<1.08E-02	0.00E+00	1.08E-02
		Cs-134	<1.08E-02	0.00E+00	1.08E-02
		Cs-137	<1.00E-02	0.00E+00	1.00E-02
		Be-7	<1.05E-01	0.00E+00	1.05E-01
		K-40	<2.25E-01	0.00E+00	2.25E-01
484020	9/4/2018 - 9/10/2018	I-131	<1.96E-02	0.00E+00	1.96E-02
		Cs-134	<2.46E-02	0.00E+00	2.46E-02
		Cs-137	<1.93E-02	0.00E+00	1.93E-02
		Be-7	<1.38E-01	0.00E+00	1.38E-01
		K-40	4.88E-01	2.01E-01	2.02E-01
484602	9/10/2018 - 9/17/2018	I-131	<2.15E-02	0.00E+00	2.15E-02
		Cs-134	<1.78E-02	0.00E+00	1.78E-02
		Cs-137	<1.66E-02	0.00E+00	1.66E-02
		Be-7	<1.16E-01	0.00E+00	1.16E-01
		K-40	4.55E-01	1.79E-01	1.71E-01
485029	9/17/2018 - 9/24/2018	I-131	<3.92E-02	0.00E+00	3.92E-02
		Cs-134	<2.10E-02	0.00E+00	2.10E-02
		Cs-137	<1.68E-02	0.00E+00	1.68E-02
		Be-7	<1.40E-01	0.00E+00	1.40E-01
		K-40	4.42E-01	2.10E-01	2.69E-01
485487	9/24/2018 - 10/1/2018	I-131	<1.94E-02	0.00E+00	1.94E-02
		Cs-134	<2.00E-02	0.00E+00	2.00E-02
		Cs-137	<1.84E-02	0.00E+00	1.84E-02
		Be-7	<1.05E-01	0.00E+00	1.05E-01
		K-40	4.88E-01	1.90E-01	1.94E-01
486159	10/1/2018 - 10/8/2018	I-131	<2.12E-02	0.00E+00	2.12E-02
		Cs-134	<1.69E-02	0.00E+00	1.69E-02



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 103 [INDICATOR - NE @ 4.2 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
486159	10/1/2018 - 10/8/2018	Cs-137	<1.70E-02	0.00E+00	1.70E-02
		Be-7	<1.27E-01	0.00E+00	1.27E-01
		K-40	4.88E-01	1.61E-01	3.39E-02
486699	10/8/2018 - 10/15/2018	I-131	<2.13E-02	0.00E+00	2.13E-02
		Cs-134	<1.77E-02	0.00E+00	1.77E-02
		Cs-137	<2.00E-02	0.00E+00	2.00E-02
		Be-7	<1.23E-01	0.00E+00	1.23E-01
		K-40	6.05E-01	1.92E-01	1.27E-01
487740	10/15/2018 - 10/22/2018	I-131	<2.64E-02	0.00E+00	2.64E-02
		Cs-134	<1.79E-02	0.00E+00	1.79E-02
		Cs-137	<1.99E-02	0.00E+00	1.99E-02
		Be-7	<1.22E-01	0.00E+00	1.22E-01
		K-40	<3.44E-01	0.00E+00	3.44E-01
487985	10/22/2018 - 10/29/2018	I-131	<2.39E-02	0.00E+00	2.39E-02
		Cs-134	<2.05E-02	0.00E+00	2.05E-02
		Cs-137	<1.84E-02	0.00E+00	1.84E-02
		Be-7	<1.24E-01	0.00E+00	1.24E-01
		K-40	<3.35E-01	0.00E+00	3.35E-01
488476	10/29/2018 - 11/5/2018	I-131	<1.91E-02	0.00E+00	1.91E-02
		Cs-134	<1.70E-02	0.00E+00	1.70E-02
		Cs-137	<1.80E-02	0.00E+00	1.80E-02
		Be-7	<1.22E-01	0.00E+00	1.22E-01
		K-40	3.83E-01	1.64E-01	1.67E-01
488849	11/5/2018 - 11/12/2018	I-131	<1.90E-02	0.00E+00	1.90E-02
		Cs-134	<1.84E-02	0.00E+00	1.84E-02
		Cs-137	<1.87E-02	0.00E+00	1.87E-02
		Be-7	<1.30E-01	0.00E+00	1.30E-01
		K-40	5.81E-01	2.08E-01	2.07E-01
489152	11/12/2018 - 11/19/2018	I-131	<1.76E-02	0.00E+00	1.76E-02
		Cs-134	<1.52E-02	0.00E+00	1.52E-02
		Cs-137	<1.31E-02	0.00E+00	1.31E-02
		Be-7	<9.13E-02	0.00E+00	9.13E-02
		K-40	4.22E-01	1.72E-01	1.78E-01
489735	11/19/2018 - 11/26/2018	I-131	<2.14E-02	0.00E+00	2.14E-02
		Cs-134	<1.60E-02	0.00E+00	1.60E-02
		Cs-137	<1.97E-02	0.00E+00	1.97E-02
		Be-7	<1.22E-01	0.00E+00	1.22E-01
		K-40	3.75E-01	1.77E-01	2.08E-01
490157	11/26/2018 - 12/3/2018	I-131	<2.06E-02	0.00E+00	2.06E-02
		Cs-134	<1.33E-02	0.00E+00	1.33E-02
		Cs-137	<1.85E-02	0.00E+00	1.85E-02
		Be-7	<1.33E-01	0.00E+00	1.33E-01
		K-40	5.69E-01	1.85E-01	1.34E-01
490798	12/3/2018 - 12/10/2018	I-131	<1.90E-02	0.00E+00	1.90E-02
		Cs-134	<1.69E-02	0.00E+00	1.69E-02
		Cs-137	<2.19E-02	0.00E+00	2.19E-02
		Be-7	<1.10E-01	0.00E+00	1.10E-01
		K-40	4.88E-01	1.84E-01	1.71E-01
491179	12/10/2018 - 12/18/2018	I-131	<2.08E-02	0.00E+00	2.08E-02
		Cs-134	<1.50E-02	0.00E+00	1.50E-02



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 103 [INDICATOR - NE @ 4.2 miles]

Sample ID: 491179	Sample Dates: 12/10/2018 - 12/18/2018	Nuclide	Activity	2 Sigma Error	MDA
		Cs-137	<1.11E-02	0.00E+00	1.11E-02
		Be-7	<7.20E-02	0.00E+00	7.20E-02
		K-40	3.09E-01	1.19E-01	2.99E-02

Sample ID: 491481	Sample Dates: 12/18/2018 - 12/26/2018	Nuclide	Activity	2 Sigma Error	MDA
		I-131	<2.10E-02	0.00E+00	2.10E-02
		Cs-134	<1.60E-02	0.00E+00	1.60E-02
		Cs-137	<1.58E-02	0.00E+00	1.58E-02
		Be-7	<1.09E-01	0.00E+00	1.09E-01
		K-40	4.72E-01	1.74E-01	1.74E-01

Sample ID: 491759	Sample Dates: 12/26/2018 - 12/31/2018	Nuclide	Activity	2 Sigma Error	MDA
		I-131	<4.00E-02	0.00E+00	4.00E-02
		Cs-134	<2.62E-02	0.00E+00	2.62E-02
		Cs-137	<2.55E-02	0.00E+00	2.55E-02
		Be-7	<1.65E-01	0.00E+00	1.65E-01
		K-40	6.38E-01	2.52E-01	2.60E-01

Sample Point 120 [INDICATOR - NNE @ 0.46 miles]

Sample ID: 465994	Sample Dates: 1/2/2018 - 1/8/2018	Nuclide	Activity	2 Sigma Error	MDA
		I-131	<2.80E-02	0.00E+00	2.80E-02
		Cs-134	<2.11E-02	0.00E+00	2.11E-02
		Cs-137	<2.12E-02	0.00E+00	2.12E-02
		Be-7	<1.39E-01	0.00E+00	1.39E-01
		K-40	7.38E-01	2.67E-01	2.86E-01

Sample ID: 466203	Sample Dates: 1/8/2018 - 1/15/2018	Nuclide	Activity	2 Sigma Error	MDA
		I-131	<1.46E-02	0.00E+00	1.46E-02
		Cs-134	<1.67E-02	0.00E+00	1.67E-02
		Cs-137	<1.64E-02	0.00E+00	1.64E-02
		Be-7	<1.38E-01	0.00E+00	1.38E-01
		K-40	4.09E-01	1.78E-01	1.95E-01

Sample ID: 466389	Sample Dates: 1/15/2018 - 1/22/2018	Nuclide	Activity	2 Sigma Error	MDA
		I-131	<2.17E-02	0.00E+00	2.17E-02
		Cs-134	<1.80E-02	0.00E+00	1.80E-02
		Cs-137	<1.42E-02	0.00E+00	1.42E-02
		Be-7	<1.20E-01	0.00E+00	1.20E-01
		K-40	4.94E-01	2.20E-01	2.78E-01

Sample ID: 466986	Sample Dates: 1/22/2018 - 1/29/2018	Nuclide	Activity	2 Sigma Error	MDA
		I-131	<2.28E-02	0.00E+00	2.28E-02
		Cs-134	<1.61E-02	0.00E+00	1.61E-02
		Cs-137	<1.63E-02	0.00E+00	1.63E-02
		Be-7	<1.16E-01	0.00E+00	1.16E-01
		K-40	4.79E-01	1.95E-01	2.19E-01

Sample ID: 467336	Sample Dates: 1/29/2018 - 2/5/2018	Nuclide	Activity	2 Sigma Error	MDA
		I-131	<1.93E-02	0.00E+00	1.93E-02
		Cs-134	<1.64E-02	0.00E+00	1.64E-02
		Cs-137	<1.52E-02	0.00E+00	1.52E-02
		Be-7	<1.13E-01	0.00E+00	1.13E-01
		K-40	4.44E-01	2.03E-01	2.47E-01

Sample ID: 467657	Sample Dates: 2/5/2018 - 2/12/2018	Nuclide	Activity	2 Sigma Error	MDA
		I-131	<2.10E-02	0.00E+00	2.10E-02
		Cs-134	<1.81E-02	0.00E+00	1.81E-02
		Cs-137	<1.89E-02	0.00E+00	1.89E-02
		Be-7	<9.72E-02	0.00E+00	9.72E-02
		K-40	6.14E-01	2.08E-01	1.93E-01

Sample ID: 468437	Sample Dates: 2/12/2018 - 2/19/2018	Nuclide	Activity	2 Sigma Error	MDA
		I-131	<1.77E-02	0.00E+00	1.77E-02
		Cs-134	<1.87E-02	0.00E+00	1.87E-02
		Cs-137	<1.88E-02	0.00E+00	1.88E-02
		Be-7	<1.17E-01	0.00E+00	1.17E-01
		K-40	6.17E-01	2.06E-01	1.83E-01



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 120 [INDICATOR - NNE @ 0.46 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
468764	2/19/2018 - 2/26/2018	I-131	<2.05E-02	0.00E+00	2.05E-02
		Cs-134	<1.47E-02	0.00E+00	1.47E-02
		Cs-137	<1.82E-02	0.00E+00	1.82E-02
		Be-7	<1.33E-01	0.00E+00	1.33E-01
		K-40	3.62E-01	1.93E-01	2.56E-01
469570	2/26/2018 - 3/5/2018	I-131	<2.03E-02	0.00E+00	2.03E-02
		Cs-134	<1.89E-02	0.00E+00	1.89E-02
		Cs-137	<1.50E-02	0.00E+00	1.50E-02
		Be-7	<1.03E-01	0.00E+00	1.03E-01
		K-40	5.62E-01	2.08E-01	2.15E-01
470597	3/5/2018 - 3/12/2018	I-131	<1.73E-02	0.00E+00	1.73E-02
		Cs-134	<1.54E-02	0.00E+00	1.54E-02
		Cs-137	<2.11E-02	0.00E+00	2.11E-02
		Be-7	<1.26E-01	0.00E+00	1.26E-01
		K-40	4.88E-01	2.17E-01	2.69E-01
471159	3/12/2018 - 3/19/2018	I-131	<2.25E-02	0.00E+00	2.25E-02
		Cs-134	<1.93E-02	0.00E+00	1.93E-02
		Cs-137	<1.84E-02	0.00E+00	1.84E-02
		Be-7	<1.21E-01	0.00E+00	1.21E-01
		K-40	3.21E-01	1.88E-01	2.57E-01
471720	3/19/2018 - 3/26/2018	I-131	<1.97E-02	0.00E+00	1.97E-02
		Cs-134	<1.75E-02	0.00E+00	1.75E-02
		Cs-137	<1.54E-02	0.00E+00	1.54E-02
		Be-7	<1.02E-01	0.00E+00	1.02E-01
		K-40	5.54E-01	1.98E-01	1.97E-01
472508	3/26/2018 - 4/2/2018	I-131	<2.00E-02	0.00E+00	2.00E-02
		Cs-134	<2.22E-02	0.00E+00	2.22E-02
		Cs-137	<1.85E-02	0.00E+00	1.85E-02
		Be-7	<1.24E-01	0.00E+00	1.24E-01
		K-40	5.70E-01	2.22E-01	2.50E-01
472981	4/2/2018 - 4/9/2018	I-131	<1.79E-02	0.00E+00	1.79E-02
		Cs-134	<1.42E-02	0.00E+00	1.42E-02
		Cs-137	<2.14E-02	0.00E+00	2.14E-02
		Be-7	<1.18E-01	0.00E+00	1.18E-01
		K-40	6.86E-01	1.94E-01	3.44E-02
473267	4/9/2018 - 4/16/2018	I-131	<1.95E-02	0.00E+00	1.95E-02
		Cs-134	<1.88E-02	0.00E+00	1.88E-02
		Cs-137	<1.71E-02	0.00E+00	1.71E-02
		Be-7	<1.29E-01	0.00E+00	1.29E-01
		K-40	6.33E-01	1.88E-01	3.50E-02
473638	4/16/2018 - 4/23/2018	I-131	<1.88E-02	0.00E+00	1.88E-02
		Cs-134	<1.38E-02	0.00E+00	1.38E-02
		Cs-137	<1.84E-02	0.00E+00	1.84E-02
		Be-7	<1.03E-01	0.00E+00	1.03E-01
		K-40	<3.91E-01	0.00E+00	3.91E-01
474152	4/23/2018 - 4/30/2018	I-131	<2.06E-02	0.00E+00	2.06E-02
		Cs-134	<1.74E-02	0.00E+00	1.74E-02
		Cs-137	<1.82E-02	0.00E+00	1.82E-02
		Be-7	<1.43E-01	0.00E+00	1.43E-01
		K-40	5.39E-01	1.84E-01	1.31E-01



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 120 [INDICATOR - NNE @ 0.46 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
474532	4/30/2018 - 5/7/2018	I-131	<1.62E-02	0.00E+00	1.62E-02
		Cs-134	<1.90E-02	0.00E+00	1.90E-02
		Cs-137	<1.40E-02	0.00E+00	1.40E-02
		Be-7	<1.18E-01	0.00E+00	1.18E-01
		K-40	4.71E-01	1.81E-01	1.78E-01
474895	5/7/2018 - 5/14/2018	I-131	<3.15E-02	0.00E+00	3.15E-02
		Cs-134	<1.83E-02	0.00E+00	1.83E-02
		Cs-137	<1.81E-02	0.00E+00	1.81E-02
		Be-7	<1.23E-01	0.00E+00	1.23E-01
		K-40	4.08E-01	1.94E-01	2.41E-01
475219	5/14/2018 - 5/21/2018	I-131	<2.13E-02	0.00E+00	2.13E-02
		Cs-134	<1.90E-02	0.00E+00	1.90E-02
		Cs-137	<1.57E-02	0.00E+00	1.57E-02
		Be-7	<1.10E-01	0.00E+00	1.10E-01
		K-40	5.77E-01	2.10E-01	2.25E-01
475538	5/21/2018 - 5/29/2018	I-131	<1.44E-02	0.00E+00	1.44E-02
		Cs-134	<1.04E-02	0.00E+00	1.04E-02
		Cs-137	<1.56E-02	0.00E+00	1.56E-02
		Be-7	<7.97E-02	0.00E+00	7.97E-02
		K-40	3.57E-01	1.40E-01	1.17E-01
476365	5/29/2018 - 6/4/2018	I-131	<2.18E-02	0.00E+00	2.18E-02
		Cs-134	<2.16E-02	0.00E+00	2.16E-02
		Cs-137	<2.12E-02	0.00E+00	2.12E-02
		Be-7	<1.47E-01	0.00E+00	1.47E-01
		K-40	4.42E-01	2.12E-01	2.57E-01
477381	6/4/2018 - 6/11/2018	I-131	<1.83E-02	0.00E+00	1.83E-02
		Cs-134	<1.26E-02	0.00E+00	1.26E-02
		Cs-137	<1.55E-02	0.00E+00	1.55E-02
		Be-7	<1.20E-01	0.00E+00	1.20E-01
		K-40	4.35E-01	2.03E-01	2.53E-01
478111	6/11/2018 - 6/18/2018	I-131	<2.57E-02	0.00E+00	2.57E-02
		Cs-134	<1.30E-02	0.00E+00	1.30E-02
		Cs-137	<1.58E-02	0.00E+00	1.58E-02
		Be-7	<9.89E-02	0.00E+00	9.89E-02
		K-40	7.65E-01	2.21E-01	1.75E-01
478425	6/18/2018 - 6/25/2018	I-131	<2.05E-02	0.00E+00	2.05E-02
		Cs-134	<1.66E-02	0.00E+00	1.66E-02
		Cs-137	<1.42E-02	0.00E+00	1.42E-02
		Be-7	<1.26E-01	0.00E+00	1.26E-01
		K-40	4.12E-01	2.12E-01	2.81E-01
478794	6/25/2018 - 7/2/2018	I-131	<2.17E-02	0.00E+00	2.17E-02
		Cs-134	<1.93E-02	0.00E+00	1.93E-02
		Cs-137	<1.54E-02	0.00E+00	1.54E-02
		Be-7	<1.31E-01	0.00E+00	1.31E-01
		K-40	4.00E-01	1.85E-01	2.21E-01
479203	7/2/2018 - 7/9/2018	I-131	<1.76E-02	0.00E+00	1.76E-02
		Cs-134	<1.97E-02	0.00E+00	1.97E-02
		Cs-137	<1.82E-02	0.00E+00	1.82E-02
		Be-7	<9.94E-02	0.00E+00	9.94E-02
		K-40	4.99E-01	1.98E-01	2.16E-01



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 120 [INDICATOR - NNE @ 0.46 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
479887	7/9/2018 - 7/16/2018	I-131	<1.76E-02	0.00E+00	1.76E-02
		Cs-134	<2.02E-02	0.00E+00	2.02E-02
		Cs-137	<1.76E-02	0.00E+00	1.76E-02
		Be-7	<1.10E-01	0.00E+00	1.10E-01
		K-40	5.80E-01	1.75E-01	3.35E-02
480248	7/16/2018 - 7/23/2018	I-131	<2.33E-02	0.00E+00	2.33E-02
		Cs-134	<1.31E-02	0.00E+00	1.31E-02
		Cs-137	<1.42E-02	0.00E+00	1.42E-02
		Be-7	<1.44E-01	0.00E+00	1.44E-01
		K-40	6.17E-01	1.88E-01	3.63E-02
481077	7/23/2018 - 7/30/2018	I-131	<2.32E-02	0.00E+00	2.32E-02
		Cs-134	<1.85E-02	0.00E+00	1.85E-02
		Cs-137	<1.41E-02	0.00E+00	1.41E-02
		Be-7	<1.20E-01	0.00E+00	1.20E-01
		K-40	5.41E-01	2.00E-01	2.05E-01
481519	7/30/2018 - 8/6/2018	I-131	<2.25E-02	0.00E+00	2.25E-02
		Cs-134	<1.52E-02	0.00E+00	1.52E-02
		Cs-137	<1.69E-02	0.00E+00	1.69E-02
		Be-7	<1.45E-01	0.00E+00	1.45E-01
		K-40	6.93E-01	1.96E-01	3.48E-02
481964	8/6/2018 - 8/13/2018	I-131	<2.13E-02	0.00E+00	2.13E-02
		Cs-134	<1.38E-02	0.00E+00	1.38E-02
		Cs-137	<1.67E-02	0.00E+00	1.67E-02
		Be-7	<1.14E-01	0.00E+00	1.14E-01
		K-40	4.31E-01	1.63E-01	1.38E-01
482484	8/13/2018 - 8/20/2018	I-131	<1.54E-02	0.00E+00	1.54E-02
		Cs-134	<1.72E-02	0.00E+00	1.72E-02
		Cs-137	<1.30E-02	0.00E+00	1.30E-02
		Be-7	<1.04E-01	0.00E+00	1.04E-01
		K-40	2.12E-01	1.51E-01	2.13E-01
482811	8/20/2018 - 8/27/2018	I-131	<1.24E-02	0.00E+00	1.24E-02
		Cs-134	<1.35E-02	0.00E+00	1.35E-02
		Cs-137	<1.52E-02	0.00E+00	1.52E-02
		Be-7	<7.79E-02	0.00E+00	7.79E-02
		K-40	2.38E-01	1.46E-01	1.96E-01
483434	8/27/2018 - 9/4/2018	I-131	<9.56E-03	0.00E+00	9.56E-03
		Cs-134	<1.18E-02	0.00E+00	1.18E-02
		Cs-137	<1.08E-02	0.00E+00	1.08E-02
		Be-7	<7.68E-02	0.00E+00	7.68E-02
		K-40	3.29E-01	1.57E-01	1.92E-01
484021	9/4/2018 - 9/10/2018	I-131	<2.49E-02	0.00E+00	2.49E-02
		Cs-134	<2.00E-02	0.00E+00	2.00E-02
		Cs-137	<1.64E-02	0.00E+00	1.64E-02
		Be-7	<1.20E-01	0.00E+00	1.20E-01
		K-40	5.04E-01	2.05E-01	2.09E-01
484603	9/10/2018 - 9/17/2018	I-131	<1.46E-02	0.00E+00	1.46E-02
		Cs-134	<1.51E-02	0.00E+00	1.51E-02
		Cs-137	<1.54E-02	0.00E+00	1.54E-02
		Be-7	<8.80E-02	0.00E+00	8.80E-02
		K-40	2.57E-01	1.51E-01	1.86E-01



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 120 [INDICATOR - NNE @ 0.46 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
485030	9/17/2018 - 9/24/2018	I-131	<2.71E-02	0.00E+00	2.71E-02
		Cs-134	<1.74E-02	0.00E+00	1.74E-02
		Cs-137	<1.68E-02	0.00E+00	1.68E-02
		Be-7	<1.40E-01	0.00E+00	1.40E-01
		K-40	<3.65E-01	0.00E+00	3.65E-01
485488	9/24/2018 - 10/1/2018	I-131	<2.35E-02	0.00E+00	2.35E-02
		Cs-134	<1.15E-02	0.00E+00	1.15E-02
		Cs-137	<1.59E-02	0.00E+00	1.59E-02
		Be-7	<1.42E-01	0.00E+00	1.42E-01
		K-40	3.73E-01	1.96E-01	2.59E-01
486160	10/1/2018 - 10/8/2018	I-131	<1.79E-02	0.00E+00	1.79E-02
		Cs-134	<1.80E-02	0.00E+00	1.80E-02
		Cs-137	<1.63E-02	0.00E+00	1.63E-02
		Be-7	<1.20E-01	0.00E+00	1.20E-01
		K-40	4.88E-01	1.82E-01	1.75E-01
486700	10/8/2018 - 10/15/2018	I-131	<2.19E-02	0.00E+00	2.19E-02
		Cs-134	<1.71E-02	0.00E+00	1.71E-02
		Cs-137	<1.46E-02	0.00E+00	1.46E-02
		Be-7	<1.11E-01	0.00E+00	1.11E-01
		K-40	5.85E-01	2.00E-01	1.73E-01
487741	10/15/2018 - 10/22/2018	I-131	<2.14E-02	0.00E+00	2.14E-02
		Cs-134	<1.69E-02	0.00E+00	1.69E-02
		Cs-137	<1.50E-02	0.00E+00	1.50E-02
		Be-7	<1.36E-01	0.00E+00	1.36E-01
		K-40	<3.82E-01	0.00E+00	3.82E-01
487986	10/22/2018 - 10/29/2018	I-131	<2.08E-02	0.00E+00	2.08E-02
		Cs-134	<1.52E-02	0.00E+00	1.52E-02
		Cs-137	<1.49E-02	0.00E+00	1.49E-02
		Be-7	<1.18E-01	0.00E+00	1.18E-01
		K-40	5.05E-01	2.08E-01	2.42E-01
488477	10/29/2018 - 11/5/2018	I-131	<2.14E-02	0.00E+00	2.14E-02
		Cs-134	<1.39E-02	0.00E+00	1.39E-02
		Cs-137	<1.48E-02	0.00E+00	1.48E-02
		Be-7	<1.32E-01	0.00E+00	1.32E-01
		K-40	2.78E-01	1.80E-01	2.56E-01
488850	11/5/2018 - 11/12/2018	I-131	<2.05E-02	0.00E+00	2.05E-02
		Cs-134	<1.58E-02	0.00E+00	1.58E-02
		Cs-137	<1.67E-02	0.00E+00	1.67E-02
		Be-7	<1.11E-01	0.00E+00	1.11E-01
		K-40	4.67E-01	2.08E-01	2.52E-01
489153	11/12/2018 - 11/19/2018	I-131	<2.02E-02	0.00E+00	2.02E-02
		Cs-134	<1.79E-02	0.00E+00	1.79E-02
		Cs-137	<1.53E-02	0.00E+00	1.53E-02
		Be-7	<1.24E-01	0.00E+00	1.24E-01
		K-40	5.22E-01	1.82E-01	1.46E-01
489736	11/19/2018 - 11/26/2018	I-131	<2.02E-02	0.00E+00	2.02E-02
		Cs-134	<1.81E-02	0.00E+00	1.81E-02
		Cs-137	<1.23E-02	0.00E+00	1.23E-02
		Be-7	<9.43E-02	0.00E+00	9.43E-02
		K-40	3.09E-01	2.01E-01	2.89E-01



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 120 [INDICATOR - NNE @ 0.46 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
490158	11/26/2018 - 12/3/2018	I-131	<2.00E-02	0.00E+00	2.00E-02
		Cs-134	<1.46E-02	0.00E+00	1.46E-02
		Cs-137	<1.48E-02	0.00E+00	1.48E-02
		Be-7	<1.17E-01	0.00E+00	1.17E-01
		K-40	3.58E-01	1.85E-01	2.40E-01
490799	12/3/2018 - 12/10/2018	I-131	<2.34E-02	0.00E+00	2.34E-02
		Cs-134	<1.86E-02	0.00E+00	1.86E-02
		Cs-137	<1.65E-02	0.00E+00	1.65E-02
		Be-7	<1.22E-01	0.00E+00	1.22E-01
		K-40	3.80E-01	1.67E-01	1.72E-01
491180	12/10/2018 - 12/18/2018	I-131	<2.68E-02	0.00E+00	2.68E-02
		Cs-134	<1.28E-02	0.00E+00	1.28E-02
		Cs-137	<1.51E-02	0.00E+00	1.51E-02
		Be-7	<1.05E-01	0.00E+00	1.05E-01
		K-40	2.63E-01	1.22E-01	1.10E-01
491482	12/18/2018 - 12/26/2018	I-131	<1.92E-02	0.00E+00	1.92E-02
		Cs-134	<1.33E-02	0.00E+00	1.33E-02
		Cs-137	<1.52E-02	0.00E+00	1.52E-02
		Be-7	<1.02E-01	0.00E+00	1.02E-01
		K-40	3.81E-01	1.34E-01	3.03E-02
491760	12/26/2018 - 12/31/2018	I-131	<4.43E-02	0.00E+00	4.43E-02
		Cs-134	<2.30E-02	0.00E+00	2.30E-02
		Cs-137	<2.17E-02	0.00E+00	2.17E-02
		Be-7	<1.74E-01	0.00E+00	1.74E-01
		K-40	5.44E-01	2.30E-01	2.41E-01

Sample Point 121 [INDICATOR - NE @ 0.47 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
465995	1/2/2018 - 1/8/2018	I-131	<2.13E-02	0.00E+00	2.13E-02
		Cs-134	<2.48E-02	0.00E+00	2.48E-02
		Cs-137	<1.87E-02	0.00E+00	1.87E-02
		Be-7	<1.52E-01	0.00E+00	1.52E-01
		K-40	5.82E-01	2.55E-01	3.12E-01
466204	1/8/2018 - 1/15/2018	I-131	<2.18E-02	0.00E+00	2.18E-02
		Cs-134	<1.67E-02	0.00E+00	1.67E-02
		Cs-137	<2.16E-02	0.00E+00	2.16E-02
		Be-7	<1.04E-01	0.00E+00	1.04E-01
		K-40	5.48E-01	1.98E-01	1.92E-01
466390	1/15/2018 - 1/22/2018	I-131	<2.30E-02	0.00E+00	2.30E-02
		Cs-134	<1.73E-02	0.00E+00	1.73E-02
		Cs-137	<1.83E-02	0.00E+00	1.83E-02
		Be-7	<1.33E-01	0.00E+00	1.33E-01
		K-40	5.35E-01	2.05E-01	2.22E-01
466987	1/22/2018 - 1/29/2018	I-131	<1.71E-02	0.00E+00	1.71E-02
		Cs-134	<1.61E-02	0.00E+00	1.61E-02
		Cs-137	<1.73E-02	0.00E+00	1.73E-02
		Be-7	<1.01E-01	0.00E+00	1.01E-01
		K-40	4.95E-01	1.85E-01	1.82E-01
467337	1/29/2018 - 2/5/2018	I-131	<2.13E-02	0.00E+00	2.13E-02
		Cs-134	<1.92E-02	0.00E+00	1.92E-02
		Cs-137	<1.69E-02	0.00E+00	1.69E-02
		Be-7	<1.47E-01	0.00E+00	1.47E-01
		K-40	4.66E-01	1.97E-01	2.22E-01



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 121 [INDICATOR - NE @ 0.47 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467658	2/5/2018 - 2/12/2018	I-131	<2.23E-02	0.00E+00	2.23E-02
		Cs-134	<1.26E-02	0.00E+00	1.26E-02
		Cs-137	<1.54E-02	0.00E+00	1.54E-02
		Be-7	<1.14E-01	0.00E+00	1.14E-01
		K-40	4.54E-01	1.78E-01	1.72E-01
468438	2/12/2018 - 2/19/2018	I-131	<1.98E-02	0.00E+00	1.98E-02
		Cs-134	<2.10E-02	0.00E+00	2.10E-02
		Cs-137	<1.59E-02	0.00E+00	1.59E-02
		Be-7	<1.20E-01	0.00E+00	1.20E-01
		K-40	4.80E-01	2.03E-01	2.37E-01
468765	2/19/2018 - 2/26/2018	I-131	<3.12E-02	0.00E+00	3.12E-02
		Cs-134	<8.37E-03	0.00E+00	8.37E-03
		Cs-137	<7.63E-03	0.00E+00	7.63E-03
		Be-7	<6.71E-02	0.00E+00	6.71E-02
		K-40	4.83E-01	1.02E-01	9.83E-02
469571	2/26/2018 - 3/5/2018	I-131	<2.22E-02	0.00E+00	2.22E-02
		Cs-134	<1.62E-02	0.00E+00	1.62E-02
		Cs-137	<1.38E-02	0.00E+00	1.38E-02
		Be-7	<1.36E-01	0.00E+00	1.36E-01
		K-40	6.36E-01	2.00E-01	1.45E-01
470598	3/5/2018 - 3/12/2018	I-131	<1.92E-02	0.00E+00	1.91E-02
		Cs-134	<1.54E-02	0.00E+00	1.54E-02
		Cs-137	<1.66E-02	0.00E+00	1.66E-02
		Be-7	<1.24E-01	0.00E+00	1.24E-01
		K-40	6.59E-01	2.15E-01	1.95E-01
471160	3/12/2018 - 3/19/2018	I-131	<1.96E-02	0.00E+00	1.96E-02
		Cs-134	<2.05E-02	0.00E+00	2.05E-02
		Cs-137	<1.88E-02	0.00E+00	1.88E-02
		Be-7	<1.18E-01	0.00E+00	1.18E-01
		K-40	4.64E-01	1.59E-01	3.49E-02
471721	3/19/2018 - 3/26/2018	I-131	<1.97E-02	0.00E+00	1.97E-02
		Cs-134	<1.39E-02	0.00E+00	1.39E-02
		Cs-137	<1.73E-02	0.00E+00	1.73E-02
		Be-7	<9.83E-02	0.00E+00	9.83E-02
		K-40	3.60E-01	1.53E-01	1.46E-01
472509	3/26/2018 - 4/2/2018	I-131	<2.08E-02	0.00E+00	2.08E-02
		Cs-134	<1.80E-02	0.00E+00	1.80E-02
		Cs-137	<1.94E-02	0.00E+00	1.94E-02
		Be-7	<1.21E-01	0.00E+00	1.21E-01
		K-40	6.64E-01	1.95E-01	3.60E-02
472982	4/2/2018 - 4/9/2018	I-131	<1.96E-02	0.00E+00	1.96E-02
		Cs-134	<2.18E-02	0.00E+00	2.18E-02
		Cs-137	<1.52E-02	0.00E+00	1.52E-02
		Be-7	<1.18E-01	0.00E+00	1.18E-01
		K-40	4.70E-01	1.59E-01	3.44E-02
473268	4/9/2018 - 4/16/2018	I-131	<1.82E-02	0.00E+00	1.82E-02
		Cs-134	<1.61E-02	0.00E+00	1.61E-02
		Cs-137	<1.80E-02	0.00E+00	1.80E-02
		Be-7	<1.08E-01	0.00E+00	1.08E-01
		K-40	5.53E-01	2.09E-01	2.23E-01



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 121 [INDICATOR - NE @ 0.47 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
473639	4/16/2018 - 4/23/2018	I-131	<1.90E-02	0.00E+00	1.90E-02
		Cs-134	<1.11E-02	0.00E+00	1.11E-02
		Cs-137	<1.48E-02	0.00E+00	1.48E-02
		Be-7	<1.24E-01	0.00E+00	1.24E-01
		K-40	5.11E-01	1.82E-01	1.65E-01
474153	4/23/2018 - 4/30/2018	I-131	<2.28E-02	0.00E+00	2.28E-02
		Cs-134	<2.11E-02	0.00E+00	2.11E-02
		Cs-137	<1.90E-02	0.00E+00	1.90E-02
		Be-7	<1.15E-01	0.00E+00	1.15E-01
		K-40	5.80E-01	2.07E-01	1.99E-01
474533	4/30/2018 - 5/7/2018	I-131	<2.07E-02	0.00E+00	2.07E-02
		Cs-134	<1.65E-02	0.00E+00	1.65E-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	6.35E-01	1.87E-01	3.44E-02
474896	5/7/2018 - 5/14/2018	I-131	<2.27E-02	0.00E+00	2.27E-02
		Cs-134	<1.45E-02	0.00E+00	1.45E-02
		Cs-137	<1.85E-02	0.00E+00	1.85E-02
		Be-7	<1.14E-01	0.00E+00	1.14E-01
		K-40	4.24E-01	1.80E-01	1.94E-01
475220	5/14/2018 - 5/21/2018	I-131	<2.05E-02	0.00E+00	2.05E-02
		Cs-134	<1.38E-02	0.00E+00	1.38E-02
		Cs-137	<1.42E-02	0.00E+00	1.42E-02
		Be-7	<1.27E-01	0.00E+00	1.27E-01
		K-40	5.38E-01	1.85E-01	1.59E-01
475539	5/21/2018 - 5/29/2018	I-131	<1.31E-02	0.00E+00	1.31E-02
		Cs-134	<1.76E-02	0.00E+00	1.76E-02
		Cs-137	<1.64E-02	0.00E+00	1.64E-02
		Be-7	<6.33E-02	0.00E+00	6.33E-02
		K-40	<3.27E-01	0.00E+00	3.27E-01
476366	5/29/2018 - 6/4/2018	I-131	<2.29E-02	0.00E+00	2.29E-02
		Cs-134	<1.97E-02	0.00E+00	1.97E-02
		Cs-137	<2.32E-02	0.00E+00	2.32E-02
		Be-7	<1.19E-01	0.00E+00	1.19E-01
		K-40	4.80E-01	1.85E-01	1.46E-01
477382	6/4/2018 - 6/11/2018	I-131	<1.73E-02	0.00E+00	1.73E-02
		Cs-134	<1.75E-02	0.00E+00	1.75E-02
		Cs-137	<1.75E-02	0.00E+00	1.75E-02
		Be-7	<9.30E-02	0.00E+00	9.30E-02
		K-40	5.44E-01	2.04E-01	2.13E-01
478112	6/11/2018 - 6/18/2018	I-131	<2.40E-02	0.00E+00	2.40E-02
		Cs-134	<2.08E-02	0.00E+00	2.08E-02
		Cs-137	<1.73E-02	0.00E+00	1.73E-02
		Be-7	<1.13E-01	0.00E+00	1.13E-01
		K-40	3.78E-01	2.82E-01	3.36E-02
478426	6/18/2018 - 6/25/2018	I-131	<2.55E-02	0.00E+00	2.55E-02
		Cs-134	<1.80E-02	0.00E+00	1.80E-02
		Cs-137	<1.85E-02	0.00E+00	1.85E-02
		Be-7	<1.35E-01	0.00E+00	1.35E-01
		K-40	7.30E-01	2.05E-01	3.60E-02



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 121 [INDICATOR - NE @ 0.47 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
478795	6/25/2018 - 7/2/2018	I-131	<2.02E-02	0.00E+00	2.02E-02
		Cs-134	<1.81E-02	0.00E+00	1.81E-02
		Cs-137	<1.54E-02	0.00E+00	1.54E-02
		Be-7	<1.08E-01	0.00E+00	1.08E-01
		K-40	2.78E-01	1.77E-01	2.46E-01
479204	7/2/2018 - 7/9/2018	I-131	<2.06E-02	0.00E+00	2.06E-02
		Cs-134	<1.58E-02	0.00E+00	1.58E-02
		Cs-137	<1.47E-02	0.00E+00	1.47E-02
		Be-7	<1.24E-01	0.00E+00	1.24E-01
		K-40	4.99E-01	2.04E-01	2.35E-01
479888	7/9/2018 - 7/16/2018	I-131	<2.13E-02	0.00E+00	2.13E-02
		Cs-134	<1.54E-02	0.00E+00	1.54E-02
		Cs-137	<2.12E-02	0.00E+00	2.12E-02
		Be-7	<1.11E-01	0.00E+00	1.11E-01
		K-40	4.48E-01	1.85E-01	2.03E-01
480249	7/16/2018 - 7/23/2018	I-131	<1.93E-02	0.00E+00	1.93E-02
		Cs-134	<1.73E-02	0.00E+00	1.73E-02
		Cs-137	<2.25E-02	0.00E+00	2.25E-02
		Be-7	<1.33E-01	0.00E+00	1.33E-01
		K-40	5.53E-01	1.98E-01	1.80E-01
481078	7/23/2018 - 7/30/2018	I-131	<2.36E-02	0.00E+00	2.36E-02
		Cs-134	<1.43E-02	0.00E+00	1.43E-02
		Cs-137	<1.63E-02	0.00E+00	1.63E-02
		Be-7	<1.26E-01	0.00E+00	1.26E-01
		K-40	5.93E-01	2.07E-01	2.04E-01
481520	7/30/2018 - 8/6/2018	I-131	<2.25E-02	0.00E+00	2.25E-02
		Cs-134	<1.67E-02	0.00E+00	1.67E-02
		Cs-137	<1.54E-02	0.00E+00	1.54E-02
		Be-7	<1.37E-01	0.00E+00	1.37E-01
		K-40	5.15E-01	1.99E-01	2.13E-01
481965	8/6/2018 - 8/13/2018	I-131	<1.93E-02	0.00E+00	1.93E-02
		Cs-134	<1.80E-02	0.00E+00	1.80E-02
		Cs-137	<1.93E-02	0.00E+00	1.93E-02
		Be-7	<1.28E-01	0.00E+00	1.28E-01
		K-40	5.92E-01	2.16E-01	2.37E-01
482485	8/13/2018 - 8/20/2018	I-131	<1.85E-02	0.00E+00	1.85E-02
		Cs-134	<1.05E-02	0.00E+00	1.05E-02
		Cs-137	<1.85E-02	0.00E+00	1.85E-02
		Be-7	<9.44E-02	0.00E+00	9.44E-02
		K-40	2.88E-01	1.68E-01	2.22E-01
482812	8/20/2018 - 8/27/2018	I-131	<1.52E-02	0.00E+00	1.52E-02
		Cs-134	<1.22E-02	0.00E+00	1.22E-02
		Cs-137	<1.40E-02	0.00E+00	1.40E-02
		Be-7	<7.50E-02	0.00E+00	7.50E-02
		K-40	2.43E-01	1.22E-01	1.19E-01
483435	8/27/2018 - 9/4/2018	I-131	<1.44E-02	0.00E+00	1.44E-02
		Cs-134	<1.77E-02	0.00E+00	1.77E-02
		Cs-137	<1.32E-02	0.00E+00	1.32E-02
		Be-7	<7.17E-02	0.00E+00	7.17E-02
		K-40	<2.69E-01	0.00E+00	2.69E-01



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 121 [INDICATOR - NE @ 0.47 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
484022	9/4/2018 - 9/10/2018	I-131	<2.32E-02	0.00E+00	2.32E-02
		Cs-134	<2.66E-02	0.00E+00	2.66E-02
		Cs-137	<2.01E-02	0.00E+00	2.01E-02
		Be-7	<1.42E-01	0.00E+00	1.42E-01
		K-40	6.63E-01	2.33E-01	2.22E-01
484604	9/10/2018 - 9/17/2018	I-131	<1.98E-02	0.00E+00	1.98E-02
		Cs-134	<1.75E-02	0.00E+00	1.75E-02
		Cs-137	<1.51E-02	0.00E+00	1.51E-02
		Be-7	<9.24E-02	0.00E+00	9.24E-02
		K-40	5.05E-01	1.91E-01	1.90E-01
485031	9/17/2018 - 9/24/2018	I-131	<4.22E-02	0.00E+00	4.22E-02
		Cs-134	<1.67E-02	0.00E+00	1.67E-02
		Cs-137	<1.82E-02	0.00E+00	1.82E-02
		Be-7	<1.31E-01	0.00E+00	1.31E-01
		K-40	5.01E-01	1.93E-01	2.00E-01
485489	9/24/2018 - 10/1/2018	I-131	<2.00E-02	0.00E+00	2.00E-02
		Cs-134	<1.66E-02	0.00E+00	1.66E-02
		Cs-137	<1.53E-02	0.00E+00	1.53E-02
		Be-7	<1.17E-01	0.00E+00	1.17E-01
		K-40	5.22E-01	1.93E-01	1.89E-01
486161	10/1/2018 - 10/8/2018	I-131	<2.16E-02	0.00E+00	2.16E-02
		Cs-134	<1.61E-02	0.00E+00	1.61E-02
		Cs-137	<1.73E-02	0.00E+00	1.73E-02
		Be-7	<9.50E-02	0.00E+00	9.50E-02
		K-40	4.72E-01	1.97E-01	2.29E-01
486701	10/8/2018 - 10/15/2018	I-131	<2.09E-02	0.00E+00	2.09E-02
		Cs-134	<1.91E-02	0.00E+00	1.91E-02
		Cs-137	<1.78E-02	0.00E+00	1.78E-02
		Be-7	<1.27E-01	0.00E+00	1.27E-01
		K-40	6.04E-01	2.06E-01	1.85E-01
487742	10/15/2018 - 10/22/2018	I-131	<2.20E-02	0.00E+00	2.20E-02
		Cs-134	<1.27E-02	0.00E+00	1.27E-02
		Cs-137	<1.94E-02	0.00E+00	1.94E-02
		Be-7	<1.30E-01	0.00E+00	1.30E-01
		K-40	3.89E-01	1.85E-01	2.23E-01
487987	10/22/2018 - 10/29/2018	I-131	<1.94E-02	0.00E+00	1.94E-02
		Cs-134	<1.93E-02	0.00E+00	1.93E-02
		Cs-137	<1.75E-02	0.00E+00	1.75E-02
		Be-7	<1.18E-01	0.00E+00	1.18E-01
		K-40	3.74E-01	1.42E-01	3.49E-02
488478	10/29/2018 - 11/5/2018	I-131	<2.34E-02	0.00E+00	2.34E-02
		Cs-134	<1.54E-02	0.00E+00	1.54E-02
		Cs-137	<1.73E-02	0.00E+00	1.73E-02
		Be-7	<1.08E-01	0.00E+00	1.08E-01
		K-40	<3.50E-01	0.00E+00	3.50E-01
488851	11/5/2018 - 11/12/2018	I-131	<1.74E-02	0.00E+00	1.74E-02
		Cs-134	<2.05E-02	0.00E+00	2.05E-02
		Cs-137	<2.08E-02	0.00E+00	2.08E-02
		Be-7	<1.20E-01	0.00E+00	1.20E-01
		K-40	3.19E-01	1.68E-01	2.06E-01



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 121 [INDICATOR - NE @ 0.47 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
489154	11/12/2018 - 11/19/2018	I-131	<1.87E-02	0.00E+00	1.87E-02
		Cs-134	<1.66E-02	0.00E+00	1.66E-02
		Cs-137	<2.00E-02	0.00E+00	2.00E-02
		Be-7	<1.16E-01	0.00E+00	1.16E-01
		K-40	5.96E-01	2.14E-01	2.24E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
489737	11/19/2018 - 11/26/2018	I-131	<1.95E-02	0.00E+00	1.95E-02
		Cs-134	<1.99E-02	0.00E+00	1.99E-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	4.49E-01	2.03E-01	2.48E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
490159	11/26/2018 - 12/3/2018	I-131	<2.02E-02	0.00E+00	2.02E-02
		Cs-134	<1.47E-02	0.00E+00	1.47E-02
		Cs-137	<1.77E-02	0.00E+00	1.77E-02
		Be-7	<1.23E-01	0.00E+00	1.23E-01
		K-40	2.20E-01	1.56E-01	2.23E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
490800	12/3/2018 - 12/10/2018	I-131	<2.54E-02	0.00E+00	2.54E-02
		Cs-134	<1.79E-02	0.00E+00	1.79E-02
		Cs-137	<1.64E-02	0.00E+00	1.64E-02
		Be-7	<1.44E-01	0.00E+00	1.44E-01
		K-40	5.16E-01	1.95E-01	1.92E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
491181	12/10/2018 - 12/18/2018	I-131	<3.23E-02	0.00E+00	3.23E-02
		Cs-134	<1.20E-02	0.00E+00	1.20E-02
		Cs-137	<1.10E-02	0.00E+00	1.10E-02
		Be-7	<5.81E-02	0.00E+00	5.81E-02
		K-40	3.50E-01	1.27E-01	2.96E-02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
491483	12/18/2018 - 12/26/2018	I-131	<2.31E-02	0.00E+00	2.31E-02
		Cs-134	<1.26E-02	0.00E+00	1.26E-02
		Cs-137	<1.53E-02	0.00E+00	1.53E-02
		Be-7	<1.32E-01	0.00E+00	1.32E-01
		K-40	3.95E-01	1.60E-01	1.67E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
491761	12/26/2018 - 12/31/2018	I-131	<4.47E-02	0.00E+00	4.47E-02
		Cs-134	<2.02E-02	0.00E+00	2.02E-02
		Cs-137	<2.60E-02	0.00E+00	2.60E-02
		Be-7	<1.74E-01	0.00E+00	1.74E-01
		K-40	5.50E-01	2.12E-01	1.69E-01

Sample Point 125 [INDICATOR - SW @ 0.38 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
465996	1/2/2018 - 1/8/2018	I-131	<2.40E-02	0.00E+00	2.40E-02
		Cs-134	<2.48E-02	0.00E+00	2.48E-02
		Cs-137	<2.23E-02	0.00E+00	2.23E-02
		Be-7	<1.52E-01	0.00E+00	1.52E-01
		K-40	6.14E-01	2.47E-01	2.79E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466205	1/8/2018 - 1/15/2018	I-131	<2.33E-02	0.00E+00	2.33E-02
		Cs-134	<1.98E-02	0.00E+00	1.98E-02
		Cs-137	<1.79E-02	0.00E+00	1.79E-02
		Be-7	<1.31E-01	0.00E+00	1.31E-01
		K-40	6.30E-01	2.16E-01	2.13E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466391	1/15/2018 - 1/22/2018	I-131	<2.19E-02	0.00E+00	2.19E-02
		Cs-134	<1.80E-02	0.00E+00	1.80E-02
		Cs-137	<1.69E-02	0.00E+00	1.69E-02
		Be-7	<1.31E-01	0.00E+00	1.31E-01
		K-40	5.29E-01	1.89E-01	1.72E-01



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 125 [INDICATOR - SW @ 0.38 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466988	1/22/2018 - 1/29/2018	I-131	<2.12E-02	0.00E+00	2.12E-02
		Cs-134	<1.80E-02	0.00E+00	1.80E-02
		Cs-137	<1.11E-02	0.00E+00	1.11E-02
		Be-7	<1.38E-01	0.00E+00	1.38E-01
		K-40	2.87E-01	1.63E-01	2.13E-01
467338	1/29/2018 - 2/5/2018	I-131	<1.98E-02	0.00E+00	1.98E-02
		Cs-134	<1.71E-02	0.00E+00	1.71E-02
		Cs-137	<1.58E-02	0.00E+00	1.58E-02
		Be-7	<1.42E-01	0.00E+00	1.42E-01
		K-40	5.93E-01	2.06E-01	1.91E-01
467659	2/5/2018 - 2/12/2018	I-131	<1.92E-02	0.00E+00	1.92E-02
		Cs-134	<1.99E-02	0.00E+00	1.99E-02
		Cs-137	<1.65E-02	0.00E+00	1.65E-02
		Be-7	<1.20E-01	0.00E+00	1.20E-01
		K-40	6.07E-01	2.12E-01	2.11E-01
468439	2/12/2018 - 2/19/2018	I-131	<2.17E-02	0.00E+00	2.17E-02
		Cs-134	<1.80E-02	0.00E+00	1.80E-02
		Cs-137	<1.48E-02	0.00E+00	1.48E-02
		Be-7	<1.31E-01	0.00E+00	1.31E-01
		K-40	5.19E-01	1.88E-01	1.73E-01
468766	2/19/2018 - 2/26/2018	I-131	<1.81E-02	0.00E+00	1.81E-02
		Cs-134	<1.62E-02	0.00E+00	1.62E-02
		Cs-137	<1.49E-02	0.00E+00	1.49E-02
		Be-7	<1.21E-01	0.00E+00	1.21E-01
		K-40	4.64E-01	1.96E-01	2.27E-01
469572	2/26/2018 - 3/5/2018	I-131	<1.82E-02	0.00E+00	1.82E-02
		Cs-134	<1.27E-02	0.00E+00	1.27E-02
		Cs-137	<1.81E-02	0.00E+00	1.81E-02
		Be-7	<1.16E-01	0.00E+00	1.16E-01
		K-40	4.77E-01	2.18E-01	2.74E-01
470599	3/5/2018 - 3/12/2018	I-131	<1.92E-02	0.00E+00	1.92E-02
		Cs-134	<1.54E-02	0.00E+00	1.54E-02
		Cs-137	<1.90E-02	0.00E+00	1.90E-02
		Be-7	<1.15E-01	0.00E+00	1.15E-01
		K-40	5.97E-01	1.82E-01	3.52E-02
471161	3/12/2018 - 3/19/2018	I-131	<2.11E-02	0.00E+00	2.11E-02
		Cs-134	<1.60E-02	0.00E+00	1.60E-02
		Cs-137	<1.97E-02	0.00E+00	1.97E-02
		Be-7	<1.08E-01	0.00E+00	1.08E-01
		K-40	3.84E-01	1.63E-01	1.60E-01
471722	3/19/2018 - 3/26/2018	I-131	<1.97E-02	0.00E+00	1.97E-02
		Cs-134	<1.61E-02	0.00E+00	1.61E-02
		Cs-137	<1.68E-02	0.00E+00	1.68E-02
		Be-7	<1.05E-01	0.00E+00	1.05E-01
		K-40	4.20E-01	1.93E-01	2.38E-01
472510	3/26/2018 - 4/2/2018	I-131	<2.24E-02	0.00E+00	2.24E-02
		Cs-134	<1.88E-02	0.00E+00	1.88E-02
		Cs-137	<1.86E-02	0.00E+00	1.86E-02
		Be-7	<1.22E-01	0.00E+00	1.22E-01
		K-40	<3.48E-01	0.00E+00	3.48E-01



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 125 [INDICATOR - SW @ 0.38 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
472983	4/2/2018 - 4/9/2018	I-131	<1.84E-02	0.00E+00	1.84E-02
		Cs-134	<1.84E-02	0.00E+00	1.84E-02
		Cs-137	<1.63E-02	0.00E+00	1.63E-02
		Be-7	<1.21E-01	0.00E+00	1.21E-01
		K-40	5.20E-01	1.89E-01	1.80E-01
473269	4/9/2018 - 4/16/2018	I-131	<2.09E-02	0.00E+00	2.09E-02
		Cs-134	<1.68E-02	0.00E+00	1.68E-02
		Cs-137	<1.89E-02	0.00E+00	1.89E-02
		Be-7	<1.01E-01	0.00E+00	1.01E-01
		K-40	3.72E-01	1.93E-01	2.52E-01
473640	4/16/2018 - 4/23/2018	I-131	<2.07E-02	0.00E+00	2.07E-02
		Cs-134	<1.85E-02	0.00E+00	1.85E-02
		Cs-137	<1.68E-02	0.00E+00	1.68E-02
		Be-7	<1.07E-01	0.00E+00	1.07E-01
		K-40	3.64E-01	1.69E-01	1.96E-01
474154	4/23/2018 - 4/30/2018	I-131	<2.11E-02	0.00E+00	2.11E-02
		Cs-134	<2.06E-02	0.00E+00	2.06E-02
		Cs-137	<1.70E-02	0.00E+00	1.70E-02
		Be-7	<1.28E-01	0.00E+00	1.28E-01
		K-40	4.51E-01	1.91E-01	2.11E-01
474534	4/30/2018 - 5/7/2018	I-131	<1.83E-02	0.00E+00	1.83E-02
		Cs-134	<1.34E-02	0.00E+00	1.34E-02
		Cs-137	<1.63E-02	0.00E+00	1.63E-02
		Be-7	<1.21E-01	0.00E+00	1.21E-01
		K-40	4.47E-01	1.66E-01	1.32E-01
474897	5/7/2018 - 5/14/2018	I-131	<2.42E-02	0.00E+00	2.42E-02
		Cs-134	<1.89E-02	0.00E+00	1.89E-02
		Cs-137	<1.29E-02	0.00E+00	1.29E-02
		Be-7	<1.34E-01	0.00E+00	1.34E-01
		K-40	<3.98E-01	0.00E+00	3.98E-01
475221	5/14/2018 - 5/21/2018	I-131	<2.46E-02	0.00E+00	2.46E-02
		Cs-134	<1.30E-02	0.00E+00	1.30E-02
		Cs-137	<1.58E-02	0.00E+00	1.58E-02
		Be-7	<1.19E-01	0.00E+00	1.19E-01
		K-40	<3.74E-01	0.00E+00	3.74E-01
475540	5/21/2018 - 5/29/2018	I-131	<1.45E-02	0.00E+00	1.45E-02
		Cs-134	<1.50E-02	0.00E+00	1.50E-02
		Cs-137	<1.62E-02	0.00E+00	1.62E-02
		Be-7	<1.10E-01	0.00E+00	1.10E-01
		K-40	2.66E-01	1.71E-01	2.42E-01
476367	5/29/2018 - 6/4/2018	I-131	<2.05E-02	0.00E+00	2.05E-02
		Cs-134	<2.23E-02	0.00E+00	2.23E-02
		Cs-137	<2.02E-02	0.00E+00	2.02E-02
		Be-7	<1.34E-01	0.00E+00	1.34E-01
		K-40	7.23E-01	2.48E-01	2.42E-01
477383	6/4/2018 - 6/11/2018	I-131	<1.95E-02	0.00E+00	1.95E-02
		Cs-134	<2.05E-02	0.00E+00	2.05E-02
		Cs-137	<1.60E-02	0.00E+00	1.60E-02
		Be-7	<1.31E-01	0.00E+00	1.31E-01
		K-40	5.49E-01	2.10E-01	2.28E-01



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 125 [INDICATOR - SW @ 0.38 miles]

Sample ID	Sample Dates	Nuclide	Activity	2 Sigma Error	MDA
478113	6/11/2018 - 6/18/2018	I-131	<2.44E-02	0.00E+00	2.44E-02
		Cs-134	<1.68E-02	0.00E+00	1.68E-02
		Cs-137	<1.59E-02	0.00E+00	1.59E-02
		Be-7	<7.94E-02	0.00E+00	7.94E-02
		K-40	5.08E-01	2.12E-01	2.56E-01
478427	6/18/2018 - 6/25/2018	I-131	<2.35E-02	0.00E+00	2.35E-02
		Cs-134	<1.87E-02	0.00E+00	1.87E-02
		Cs-137	<1.65E-02	0.00E+00	1.65E-02
		Be-7	<1.48E-01	0.00E+00	1.48E-01
		K-40	5.96E-01	2.17E-01	2.27E-01
478796	6/25/2018 - 7/2/2018	I-131	<1.85E-02	0.00E+00	1.85E-02
		Cs-134	<1.87E-02	0.00E+00	1.87E-02
		Cs-137	<2.09E-02	0.00E+00	2.09E-02
		Be-7	<1.37E-01	0.00E+00	1.37E-01
		K-40	4.90E-01	1.75E-01	1.39E-01
479205	7/2/2018 - 7/9/2018	I-131	<1.84E-02	0.00E+00	1.84E-02
		Cs-134	<1.34E-02	0.00E+00	1.34E-02
		Cs-137	<1.86E-02	0.00E+00	1.86E-02
		Be-7	<1.13E-01	0.00E+00	1.13E-01
		K-40	4.31E-01	1.88E-01	2.18E-01
479889	7/9/2018 - 7/16/2018	I-131	<1.98E-02	0.00E+00	1.98E-02
		Cs-134	<1.68E-02	0.00E+00	1.68E-02
		Cs-137	<1.77E-02	0.00E+00	1.77E-02
		Be-7	<1.11E-01	0.00E+00	1.11E-01
		K-40	4.19E-01	1.90E-01	2.30E-01
480250	7/16/2018 - 7/23/2018	I-131	<2.07E-02	0.00E+00	2.07E-02
		Cs-134	<1.73E-02	0.00E+00	1.73E-02
		Cs-137	<1.48E-02	0.00E+00	1.48E-02
		Be-7	<9.62E-02	0.00E+00	9.62E-02
		K-40	5.70E-01	1.97E-01	1.69E-01
481079	7/23/2018 - 7/30/2018	I-131	<2.35E-02	0.00E+00	2.35E-02
		Cs-134	<1.65E-02	0.00E+00	1.65E-02
		Cs-137	<1.86E-02	0.00E+00	1.86E-02
		Be-7	<1.23E-01	0.00E+00	1.23E-01
		K-40	4.91E-01	1.90E-01	1.97E-01
481521	7/30/2018 - 8/6/2018	I-131	<2.16E-02	0.00E+00	2.16E-02
		Cs-134	<1.60E-02	0.00E+00	1.60E-02
		Cs-137	<1.89E-02	0.00E+00	1.89E-02
		Be-7	<1.12E-01	0.00E+00	1.12E-01
		K-40	6.87E-01	2.04E-01	1.31E-01
481966	8/6/2018 - 8/13/2018	I-131	<2.16E-02	0.00E+00	2.16E-02
		Cs-134	<1.91E-02	0.00E+00	1.91E-02
		Cs-137	<1.85E-02	0.00E+00	1.85E-02
		Be-7	<9.06E-02	0.00E+00	9.06E-02
		K-40	4.64E-01	1.75E-01	1.63E-01
482486	8/13/2018 - 8/20/2018	I-131	<2.08E-02	0.00E+00	2.08E-02
		Cs-134	<1.37E-02	0.00E+00	1.37E-02
		Cs-137	<1.50E-02	0.00E+00	1.50E-02
		Be-7	<1.01E-01	0.00E+00	1.01E-01
		K-40	<3.10E-01	0.00E+00	3.10E-01



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 125 [INDICATOR - SW @ 0.38 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
482813	8/20/2018 - 8/27/2018	I-131	<1.42E-02	0.00E+00	1.42E-02
		Cs-134	<1.25E-02	0.00E+00	1.25E-02
		Cs-137	<1.65E-02	0.00E+00	1.65E-02
		Be-7	<9.93E-02	0.00E+00	9.93E-02
		K-40	<2.60E-01	0.00E+00	2.60E-01
483436	8/27/2018 - 9/4/2018	I-131	<1.21E-02	0.00E+00	1.21E-02
		Cs-134	<9.58E-03	0.00E+00	9.58E-03
		Cs-137	<1.54E-02	0.00E+00	1.54E-02
		Be-7	<1.08E-01	0.00E+00	1.08E-01
		K-40	2.90E-01	1.23E-01	1.11E-01
484023	9/4/2018 - 9/10/2018	I-131	<2.02E-02	0.00E+00	2.02E-02
		Cs-134	<1.76E-02	0.00E+00	1.76E-02
		Cs-137	<1.96E-02	0.00E+00	1.96E-02
		Be-7	<1.28E-01	0.00E+00	1.28E-01
		K-40	5.74E-01	2.20E-01	2.23E-01
484605	9/10/2018 - 9/17/2018	I-131	<2.02E-02	0.00E+00	2.02E-02
		Cs-134	<1.47E-02	0.00E+00	1.47E-02
		Cs-137	<1.27E-02	0.00E+00	1.27E-02
		Be-7	<9.62E-02	0.00E+00	9.62E-02
		K-40	4.65E-01	1.79E-01	1.62E-01
485032	9/17/2018 - 9/24/2018	I-131	<4.01E-02	0.00E+00	4.01E-02
		Cs-134	<1.67E-02	0.00E+00	1.67E-02
		Cs-137	<1.91E-02	0.00E+00	1.91E-02
		Be-7	<1.10E-01	0.00E+00	1.10E-01
		K-40	3.78E-01	2.03E-01	2.74E-01
485490	9/24/2018 - 10/1/2018	I-131	<2.08E-02	0.00E+00	2.08E-02
		Cs-134	<1.59E-02	0.00E+00	1.59E-02
		Cs-137	<1.78E-02	0.00E+00	1.78E-02
		Be-7	<1.18E-01	0.00E+00	1.18E-01
		K-40	4.94E-01	1.71E-01	1.14E-01
486162	10/1/2018 - 10/8/2018	I-131	<2.41E-02	0.00E+00	2.41E-02
		Cs-134	<1.47E-02	0.00E+00	1.47E-02
		Cs-137	<1.63E-02	0.00E+00	1.63E-02
		Be-7	<1.09E-01	0.00E+00	1.09E-01
		K-40	3.84E-01	1.65E-01	1.75E-01
486702	10/8/2018 - 10/15/2018	I-131	<2.17E-02	0.00E+00	2.17E-02
		Cs-134	<2.09E-02	0.00E+00	2.09E-02
		Cs-137	<1.51E-02	0.00E+00	1.51E-02
		Be-7	<1.38E-01	0.00E+00	1.38E-01
		K-40	<2.87E-01	0.00E+00	2.87E-01
487743	10/15/2018 - 10/22/2018	I-131	<2.34E-02	0.00E+00	2.34E-02
		Cs-134	<1.62E-02	0.00E+00	1.62E-02
		Cs-137	<1.86E-02	0.00E+00	1.86E-02
		Be-7	<9.67E-02	0.00E+00	9.67E-02
		K-40	5.85E-01	2.17E-01	2.33E-01
487988	10/22/2018 - 10/29/2018	I-131	<1.82E-02	0.00E+00	1.82E-02
		Cs-134	<1.74E-02	0.00E+00	1.74E-02
		Cs-137	<1.97E-02	0.00E+00	1.97E-02
		Be-7	<1.21E-01	0.00E+00	1.21E-01
		K-40	3.62E-01	1.66E-01	1.82E-01



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 125 [INDICATOR - SW @ 0.38 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
488479	10/29/2018 - 11/5/2018	I-131	<1.80E-02	0.00E+00	1.80E-02
		Cs-134	<1.68E-02	0.00E+00	1.68E-02
		Cs-137	<1.86E-02	0.00E+00	1.86E-02
		Be-7	<1.35E-01	0.00E+00	1.35E-01
		K-40	3.16E-01	1.35E-01	1.44E-01
488852	11/5/2018 - 11/12/2018	I-131	<1.86E-02	0.00E+00	1.86E-02
		Cs-134	<1.30E-02	0.00E+00	1.30E-02
		Cs-137	<1.95E-02	0.00E+00	1.95E-02
		Be-7	<1.32E-01	0.00E+00	1.32E-01
		K-40	5.54E-01	2.03E-01	2.00E-01
489155	11/12/2018 - 11/19/2018	I-131	<1.50E-02	0.00E+00	1.50E-02
		Cs-134	<1.66E-02	0.00E+00	1.66E-02
		Cs-137	<1.96E-02	0.00E+00	1.96E-02
		Be-7	<1.35E-01	0.00E+00	1.35E-01
		K-40	5.57E-01	1.92E-01	1.68E-01
489738	11/19/2018 - 11/26/2018	I-131	<2.19E-02	0.00E+00	2.19E-02
		Cs-134	<1.81E-02	0.00E+00	1.81E-02
		Cs-137	<1.66E-02	0.00E+00	1.66E-02
		Be-7	<1.43E-01	0.00E+00	1.43E-01
		K-40	5.87E-01	1.96E-01	1.65E-01
490160	11/26/2018 - 12/3/2018	I-131	<2.03E-02	0.00E+00	2.03E-02
		Cs-134	<2.13E-02	0.00E+00	2.13E-02
		Cs-137	<1.11E-02	0.00E+00	1.11E-02
		Be-7	<1.05E-01	0.00E+00	1.05E-01
		K-40	4.88E-01	1.97E-01	2.23E-01
490801	12/3/2018 - 12/10/2018	I-131	<2.10E-02	0.00E+00	2.10E-02
		Cs-134	<1.79E-02	0.00E+00	1.79E-02
		Cs-137	<1.70E-02	0.00E+00	1.70E-02
		Be-7	<1.37E-01	0.00E+00	1.37E-01
		K-40	<3.51E-01	0.00E+00	3.51E-01
491182	12/10/2018 - 12/18/2018	I-131	<2.83E-02	0.00E+00	2.83E-02
		Cs-134	<1.50E-02	0.00E+00	1.50E-02
		Cs-137	<1.29E-02	0.00E+00	1.29E-02
		Be-7	<8.35E-02	0.00E+00	8.35E-02
		K-40	<2.33E-01	0.00E+00	2.33E-01
491484	12/18/2018 - 12/26/2018	I-131	<2.35E-02	0.00E+00	2.35E-02
		Cs-134	<1.84E-02	0.00E+00	1.84E-02
		Cs-137	<1.30E-02	0.00E+00	1.30E-02
		Be-7	<1.00E-01	0.00E+00	1.00E-01
		K-40	3.65E-01	1.61E-01	1.83E-01
491762	12/26/2018 - 12/31/2018	I-131	<4.22E-02	0.00E+00	4.22E-02
		Cs-134	<2.93E-02	0.00E+00	2.93E-02
		Cs-137	<1.72E-02	0.00E+00	1.72E-02
		Be-7	<2.08E-01	0.00E+00	2.08E-01
		K-40	5.58E-01	2.64E-01	3.30E-01

Sample Point 133 [INDICATOR - ENE @ 6.23 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
465997	1/2/2018 - 1/8/2018	I-131	<2.53E-02	0.00E+00	2.53E-02
		Cs-134	<1.36E-02	0.00E+00	1.36E-02
		Cs-137	<2.00E-02	0.00E+00	2.00E-02
		Be-7	<1.39E-01	0.00E+00	1.39E-01
		K-40	6.83E-01	2.11E-01	4.12E-02



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 133 [INDICATOR - ENE @ 6.23 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466206	1/8/2018 - 1/15/2018	I-131	<2.08E-02	0.00E+00	2.08E-02
		Cs-134	<1.59E-02	0.00E+00	1.59E-02
		Cs-137	<2.04E-02	0.00E+00	2.04E-02
		Be-7	<1.00E-01	0.00E+00	1.00E-01
		K-40	5.54E-01	1.99E-01	1.92E-01
466392	1/15/2018 - 1/22/2018	I-131	<1.93E-02	0.00E+00	1.93E-02
		Cs-134	<1.73E-02	0.00E+00	1.73E-02
		Cs-137	<1.48E-02	0.00E+00	1.48E-02
		Be-7	<1.04E-01	0.00E+00	1.04E-01
		K-40	3.71E-01	1.94E-01	2.53E-01
466989	1/22/2018 - 1/29/2018	I-131	<2.29E-02	0.00E+00	2.29E-02
		Cs-134	<2.27E-02	0.00E+00	2.27E-02
		Cs-137	<1.52E-02	0.00E+00	1.52E-02
		Be-7	<1.00E-01	0.00E+00	1.00E-01
		K-40	6.09E-01	1.91E-01	1.31E-01
467339	1/29/2018 - 2/5/2018	I-131	<2.12E-02	0.00E+00	2.12E-02
		Cs-134	<1.68E-02	0.00E+00	1.68E-02
		Cs-137	<1.94E-02	0.00E+00	1.94E-02
		Be-7	<1.14E-01	0.00E+00	1.14E-01
		K-40	6.32E-01	2.10E-01	1.91E-01
467660	2/5/2018 - 2/12/2018	I-131	<1.89E-02	0.00E+00	1.89E-02
		Cs-134	<1.26E-02	0.00E+00	1.26E-02
		Cs-137	<1.84E-02	0.00E+00	1.84E-02
		Be-7	<1.47E-01	0.00E+00	1.47E-01
		K-40	5.54E-01	1.43E-01	3.49E-02
468440	2/12/2018 - 2/19/2018	I-131	<2.32E-02	0.00E+00	2.32E-02
		Cs-134	<1.93E-02	0.00E+00	1.93E-02
		Cs-137	<1.69E-02	0.00E+00	1.69E-02
		Be-7	<1.28E-01	0.00E+00	1.28E-01
		K-40	4.61E-01	1.86E-01	1.95E-01
468767	2/19/2018 - 2/26/2018	I-131	<2.24E-02	0.00E+00	2.24E-02
		Cs-134	<1.65E-02	0.00E+00	1.65E-02
		Cs-137	<1.46E-02	0.00E+00	1.46E-02
		Be-7	<1.36E-01	0.00E+00	1.36E-01
		K-40	5.45E-01	2.03E-01	2.12E-01
469573	2/26/2018 - 3/5/2018	I-131	<2.31E-02	0.00E+00	2.31E-02
		Cs-134	<1.86E-02	0.00E+00	1.86E-02
		Cs-137	<1.59E-02	0.00E+00	1.59E-02
		Be-7	<1.21E-01	0.00E+00	1.21E-01
		K-40	5.72E-01	2.03E-01	1.98E-01
470600	3/5/2018 - 3/12/2018	I-131	<1.90E-02	0.00E+00	1.90E-02
		Cs-134	<1.61E-02	0.00E+00	1.61E-02
		Cs-137	<1.81E-02	0.00E+00	1.81E-02
		Be-7	<1.24E-01	0.00E+00	1.24E-01
		K-40	5.92E-01	2.17E-01	2.32E-01
471162	3/12/2018 - 3/19/2018	I-131	<2.29E-02	0.00E+00	2.29E-02
		Cs-134	<1.87E-02	0.00E+00	1.87E-02
		Cs-137	<1.43E-02	0.00E+00	1.43E-02
		Be-7	<1.08E-01	0.00E+00	1.08E-01
		K-40	4.77E-01	1.99E-01	2.28E-01



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 133 [INDICATOR - ENE @ 6.23 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
471723	3/19/2018 - 3/26/2018	I-131	<1.79E-02	0.00E+00	1.79E-02
		Cs-134	<1.64E-02	0.00E+00	1.64E-02
		Cs-137	<2.05E-02	0.00E+00	2.05E-02
		Be-7	<1.16E-01	0.00E+00	1.16E-01
		K-40	4.12E-01	1.66E-01	1.58E-01
472511	3/26/2018 - 4/2/2018	I-131	<1.89E-02	0.00E+00	1.89E-02
		Cs-134	<2.24E-02	0.00E+00	2.24E-02
		Cs-137	<1.62E-02	0.00E+00	1.62E-02
		Be-7	<1.29E-01	0.00E+00	1.29E-01
		K-40	6.54E-01	1.92E-01	3.54E-02
472984	4/2/2018 - 4/9/2018	I-131	<1.82E-02	0.00E+00	1.82E-02
		Cs-134	<1.79E-02	0.00E+00	1.79E-02
		Cs-137	<1.73E-02	0.00E+00	1.73E-02
		Be-7	<1.19E-01	0.00E+00	1.19E-01
		K-40	4.20E-01	1.66E-01	1.53E-01
473270	4/9/2018 - 4/16/2018	I-131	<1.90E-02	0.00E+00	1.90E-02
		Cs-134	<1.74E-02	0.00E+00	1.74E-02
		Cs-137	<1.49E-02	0.00E+00	1.49E-02
		Be-7	<1.23E-01	0.00E+00	1.23E-01
		K-40	4.90E-01	1.97E-01	2.15E-01
473641	4/16/2018 - 4/23/2018	I-131	<2.06E-02	0.00E+00	2.06E-02
		Cs-134	<1.23E-02	0.00E+00	1.23E-02
		Cs-137	<2.04E-02	0.00E+00	2.04E-02
		Be-7	<1.29E-01	0.00E+00	1.29E-01
		K-40	3.44E-01	1.81E-01	2.35E-01
474155	4/23/2018 - 4/30/2018	I-131	<2.17E-02	0.00E+00	2.17E-02
		Cs-134	<2.02E-02	0.00E+00	2.02E-02
		Cs-137	<1.78E-02	0.00E+00	1.78E-02
		Be-7	<1.35E-01	0.00E+00	1.35E-01
		K-40	4.27E-01	1.95E-01	2.34E-01
474535	4/30/2018 - 5/7/2018	I-131	<1.94E-02	0.00E+00	1.94E-02
		Cs-134	<1.58E-02	0.00E+00	1.58E-02
		Cs-137	<1.73E-02	0.00E+00	1.73E-02
		Be-7	<1.15E-01	0.00E+00	1.15E-01
		K-40	4.20E-01	1.74E-01	1.80E-01
474898	5/7/2018 - 5/14/2018	I-131	<2.22E-02	0.00E+00	2.22E-02
		Cs-134	<1.95E-02	0.00E+00	1.95E-02
		Cs-137	<1.94E-02	0.00E+00	1.94E-02
		Be-7	<1.29E-01	0.00E+00	1.29E-01
		K-40	4.50E-01	1.86E-01	1.99E-01
475222	5/14/2018 - 5/21/2018	I-131	<2.29E-02	0.00E+00	2.29E-02
		Cs-134	<1.70E-02	0.00E+00	1.70E-02
		Cs-137	<1.75E-02	0.00E+00	1.75E-02
		Be-7	<1.27E-01	0.00E+00	1.27E-01
		K-40	7.28E-01	2.34E-01	2.34E-01
475541	5/21/2018 - 5/29/2018	I-131	<1.09E-02	0.00E+00	1.09E-02
		Cs-134	<1.12E-02	0.00E+00	1.12E-02
		Cs-137	<1.17E-02	0.00E+00	1.17E-02
		Be-7	<9.85E-02	0.00E+00	9.85E-02
		K-40	3.17E-01	1.20E-01	2.96E-02



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 133 [INDICATOR - ENE @ 6.23 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
476368	5/29/2018 - 6/4/2018	I-131	<2.21E-02	0.00E+00	2.21E-02
		Cs-134	<1.56E-02	0.00E+00	1.56E-02
		Cs-137	<1.50E-02	0.00E+00	1.50E-02
		Be-7	<1.59E-01	0.00E+00	1.59E-01
		K-40	5.67E-01	2.01E-01	1.52E-01
477384	6/4/2018 - 6/11/2018	I-131	<2.00E-02	0.00E+00	2.00E-02
		Cs-134	<1.61E-02	0.00E+00	1.61E-02
		Cs-137	<1.60E-02	0.00E+00	1.60E-02
		Be-7	<1.17E-01	0.00E+00	1.17E-01
		K-40	6.21E-01	1.86E-01	3.50E-02
478114	6/11/2018 - 6/18/2018	I-131	<2.06E-02	0.00E+00	2.06E-02
		Cs-134	<1.32E-02	0.00E+00	1.32E-02
		Cs-137	<1.02E-02	0.00E+00	1.02E-02
		Be-7	<1.24E-01	0.00E+00	1.24E-01
		K-40	4.88E-01	1.95E-01	2.14E-01
478428	6/18/2018 - 6/25/2018	I-131	<2.33E-02	0.00E+00	2.33E-02
		Cs-134	<1.37E-02	0.00E+00	1.37E-02
		Cs-137	<1.95E-02	0.00E+00	1.95E-02
		Be-7	<1.44E-01	0.00E+00	1.44E-01
		K-40	4.71E-01	1.77E-01	1.54E-01
478797	6/25/2018 - 7/2/2018	I-131	<2.07E-02	0.00E+00	2.07E-02
		Cs-134	<1.78E-02	0.00E+00	1.78E-02
		Cs-137	<1.58E-02	0.00E+00	1.58E-02
		Be-7	<1.16E-01	0.00E+00	1.16E-01
		K-40	4.12E-01	1.99E-01	2.54E-01
479206	7/2/2018 - 7/9/2018	I-131	<2.10E-02	0.00E+00	2.10E-02
		Cs-134	<1.68E-02	0.00E+00	1.68E-02
		Cs-137	<1.93E-02	0.00E+00	1.93E-02
		Be-7	<1.14E-01	0.00E+00	1.14E-01
		K-40	5.17E-01	1.80E-01	1.39E-01
479890	7/9/2018 - 7/16/2018	I-131	<2.18E-02	0.00E+00	2.18E-02
		Cs-134	<1.77E-02	0.00E+00	1.77E-02
		Cs-137	<1.89E-02	0.00E+00	1.89E-02
		Be-7	<9.24E-02	0.00E+00	9.24E-02
		K-40	4.92E-01	2.04E-01	2.38E-01
480251	7/16/2018 - 7/23/2018	I-131	<2.18E-02	0.00E+00	2.18E-02
		Cs-134	<1.55E-02	0.00E+00	1.55E-02
		Cs-137	<1.87E-02	0.00E+00	1.87E-02
		Be-7	<1.19E-01	0.00E+00	1.19E-01
		K-40	2.96E-01	1.76E-01	2.37E-01
481080	7/23/2018 - 7/30/2018	I-131	<2.09E-02	0.00E+00	2.09E-02
		Cs-134	<1.58E-02	0.00E+00	1.58E-02
		Cs-137	<1.86E-02	0.00E+00	1.86E-02
		Be-7	<1.20E-01	0.00E+00	1.20E-01
		K-40	5.67E-01	1.99E-01	1.90E-01
481522	7/30/2018 - 8/6/2018	I-131	<2.28E-02	0.00E+00	2.28E-02
		Cs-134	<1.68E-02	0.00E+00	1.68E-02
		Cs-137	<1.89E-02	0.00E+00	1.89E-02
		Be-7	<1.38E-01	0.00E+00	1.38E-01
		K-40	6.02E-01	1.98E-01	1.62E-01



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 133 [INDICATOR - ENE @ 6.23 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
481967	8/6/2018 - 8/13/2018	I-131	<2.17E-02	0.00E+00	2.17E-02
		Cs-134	<1.56E-02	0.00E+00	1.56E-02
		Cs-137	<1.39E-02	0.00E+00	1.39E-02
		Be-7	<1.24E-01	0.00E+00	1.24E-01
		K-40	3.91E-01	1.67E-01	1.74E-01
482487	8/13/2018 - 8/20/2018	I-131	<1.89E-02	0.00E+00	1.89E-02
		Cs-134	<1.29E-02	0.00E+00	1.29E-02
		Cs-137	<1.42E-02	0.00E+00	1.42E-02
		Be-7	<1.00E-01	0.00E+00	1.00E-01
		K-40	2.77E-01	1.20E-01	3.42E-02
482814	8/20/2018 - 8/27/2018	I-131	<1.50E-02	0.00E+00	1.50E-02
		Cs-134	<1.16E-02	0.00E+00	1.16E-02
		Cs-137	<1.32E-02	0.00E+00	1.32E-02
		Be-7	<8.82E-02	0.00E+00	8.82E-02
		K-40	<2.87E-01	0.00E+00	2.87E-01
483437	8/27/2018 - 9/4/2018	I-131	<1.59E-02	0.00E+00	1.59E-02
		Cs-134	<1.46E-02	0.00E+00	1.46E-02
		Cs-137	<9.43E-03	0.00E+00	9.43E-03
		Be-7	<1.02E-01	0.00E+00	1.02E-01
		K-40	1.97E-01	1.47E-01	2.15E-01
484024	9/4/2018 - 9/10/2018	I-131	<2.30E-02	0.00E+00	2.30E-02
		Cs-134	<1.86E-02	0.00E+00	1.86E-02
		Cs-137	<1.66E-02	0.00E+00	1.66E-02
		Be-7	<1.34E-01	0.00E+00	1.34E-01
		K-40	6.60E-01	2.06E-01	4.06E-02
484606	9/10/2018 - 9/17/2018	I-131	<1.43E-02	0.00E+00	1.43E-02
		Cs-134	<9.08E-03	0.00E+00	9.08E-03
		Cs-137	<1.34E-02	0.00E+00	1.34E-02
		Be-7	<1.04E-01	0.00E+00	1.04E-01
		K-40	2.18E-01	1.35E-01	1.71E-01
485033	9/17/2018 - 9/24/2018	I-131	<3.86E-02	0.00E+00	3.86E-02
		Cs-134	<1.60E-02	0.00E+00	1.60E-02
		Cs-137	<1.82E-02	0.00E+00	1.82E-02
		Be-7	<1.31E-01	0.00E+00	1.31E-01
		K-40	4.77E-01	1.80E-01	1.70E-01
485491	9/24/2018 - 10/1/2018	I-131	<2.38E-02	0.00E+00	2.38E-02
		Cs-134	<1.81E-02	0.00E+00	1.81E-02
		Cs-137	<1.37E-02	0.00E+00	1.37E-02
		Be-7	<1.19E-01	0.00E+00	1.19E-01
		K-40	3.37E-01	1.75E-01	2.19E-01
486163	10/1/2018 - 10/8/2018	I-131	<2.34E-02	0.00E+00	2.34E-02
		Cs-134	<1.41E-02	0.00E+00	1.41E-02
		Cs-137	<1.79E-02	0.00E+00	1.79E-02
		Be-7	<1.10E-01	0.00E+00	1.10E-01
		K-40	4.58E-01	2.03E-01	2.48E-01
486703	10/8/2018 - 10/15/2018	I-131	<2.41E-02	0.00E+00	2.41E-02
		Cs-134	<1.83E-02	0.00E+00	1.83E-02
		Cs-137	<1.72E-02	0.00E+00	1.72E-02
		Be-7	<1.04E-01	0.00E+00	1.04E-01
		K-40	4.72E-01	1.95E-01	2.15E-01



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 133 [INDICATOR - ENE @ 6.23 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
487744	10/15/2018 - 10/22/2018	I-131	<2.29E-02	0.00E+00	2.29E-02
		Cs-134	<1.59E-02	0.00E+00	1.59E-02
		Cs-137	<1.83E-02	0.00E+00	1.83E-02
		Be-7	<1.34E-01	0.00E+00	1.34E-01
		K-40	4.56E-01	1.73E-01	1.53E-01
487989	10/22/2018 - 10/29/2018	I-131	<1.75E-02	0.00E+00	1.75E-02
		Cs-134	<1.60E-02	0.00E+00	1.60E-02
		Cs-137	<1.75E-02	0.00E+00	1.75E-02
		Be-7	<1.27E-01	0.00E+00	1.27E-01
		K-40	5.18E-01	1.78E-01	1.32E-01
488480	10/29/2018 - 11/5/2018	I-131	<2.31E-02	0.00E+00	2.31E-02
		Cs-134	<1.70E-02	0.00E+00	1.70E-02
		Cs-137	<1.56E-02	0.00E+00	1.56E-02
		Be-7	<1.10E-01	0.00E+00	1.10E-01
		K-40	3.73E-01	1.59E-01	1.58E-01
488853	11/5/2018 - 11/12/2018	I-131	<2.15E-02	0.00E+00	2.15E-02
		Cs-134	<1.17E-02	0.00E+00	1.17E-02
		Cs-137	<1.68E-02	0.00E+00	1.68E-02
		Be-7	<1.06E-01	0.00E+00	1.06E-01
		K-40	4.12E-01	1.72E-01	1.75E-01
489156	11/12/2018 - 11/19/2018	I-131	<1.63E-02	0.00E+00	1.63E-02
		Cs-134	<1.43E-02	0.00E+00	1.43E-02
		Cs-137	<1.16E-02	0.00E+00	1.16E-02
		Be-7	<1.11E-01	0.00E+00	1.11E-01
		K-40	3.11E-01	1.49E-01	1.65E-01
489739	11/19/2018 - 11/26/2018	I-131	<2.05E-02	0.00E+00	2.05E-02
		Cs-134	<1.81E-02	0.00E+00	1.81E-02
		Cs-137	<1.75E-02	0.00E+00	1.75E-02
		Be-7	<1.13E-01	0.00E+00	1.13E-01
		K-40	4.82E-01	1.71E-01	1.22E-01
490161	11/26/2018 - 12/3/2018	I-131	<1.92E-02	0.00E+00	1.92E-02
		Cs-134	<1.77E-02	0.00E+00	1.77E-02
		Cs-137	<1.61E-02	0.00E+00	1.61E-02
		Be-7	<1.13E-01	0.00E+00	1.13E-01
		K-40	5.68E-01	2.22E-01	2.60E-01
490802	12/3/2018 - 12/10/2018	I-131	<2.13E-02	0.00E+00	2.13E-02
		Cs-134	<1.90E-02	0.00E+00	1.90E-02
		Cs-137	<2.04E-02	0.00E+00	2.04E-02
		Be-7	<1.20E-01	0.00E+00	1.20E-01
		K-40	3.55E-01	1.76E-01	2.14E-01
491183	12/10/2018 - 12/18/2018	I-131	<2.42E-02	0.00E+00	2.42E-02
		Cs-134	<1.41E-02	0.00E+00	1.41E-02
		Cs-137	<1.32E-02	0.00E+00	1.32E-02
		Be-7	<1.02E-01	0.00E+00	1.02E-01
		K-40	1.97E-01	1.04E-01	1.05E-01
491485	12/18/2018 - 12/26/2018	I-131	<2.26E-02	0.00E+00	2.26E-02
		Cs-134	<1.34E-02	0.00E+00	1.34E-02
		Cs-137	<1.40E-02	0.00E+00	1.40E-02
		Be-7	<1.09E-01	0.00E+00	1.09E-01
		K-40	3.78E-01	1.68E-01	1.98E-01



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 133 [INDICATOR - ENE @ 6.23 miles]

Sample ID:	491763	Sample Dates:	12/26/2018 - 12/31/2018	Nuclide	Activity	2 Sigma Error	MDA
				I-131	<4.21E-02	0.00E+00	4.21E-02
				Cs-134	<2.54E-02	0.00E+00	2.54E-02
				Cs-137	<1.87E-02	0.00E+00	1.87E-02
				Be-7	<1.91E-01	0.00E+00	1.91E-01
				K-40	7.42E-01	2.95E-01	3.42E-01

Sample Point 195 [INDICATOR - N @ 0.19 miles]

Sample ID:	465998	Sample Dates:	1/2/2018 - 1/8/2018	Nuclide	Activity	2 Sigma Error	MDA
				I-131	<2.73E-02	0.00E+00	2.73E-02
				Cs-134	<1.75E-02	0.00E+00	1.75E-02
				Cs-137	<2.34E-02	0.00E+00	2.34E-02
				Be-7	<1.56E-01	0.00E+00	1.56E-01
				K-40	5.72E-01	2.70E-01	3.51E-01

Sample ID:	466207	Sample Dates:	1/8/2018 - 1/15/2018	Nuclide	Activity	2 Sigma Error	MDA
				I-131	<1.92E-02	0.00E+00	1.92E-02
				Cs-134	<1.74E-02	0.00E+00	1.74E-02
				Cs-137	<1.74E-02	0.00E+00	1.74E-02
				Be-7	<1.04E-01	0.00E+00	1.04E-01
				K-40	2.93E-01	1.58E-01	1.95E-01

Sample ID:	466393	Sample Dates:	1/15/2018 - 1/22/2018	Nuclide	Activity	2 Sigma Error	MDA
				I-131	<1.97E-02	0.00E+00	1.97E-02
				Cs-134	<1.92E-02	0.00E+00	1.92E-02
				Cs-137	<1.74E-02	0.00E+00	1.74E-02
				Be-7	<9.69E-02	0.00E+00	9.69E-02
				K-40	6.62E-01	2.04E-01	1.52E-01

Sample ID:	466990	Sample Dates:	1/22/2018 - 1/29/2018	Nuclide	Activity	2 Sigma Error	MDA
				I-131	<2.03E-02	0.00E+00	2.03E-02
				Cs-134	<1.74E-02	0.00E+00	1.74E-02
				Cs-137	<1.85E-02	0.00E+00	1.85E-02
				Be-7	<1.25E-01	0.00E+00	1.25E-01
				K-40	6.23E-01	2.09E-01	2.01E-01

Sample ID:	467340	Sample Dates:	1/29/2018 - 2/5/2018	Nuclide	Activity	2 Sigma Error	MDA
				I-131	<2.13E-02	0.00E+00	2.13E-02
				Cs-134	<1.56E-02	0.00E+00	1.56E-02
				Cs-137	<1.34E-02	0.00E+00	1.34E-02
				Be-7	<1.26E-01	0.00E+00	1.26E-01
				K-40	<4.45E-01	0.00E+00	4.45E-01

Sample ID:	467661	Sample Dates:	2/5/2018 - 2/12/2018	Nuclide	Activity	2 Sigma Error	MDA
				I-131	<1.82E-02	0.00E+00	1.82E-02
				Cs-134	<1.99E-02	0.00E+00	1.99E-02
				Cs-137	<1.75E-02	0.00E+00	1.75E-02
				Be-7	<1.32E-01	0.00E+00	1.32E-01
				K-40	3.28E-01	1.79E-01	2.33E-01

Sample ID:	468441	Sample Dates:	2/12/2018 - 2/19/2018	Nuclide	Activity	2 Sigma Error	MDA
				I-131	<2.03E-02	0.00E+00	2.03E-02
				Cs-134	<1.74E-02	0.00E+00	1.74E-02
				Cs-137	<2.05E-02	0.00E+00	2.05E-02
				Be-7	<1.17E-01	0.00E+00	1.17E-01
				K-40	5.53E-01	1.96E-01	1.82E-01

Sample ID:	468768	Sample Dates:	2/19/2018 - 2/26/2018	Nuclide	Activity	2 Sigma Error	MDA
				I-131	<2.29E-02	0.00E+00	2.29E-02
				Cs-134	<1.68E-02	0.00E+00	1.68E-02
				Cs-137	<1.78E-02	0.00E+00	1.78E-02
				Be-7	<1.26E-01	0.00E+00	1.26E-01
				K-40	4.01E-01	1.69E-01	1.78E-01

Sample ID:	469574	Sample Dates:	2/26/2018 - 3/5/2018	Nuclide	Activity	2 Sigma Error	MDA
				I-131	<2.14E-02	0.00E+00	2.14E-02
				Cs-134	<1.96E-02	0.00E+00	1.96E-02
				Cs-137	<1.95E-02	0.00E+00	1.95E-02
				Be-7	<1.29E-01	0.00E+00	1.29E-01
				K-40	6.16E-01	2.15E-01	2.14E-01



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 195 [INDICATOR - N @ 0.19 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
470601	3/5/2018 - 3/12/2018	I-131	<1.90E-02	0.00E+00	1.90E-02
		Cs-134	<2.01E-02	0.00E+00	2.01E-02
		Cs-137	<1.99E-02	0.00E+00	1.99E-02
		Be-7	<1.12E-01	0.00E+00	1.12E-01
		K-40	5.07E-01	2.00E-01	2.15E-01
471163	3/12/2018 - 3/19/2018	I-131	<2.26E-02	0.00E+00	2.26E-02
		Cs-134	<1.99E-02	0.00E+00	1.99E-02
		Cs-137	<1.84E-02	0.00E+00	1.84E-02
		Be-7	<1.27E-01	0.00E+00	1.27E-01
		K-40	3.74E-01	1.96E-01	2.58E-01
471724	3/19/2018 - 3/26/2018	I-131	<2.24E-02	0.00E+00	2.24E-02
		Cs-134	<1.62E-02	0.00E+00	1.62E-02
		Cs-137	<1.78E-02	0.00E+00	1.78E-02
		Be-7	<1.29E-01	0.00E+00	1.29E-01
		K-40	4.35E-01	1.80E-01	1.93E-01
472512	3/26/2018 - 4/2/2018	I-131	<2.24E-02	0.00E+00	2.24E-02
		Cs-134	<1.65E-02	0.00E+00	1.65E-02
		Cs-137	<1.70E-02	0.00E+00	1.70E-02
		Be-7	<1.30E-01	0.00E+00	1.30E-01
		K-40	3.94E-01	1.82E-01	2.10E-01
472985	4/2/2018 - 4/9/2018	I-131	<2.33E-02	0.00E+00	2.33E-02
		Cs-134	<1.65E-02	0.00E+00	1.65E-02
		Cs-137	<1.77E-02	0.00E+00	1.77E-02
		Be-7	<1.24E-01	0.00E+00	1.24E-01
		K-40	4.42E-01	1.90E-01	2.18E-01
473271	4/9/2018 - 4/16/2018	I-131	<1.98E-02	0.00E+00	1.98E-02
		Cs-134	<1.68E-02	0.00E+00	1.68E-02
		Cs-137	<1.60E-02	0.00E+00	1.60E-02
		Be-7	<1.11E-01	0.00E+00	1.11E-01
		K-40	5.34E-01	2.09E-01	2.33E-01
473642	4/16/2018 - 4/23/2018	I-131	<1.98E-02	0.00E+00	1.98E-02
		Cs-134	<1.60E-02	0.00E+00	1.60E-02
		Cs-137	<1.72E-02	0.00E+00	1.72E-02
		Be-7	<1.04E-01	0.00E+00	1.04E-01
		K-40	3.72E-01	1.50E-01	1.27E-01
474156	4/23/2018 - 4/30/2018	I-131	<2.47E-02	0.00E+00	2.47E-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	<9.74E-02	0.00E+00	9.74E-02
		K-40	4.05E-01	2.11E-01	2.80E-01
474536	4/30/2018 - 5/7/2018	I-131	<2.06E-02	0.00E+00	2.06E-02
		Cs-134	<1.58E-02	0.00E+00	1.58E-02
		Cs-137	<1.63E-02	0.00E+00	1.63E-02
		Be-7	<1.34E-01	0.00E+00	1.34E-01
		K-40	4.44E-01	1.67E-01	1.39E-01
474899	5/7/2018 - 5/14/2018	I-131	<2.22E-02	0.00E+00	2.22E-02
		Cs-134	<1.61E-02	0.00E+00	1.61E-02
		Cs-137	<1.61E-02	0.00E+00	1.61E-02
		Be-7	<1.10E-01	0.00E+00	1.10E-01
		K-40	5.70E-01	1.90E-01	1.44E-01



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 195 [INDICATOR - N @ 0.19 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
475223	5/14/2018 - 5/21/2018	I-131	<1.99E-02	0.00E+00	1.99E-02
		Cs-134	<1.60E-02	0.00E+00	1.60E-02
		Cs-137	<1.92E-02	0.00E+00	1.92E-02
		Be-7	<1.19E-01	0.00E+00	1.19E-01
		K-40	4.95E-01	1.70E-01	1.24E-01
475542	5/21/2018 - 5/29/2018	I-131	<1.49E-02	0.00E+00	1.49E-02
		Cs-134	<1.55E-02	0.00E+00	1.55E-02
		Cs-137	<1.61E-02	0.00E+00	1.61E-02
		Be-7	<8.43E-02	0.00E+00	8.43E-02
		K-40	3.14E-01	1.26E-01	3.28E-02
476369	5/29/2018 - 6/4/2018	I-131	<1.99E-02	0.00E+00	1.99E-02
		Cs-134	<2.16E-02	0.00E+00	2.16E-02
		Cs-137	<1.76E-02	0.00E+00	1.76E-02
		Be-7	<1.50E-01	0.00E+00	1.50E-01
		K-40	5.42E-01	2.07E-01	1.95E-01
477385	6/4/2018 - 6/11/2018	I-131	<1.75E-02	0.00E+00	1.75E-02
		Cs-134	<2.31E-02	0.00E+00	2.31E-02
		Cs-137	<1.80E-02	0.00E+00	1.80E-02
		Be-7	<1.23E-01	0.00E+00	1.23E-01
		K-40	4.98E-01	1.94E-01	2.03E-01
478115	6/11/2018 - 6/18/2018	I-131	<2.41E-02	0.00E+00	2.41E-02
		Cs-134	<1.79E-02	0.00E+00	1.79E-02
		Cs-137	<1.63E-02	0.00E+00	1.63E-02
		Be-7	<1.09E-01	0.00E+00	1.09E-01
		K-40	4.70E-01	2.06E-01	2.55E-01
478429	6/18/2018 - 6/25/2018	I-131	<2.29E-02	0.00E+00	2.29E-02
		Cs-134	<1.41E-02	0.00E+00	1.41E-02
		Cs-137	<1.85E-02	0.00E+00	1.85E-02
		Be-7	<1.14E-01	0.00E+00	1.14E-01
		K-40	<3.82E-01	0.00E+00	3.82E-01
478798	6/25/2018 - 7/2/2018	I-131	<2.01E-02	0.00E+00	2.01E-02
		Cs-134	<1.99E-02	0.00E+00	1.99E-02
		Cs-137	<1.88E-02	0.00E+00	1.88E-02
		Be-7	<1.14E-01	0.00E+00	1.14E-01
		K-40	5.51E-01	2.07E-01	2.21E-01
479207	7/2/2018 - 7/9/2018	I-131	<1.71E-02	0.00E+00	1.71E-02
		Cs-134	<1.79E-02	0.00E+00	1.79E-02
		Cs-137	<1.53E-02	0.00E+00	1.53E-02
		Be-7	<1.16E-01	0.00E+00	1.16E-01
		K-40	4.86E-01	1.73E-01	1.33E-01
479891	7/9/2018 - 7/16/2018	I-131	<1.67E-02	0.00E+00	1.67E-02
		Cs-134	<9.92E-03	0.00E+00	9.92E-03
		Cs-137	<1.77E-02	0.00E+00	1.77E-02
		Be-7	6.51E-02	9.75E-02	1.62E-01
		K-40	4.98E-01	1.80E-01	1.65E-01
480252	7/16/2018 - 7/23/2018	I-131	<2.02E-02	0.00E+00	2.02E-02
		Cs-134	<1.74E-02	0.00E+00	1.74E-02
		Cs-137	<1.72E-02	0.00E+00	1.72E-02
		Be-7	<1.41E-01	0.00E+00	1.41E-01
		K-40	5.90E-01	1.84E-01	3.63E-02



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 195 [INDICATOR - N @ 0.19 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
481081	7/23/2018 - 7/30/2018	I-131	<2.45E-02	0.00E+00	2.45E-02
		Cs-134	<1.34E-02	0.00E+00	1.34E-02
		Cs-137	<1.58E-02	0.00E+00	1.58E-02
		Be-7	<1.15E-01	0.00E+00	1.15E-01
		K-40	5.69E-01	2.00E-01	1.91E-01
481523	7/30/2018 - 8/6/2018	I-131	<2.24E-02	0.00E+00	2.24E-02
		Cs-134	<1.87E-02	0.00E+00	1.87E-02
		Cs-137	<1.92E-02	0.00E+00	1.92E-02
		Be-7	<8.56E-02	0.00E+00	8.56E-02
		K-40	3.77E-01	1.65E-01	1.72E-01
481968	8/6/2018 - 8/13/2018	I-131	<2.20E-02	0.00E+00	2.20E-02
		Cs-134	<1.21E-02	0.00E+00	1.21E-02
		Cs-137	<1.76E-02	0.00E+00	1.76E-02
		Be-7	<1.14E-01	0.00E+00	1.14E-01
		K-40	3.86E-01	1.74E-01	2.00E-01
482488	8/13/2018 - 8/20/2018	I-131	<1.78E-02	0.00E+00	1.78E-02
		Cs-134	<1.53E-02	0.00E+00	1.53E-02
		Cs-137	<1.32E-02	0.00E+00	1.32E-02
		Be-7	<1.19E-01	0.00E+00	1.19E-01
		K-40	2.62E-01	1.48E-01	1.80E-01
482815	8/20/2018 - 8/27/2018	I-131	<1.78E-02	0.00E+00	1.78E-02
		Cs-134	<1.22E-02	0.00E+00	1.22E-02
		Cs-137	<1.39E-02	0.00E+00	1.39E-02
		Be-7	<7.01E-02	0.00E+00	7.01E-02
		K-40	3.00E-01	1.50E-01	1.66E-01
483438	8/27/2018 - 9/4/2018	I-131	<1.19E-02	0.00E+00	1.19E-02
		Cs-134	<1.24E-02	0.00E+00	1.24E-02
		Cs-137	<8.81E-03	0.00E+00	8.81E-03
		Be-7	<7.88E-02	0.00E+00	7.88E-02
		K-40	2.23E-01	1.09E-01	1.09E-01
484025	9/4/2018 - 9/10/2018	I-131	<2.25E-02	0.00E+00	2.25E-02
		Cs-134	<1.92E-02	0.00E+00	1.92E-02
		Cs-137	<1.95E-02	0.00E+00	1.95E-02
		Be-7	<1.08E-01	0.00E+00	1.08E-01
		K-40	3.57E-01	1.98E-01	2.56E-01
484607	9/10/2018 - 9/17/2018	I-131	<1.84E-02	0.00E+00	1.84E-02
		Cs-134	<1.20E-02	0.00E+00	1.20E-02
		Cs-137	<1.30E-02	0.00E+00	1.30E-02
		Be-7	<8.79E-02	0.00E+00	8.79E-02
		K-40	2.18E-01	1.61E-01	2.34E-01
485034	9/17/2018 - 9/24/2018	I-131	<3.97E-02	0.00E+00	3.97E-02
		Cs-134	<2.20E-02	0.00E+00	2.20E-02
		Cs-137	<1.95E-02	0.00E+00	1.95E-02
		Be-7	<1.31E-01	0.00E+00	1.31E-01
		K-40	4.92E-01	2.29E-01	3.00E-01
485492	9/24/2018 - 10/1/2018	I-131	<2.26E-02	0.00E+00	2.26E-02
		Cs-134	<1.66E-02	0.00E+00	1.66E-02
		Cs-137	<1.78E-02	0.00E+00	1.78E-02
		Be-7	<1.26E-01	0.00E+00	1.26E-01
		K-40	6.02E-01	1.82E-01	3.47E-02



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 195 [INDICATOR - N @ 0.19 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
486164	10/1/2018 - 10/8/2018	I-131	<2.18E-02	0.00E+00	2.18E-02
		Cs-134	<1.67E-02	0.00E+00	1.67E-02
		Cs-137	<1.63E-02	0.00E+00	1.63E-02
		Be-7	<1.33E-01	0.00E+00	1.33E-01
		K-40	4.41E-01	1.99E-01	2.44E-01
486704	10/8/2018 - 10/15/2018	I-131	<2.07E-02	0.00E+00	2.07E-02
		Cs-134	<2.03E-02	0.00E+00	2.03E-02
		Cs-137	<1.63E-02	0.00E+00	1.63E-02
		Be-7	<1.08E-01	0.00E+00	1.08E-01
		K-40	5.24E-01	1.84E-01	1.48E-01
487745	10/15/2018 - 10/22/2018	I-131	<2.63E-02	0.00E+00	2.63E-02
		Cs-134	<1.27E-02	0.00E+00	1.27E-02
		Cs-137	<1.66E-02	0.00E+00	1.66E-02
		Be-7	<1.12E-01	0.00E+00	1.12E-01
		K-40	3.89E-01	1.93E-01	2.45E-01
487990	10/22/2018 - 10/29/2018	I-131	<2.18E-02	0.00E+00	2.18E-02
		Cs-134	<1.60E-02	0.00E+00	1.60E-02
		Cs-137	<1.37E-02	0.00E+00	1.37E-02
		Be-7	<1.35E-01	0.00E+00	1.35E-01
		K-40	5.03E-01	1.81E-01	1.55E-01
488481	10/29/2018 - 11/5/2018	I-131	<2.03E-02	0.00E+00	2.03E-02
		Cs-134	<1.80E-02	0.00E+00	1.80E-02
		Cs-137	<1.77E-02	0.00E+00	1.77E-02
		Be-7	<1.17E-01	0.00E+00	1.17E-01
		K-40	<3.33E-01	0.00E+00	3.33E-01
488854	11/5/2018 - 11/12/2018	I-131	<2.33E-02	0.00E+00	2.33E-02
		Cs-134	<2.23E-02	0.00E+00	2.23E-02
		Cs-137	<2.00E-02	0.00E+00	2.00E-02
		Be-7	<1.11E-01	0.00E+00	1.11E-01
		K-40	5.48E-01	1.88E-01	1.41E-01
489157	11/12/2018 - 11/19/2018	I-131	<1.43E-02	0.00E+00	1.43E-02
		Cs-134	<9.99E-03	0.00E+00	9.99E-03
		Cs-137	<1.39E-02	0.00E+00	1.39E-02
		Be-7	<1.04E-01	0.00E+00	1.04E-01
		K-40	<2.83E-01	0.00E+00	2.83E-01
489740	11/19/2018 - 11/26/2018	I-131	<2.34E-02	0.00E+00	2.34E-02
		Cs-134	<1.52E-02	0.00E+00	1.52E-02
		Cs-137	<1.70E-02	0.00E+00	1.70E-02
		Be-7	<1.48E-01	0.00E+00	1.48E-01
		K-40	4.97E-01	1.90E-01	1.92E-01
490162	11/26/2018 - 12/3/2018	I-131	<2.30E-02	0.00E+00	2.30E-02
		Cs-134	<1.47E-02	0.00E+00	1.47E-02
		Cs-137	<1.68E-02	0.00E+00	1.68E-02
		Be-7	<9.82E-02	0.00E+00	9.82E-02
		K-40	4.66E-01	1.73E-01	1.55E-01
490803	12/3/2018 - 12/10/2018	I-131	<1.95E-02	0.00E+00	1.95E-02
		Cs-134	<1.80E-02	0.00E+00	1.80E-02
		Cs-137	<1.65E-02	0.00E+00	1.65E-02
		Be-7	<1.09E-01	0.00E+00	1.09E-01
		K-40	7.57E-01	2.09E-01	3.60E-02



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 195 [INDICATOR - N @ 0.19 miles]

Sample ID:	Sample Dates:		Nuclide	Activity	2 Sigma Error	MDA
491184	12/10/2018 - 12/18/2018		I-131	<2.08E-02	0.00E+00	2.08E-02
			Cs-134	<1.21E-02	0.00E+00	1.21E-02
			Cs-137	<1.44E-02	0.00E+00	1.44E-02
			Be-7	<7.76E-02	0.00E+00	7.76E-02
			K-40	<2.66E-01	0.00E+00	2.66E-01
491486	12/18/2018 - 12/26/2018		I-131	<2.12E-02	0.00E+00	2.12E-02
			Cs-134	<1.53E-02	0.00E+00	1.53E-02
			Cs-137	<1.65E-02	0.00E+00	1.65E-02
			Be-7	<1.09E-01	0.00E+00	1.09E-01
			K-40	3.48E-01	1.52E-01	1.66E-01
491764	12/26/2018 - 12/31/2018		I-131	<3.26E-02	0.00E+00	3.26E-02
			Cs-134	<2.56E-02	0.00E+00	2.56E-02
			Cs-137	<2.30E-02	0.00E+00	2.30E-02
			Be-7	<1.93E-01	0.00E+00	1.93E-01
			K-40	5.72E-01	2.68E-01	3.35E-01

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

Sample Point 155 [INDICATOR - NNE @ 4.87 miles]

Sample ID:	Sample Dates:		Nuclide	Activity	2 Sigma Error	MDA
479260	7/2/2018 - 7/2/2018	MIXEDCROPS	I-131	<1.75E+01	0.00E+00	1.75E+01
			Cs-134	<1.36E+01	0.00E+00	1.36E+01
			Cs-137	<1.21E+01	0.00E+00	1.21E+01
			Be-7	3.86E+01	7.67E+01	1.30E+02
			K-40	3.60E+03	4.56E+02	1.16E+02
482022	8/6/2018 - 8/6/2018	MIXEDCROPS	I-131	<1.05E+01	0.00E+00	1.05E+01
			Cs-134	<1.78E+01	0.00E+00	1.78E+01
			Cs-137	<1.26E+01	0.00E+00	1.26E+01
			Be-7	<1.03E+02	0.00E+00	1.03E+02
			K-40	3.10E+03	4.36E+02	1.32E+02
484076	9/4/2018 - 9/4/2018	MIXEDCROPS	I-131	<1.00E+01	0.00E+00	1.00E+01
			Cs-134	<1.05E+01	0.00E+00	1.05E+01
			Cs-137	<8.41E+00	0.00E+00	8.41E+00
			Be-7	<7.81E+01	0.00E+00	7.81E+01
			K-40	2.63E+03	4.03E+02	2.13E+02
486235	10/1/2018 - 10/1/2018	MIXEDCROPS	I-131	<1.11E+01	0.00E+00	1.11E+01
			Cs-134	<1.35E+01	0.00E+00	1.35E+01
			Cs-137	<1.50E+01	0.00E+00	1.50E+01
			Be-7	<9.66E+01	0.00E+00	9.66E+01
			K-40	2.76E+03	4.17E+02	2.24E+02
488907	11/5/2018 - 11/5/2018	MIXEDCROPS	I-131	<9.93E+00	0.00E+00	9.93E+00
			Cs-134	<1.05E+01	0.00E+00	1.05E+01
			Cs-137	<1.21E+01	0.00E+00	1.21E+01
			Be-7	7.42E+01	4.24E+01	8.61E+01
			K-40	3.33E+03	4.53E+02	1.17E+02
490854	12/3/2018 - 12/3/2018	MIXEDCROPS	I-131	<9.86E+00	0.00E+00	9.86E+00
			Cs-134	<1.31E+01	0.00E+00	1.31E+01
			Cs-137	<1.33E+01	0.00E+00	1.33E+01
			Be-7	<1.03E+02	0.00E+00	1.03E+02
			K-40	3.73E+03	4.96E+02	2.50E+02

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

Sample Point 101 [INDICATOR - E @ 3.31 miles]

Sample ID:	Sample Dates:		Nuclide	Activity	2 Sigma Error	MDA
466676	1/2/2018 - 1/29/2018		Beta	2.38E+00	9.32E-01	1.44E+00



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 101 [INDICATOR - E @ 3.31 miles]

Sample ID:	466676	Sample Dates:	1/2/2018 - 1/29/2018	Nuclide	Activity	2 Sigma Error	MDA
				Mn-54	<3.26E+00	0.00E+00	3.26E+00
				Co-58	<3.19E+00	0.00E+00	3.19E+00
				Fe-59	<9.68E+00	0.00E+00	9.68E+00
				Co-60	<2.95E+00	0.00E+00	2.95E+00
				Zn-65	<6.62E+00	0.00E+00	6.62E+00
				Zr-95	<6.03E+00	0.00E+00	6.03E+00
				Nb-95	<3.02E+00	0.00E+00	3.02E+00
				I-131	<1.18E+01	0.00E+00	1.18E+01
				Cs-134	<3.63E+00	0.00E+00	3.63E+00
				Cs-137	<3.48E+00	0.00E+00	3.48E+00
				BaLa-140	<7.66E+00	0.00E+00	7.66E+00
				Be-7	7.39E+00	1.14E+01	2.62E+01
				K-40	<4.93E+01	0.00E+00	4.93E+01

Sample ID:	468531	Sample Dates:	1/29/2018 - 2/26/2018	Nuclide	Activity	2 Sigma Error	MDA
				Beta	1.80E+00	9.06E-01	1.44E+00
				Mn-54	<2.70E+00	0.00E+00	2.70E+00
				Co-58	<3.18E+00	0.00E+00	3.18E+00
				Fe-59	<6.71E+00	0.00E+00	6.71E+00
				Co-60	<3.60E+00	0.00E+00	3.60E+00
				Zn-65	<7.70E+00	0.00E+00	7.70E+00
				Zr-95	<4.66E+00	0.00E+00	4.66E+00
				Nb-95	<3.93E+00	0.00E+00	3.93E+00
				I-131	<1.20E+01	0.00E+00	1.20E+01
				Cs-134	<3.48E+00	0.00E+00	3.48E+00
				Cs-137	<2.56E+00	0.00E+00	2.56E+00
				BaLa-140	<8.10E+00	0.00E+00	8.10E+00
				Be-7	<2.93E+01	0.00E+00	2.93E+01
				K-40	<5.32E+01	0.00E+00	5.32E+01

Sample ID:	471519	Sample Dates:	2/26/2018 - 3/26/2018	Nuclide	Activity	2 Sigma Error	MDA
				Beta	1.43E+00	7.56E-01	1.21E+00
				Mn-54	<1.91E+00	0.00E+00	1.91E+00
				Co-58	<2.42E+00	0.00E+00	2.42E+00
				Fe-59	<4.52E+00	0.00E+00	4.52E+00
				Co-60	<2.11E+00	0.00E+00	2.11E+00
				Zn-65	<4.07E+00	0.00E+00	4.07E+00
				Zr-95	<4.94E+00	0.00E+00	4.94E+00
				Nb-95	<3.10E+00	0.00E+00	3.10E+00
				I-131	<1.16E+01	0.00E+00	1.16E+01
				Cs-134	<2.19E+00	0.00E+00	2.19E+00
				Cs-137	<2.27E+00	0.00E+00	2.27E+00
				BaLa-140	<7.46E+00	0.00E+00	7.46E+00
				Be-7	<1.81E+01	0.00E+00	1.81E+01
				K-40	4.54E+01	2.12E+01	2.89E+01

Sample ID:	467524	Sample Dates:	1/2/2018 - 4/23/2018	Nuclide	Activity	2 Sigma Error	MDA
				H3DW	6.19E+02	1.23E+02	1.77E+02

Sample ID:	473431	Sample Dates:	3/26/2018 - 4/23/2018	Nuclide	Activity	2 Sigma Error	MDA
				Beta	7.40E-01	8.59E-01	1.44E+00
				Mn-54	<2.49E+00	0.00E+00	2.49E+00
				Co-58	<2.48E+00	0.00E+00	2.48E+00
				Fe-59	<6.71E+00	0.00E+00	6.71E+00
				Co-60	<2.27E+00	0.00E+00	2.27E+00
				Zn-65	<6.76E+00	0.00E+00	6.76E+00
				Zr-95	<6.09E+00	0.00E+00	6.09E+00
				Nb-95	<4.71E+00	0.00E+00	4.71E+00
				I-131	<1.05E+01	0.00E+00	1.05E+01
				Cs-134	<3.71E+00	0.00E+00	3.71E+00
				Cs-137	<2.53E+00	0.00E+00	2.53E+00
				BaLa-140	<8.79E+00	0.00E+00	8.79E+00
				Be-7	<3.34E+01	0.00E+00	3.34E+01
				K-40	4.46E+01	3.15E+01	4.62E+01

Sample ID:	474995	Sample Dates:	4/23/2018 - 5/21/2018	Nuclide	Activity	2 Sigma Error	MDA
				Beta	1.17E+00	9.04E-01	1.48E+00
				Mn-54	<2.45E+00	0.00E+00	2.45E+00



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 101 [INDICATOR - E @ 3.31 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
474995	4/23/2018 - 5/21/2018	Co-58	<2.91E+00	0.00E+00	2.91E+00
		Fe-59	<7.33E+00	0.00E+00	7.33E+00
		Co-60	<3.06E+00	0.00E+00	3.06E+00
		Zn-65	<5.15E+00	0.00E+00	5.15E+00
		Zr-95	<5.98E+00	0.00E+00	5.98E+00
		Nb-95	<4.38E+00	0.00E+00	4.38E+00
		I-131	<1.20E+01	0.00E+00	1.20E+01
		Cs-134	<2.53E+00	0.00E+00	2.53E+00
		Cs-137	<3.58E+00	0.00E+00	3.58E+00
		BaLa-140	<1.79E+00	0.00E+00	1.79E+00
		Be-7	<2.89E+01	0.00E+00	2.89E+01
		K-40	<6.32E+01	0.00E+00	6.32E+01
		477658	5/21/2018 - 6/18/2018	Beta	7.20E-01
Mn-54	<2.64E+00			0.00E+00	2.64E+00
Co-58	<2.32E+00			0.00E+00	2.32E+00
Fe-59	<6.32E+00			0.00E+00	6.32E+00
Co-60	<2.48E+00			0.00E+00	2.48E+00
Zn-65	<4.57E+00			0.00E+00	4.57E+00
Zr-95	<5.96E+00			0.00E+00	5.96E+00
Nb-95	<3.09E+00			0.00E+00	3.09E+00
I-131	<1.08E+01			0.00E+00	1.08E+01
Cs-134	<3.02E+00			0.00E+00	3.02E+00
Cs-137	<2.12E+00			0.00E+00	2.12E+00
BaLa-140	<6.45E+00			0.00E+00	6.45E+00
Be-7	1.25E+01			1.43E+01	2.31E+01
K-40	4.22E+01	2.19E+01	2.66E+01		
474721	4/23/2018 - 7/16/2018	Nuclide	Activity	2 Sigma Error	MDA
		H3DW	7.39E+02	1.33E+02	1.88E+02
479526	6/18/2018 - 7/16/2018	Beta	2.00E+00	7.54E-01	1.16E+00
		Mn-54	<3.21E+00	0.00E+00	3.21E+00
		Co-58	<3.55E+00	0.00E+00	3.55E+00
		Fe-59	<9.35E+00	0.00E+00	9.35E+00
		Co-60	<7.79E-01	0.00E+00	7.79E-01
		Zn-65	<6.35E+00	0.00E+00	6.35E+00
		Zr-95	<6.28E+00	0.00E+00	6.28E+00
		Nb-95	<5.29E+00	0.00E+00	5.29E+00
		I-131	<1.19E+01	0.00E+00	1.19E+01
		Cs-134	<3.77E+00	0.00E+00	3.77E+00
		Cs-137	<3.76E+00	0.00E+00	3.76E+00
		BaLa-140	<1.00E+01	0.00E+00	1.00E+01
		Be-7	<3.01E+01	0.00E+00	3.01E+01
K-40	2.85E+01	3.26E+01	5.24E+01		
481618	7/16/2018 - 8/13/2018	Beta	1.88E+00	8.84E-01	1.39E+00
		Mn-54	<2.57E+00	0.00E+00	2.57E+00
		Co-58	<3.12E+00	0.00E+00	3.12E+00
		Fe-59	<5.81E+00	0.00E+00	5.81E+00
		Co-60	<2.49E+00	0.00E+00	2.49E+00
		Zn-65	<6.54E+00	0.00E+00	6.54E+00
		Zr-95	<6.10E+00	0.00E+00	6.10E+00
		Nb-95	<4.63E+00	0.00E+00	4.63E+00
		I-131	<1.07E+01	0.00E+00	1.07E+01
		Cs-134	<3.36E+00	0.00E+00	3.36E+00
		Cs-137	<3.13E+00	0.00E+00	3.13E+00
		BaLa-140	<6.94E+00	0.00E+00	6.94E+00
		Be-7	<2.12E+01	0.00E+00	2.12E+01
K-40	<4.95E+01	0.00E+00	4.95E+01		
483529	8/13/2018 - 9/10/2018	Nuclide	Activity	2 Sigma Error	MDA
		Beta	1.29E+00	8.57E-01	1.39E+00
		Mn-54	<3.45E+00	0.00E+00	3.45E+00
Co-58	<3.38E+00	0.00E+00	3.38E+00		



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 101 [INDICATOR - E @ 3.31 miles]

Sample ID	Sample Dates	Nuclide	Activity	2 Sigma Error	MDA
483529	8/13/2018 - 9/10/2018	Fe-59	<7.64E+00	0.00E+00	7.64E+00
		Co-60	<1.81E+00	0.00E+00	1.81E+00
		Zn-65	<7.18E+00	0.00E+00	7.18E+00
		Zr-95	<6.51E+00	0.00E+00	6.51E+00
		Nb-95	<4.25E+00	0.00E+00	4.25E+00
		I-131	<1.10E+01	0.00E+00	1.10E+01
		Cs-134	<4.09E+00	0.00E+00	4.09E+00
		Cs-137	<3.22E+00	0.00E+00	3.22E+00
		BaLa-140	<7.11E+00	0.00E+00	7.11E+00
		Be-7	<2.95E+01	0.00E+00	2.95E+01
		K-40	5.08E+01	2.93E+01	3.73E+01
		481623	7/16/2018 - 10/8/2018	H3DW	5.84E+02
485848	9/10/2018 - 10/8/2018			Beta	<3.05E-01
		Mn-54	<3.82E+00	0.00E+00	3.82E+00
		Co-58	<2.47E+00	0.00E+00	2.47E+00
		Fe-59	<6.78E+00	0.00E+00	6.78E+00
		Co-60	<3.00E+00	0.00E+00	3.00E+00
		Zn-65	<9.42E+00	0.00E+00	9.42E+00
		Zr-95	<6.17E+00	0.00E+00	6.17E+00
		Nb-95	<5.16E+00	0.00E+00	5.16E+00
		I-131	<1.18E+01	0.00E+00	1.18E+01
		Cs-134	<4.46E+00	0.00E+00	4.46E+00
		Cs-137	<4.55E+00	0.00E+00	4.55E+00
		BaLa-140	<9.23E+00	0.00E+00	9.23E+00
		Be-7	<3.11E+01	0.00E+00	3.11E+01
		K-40	<6.83E+01	0.00E+00	6.83E+01
		488196	10/8/2018 - 11/5/2018	Beta	1.56E+00
Mn-54	<2.92E+00			0.00E+00	2.92E+00
Co-58	<3.82E+00			0.00E+00	3.82E+00
Fe-59	<8.16E+00			0.00E+00	8.16E+00
Co-60	<2.99E+00			0.00E+00	2.99E+00
Zn-65	<6.70E+00			0.00E+00	6.70E+00
Zr-95	<7.36E+00			0.00E+00	7.36E+00
Nb-95	<4.45E+00			0.00E+00	4.45E+00
I-131	<1.15E+01			0.00E+00	1.15E+01
Cs-134	<3.83E+00			0.00E+00	3.83E+00
Cs-137	<3.50E+00			0.00E+00	3.50E+00
BaLa-140	<8.91E+00			0.00E+00	8.91E+00
Be-7	<3.13E+01			0.00E+00	3.13E+01
K-40	<5.55E+01			0.00E+00	5.55E+01
490025	11/5/2018 - 12/3/2018			Beta	2.76E+00
		Mn-54	<1.24E+00	0.00E+00	1.24E+00
		Co-58	<1.80E+00	0.00E+00	1.80E+00
		Fe-59	<3.88E+00	0.00E+00	3.88E+00
		Co-60	<1.35E+00	0.00E+00	1.35E+00
		Zn-65	<2.71E+00	0.00E+00	2.71E+00
		Zr-95	<2.99E+00	0.00E+00	2.99E+00
		Nb-95	<2.09E+00	0.00E+00	2.09E+00
		I-131	<1.20E+01	0.00E+00	1.20E+01
		Cs-134	<1.45E+00	0.00E+00	1.45E+00
		Cs-137	<1.26E+00	0.00E+00	1.26E+00
		BaLa-140	<4.47E+00	0.00E+00	4.47E+00
		Be-7	<1.55E+01	0.00E+00	1.55E+01
		K-40	2.12E+01	8.93E+00	1.43E+01
		488739	10/8/2018 - 12/31/2018	H3DW	3.99E+02
491610	12/3/2018 - 12/31/2018			Beta	1.89E+00



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 101 [INDICATOR - E @ 3.31 miles]

Sample ID:	491610	Sample Dates:	12/3/2018 - 12/31/2018	Nuclide	Activity	2 Sigma Error	MDA
				Mn-54	<2.82E+00	0.00E+00	2.82E+00
				Co-58	<2.57E+00	0.00E+00	2.57E+00
				Fe-59	<3.71E+00	0.00E+00	3.71E+00
				Co-60	<2.81E+00	0.00E+00	2.81E+00
				Zn-65	<4.25E+00	0.00E+00	4.25E+00
				Zr-95	<4.75E+00	0.00E+00	4.75E+00
				Nb-95	<4.11E+00	0.00E+00	4.11E+00
				I-131	<1.17E+01	0.00E+00	1.17E+01
				Cs-134	<2.54E+00	0.00E+00	2.54E+00
				Cs-137	<1.66E+00	0.00E+00	1.66E+00
				BaLa-140	<9.31E+00	0.00E+00	9.31E+00
				Be-7	<2.44E+01	0.00E+00	2.44E+01
				K-40	3.63E+01	2.23E+01	3.09E+01

Sample Point 119 [INDICATOR - SSW @ 7.4 miles]

Sample ID:	466677	Sample Dates:	1/2/2018 - 1/29/2018	Nuclide	Activity	2 Sigma Error	MDA
				Beta	1.47E+00	8.79E-01	1.42E+00
				Mn-54	<3.14E+00	0.00E+00	3.14E+00
				Co-58	<4.78E+00	0.00E+00	4.78E+00
				Fe-59	<6.72E+00	0.00E+00	6.72E+00
				Co-60	<2.37E+00	0.00E+00	2.37E+00
				Zn-65	<5.48E+00	0.00E+00	5.48E+00
				Zr-95	<7.77E+00	0.00E+00	7.77E+00
				Nb-95	<4.88E+00	0.00E+00	4.88E+00
				I-131	<8.83E+00	0.00E+00	8.83E+00
				Cs-134	<3.74E+00	0.00E+00	3.74E+00
				Cs-137	<3.48E+00	0.00E+00	3.48E+00
				BaLa-140	<7.82E+00	0.00E+00	7.82E+00
				Be-7	<4.14E+01	0.00E+00	4.14E+01
				K-40	<5.56E+01	0.00E+00	5.56E+01

Sample ID:	468532	Sample Dates:	1/29/2018 - 2/26/2018	Nuclide	Activity	2 Sigma Error	MDA
				Beta	2.61E+00	9.29E-01	1.42E+00
				Mn-54	<2.40E+00	0.00E+00	2.40E+00
				Co-58	<3.46E+00	0.00E+00	3.46E+00
				Fe-59	<5.83E+00	0.00E+00	5.83E+00
				Co-60	<2.94E+00	0.00E+00	2.94E+00
				Zn-65	<6.34E+00	0.00E+00	6.34E+00
				Zr-95	<4.74E+00	0.00E+00	4.74E+00
				Nb-95	<3.12E+00	0.00E+00	3.12E+00
				I-131	<1.15E+01	0.00E+00	1.15E+01
				Cs-134	<2.45E+00	0.00E+00	2.45E+00
				Cs-137	<2.14E+00	0.00E+00	2.14E+00
				BaLa-140	<5.31E+00	0.00E+00	5.31E+00
				Be-7	<2.33E+01	0.00E+00	2.33E+01
				K-40	<4.61E+01	0.00E+00	4.61E+01

Sample ID:	471520	Sample Dates:	2/26/2018 - 3/26/2018	Nuclide	Activity	2 Sigma Error	MDA
				Beta	1.29E+00	7.45E-01	1.20E+00
				Mn-54	<1.80E+00	0.00E+00	1.80E+00
				Co-58	<2.43E+00	0.00E+00	2.43E+00
				Fe-59	<4.34E+00	0.00E+00	4.34E+00
				Co-60	<2.16E+00	0.00E+00	2.16E+00
				Zn-65	<4.46E+00	0.00E+00	4.46E+00
				Zr-95	<4.34E+00	0.00E+00	4.34E+00
				Nb-95	<2.58E+00	0.00E+00	2.58E+00
				I-131	<1.13E+01	0.00E+00	1.13E+01
				Cs-134	<2.12E+00	0.00E+00	2.12E+00
				Cs-137	<1.88E+00	0.00E+00	1.88E+00
				BaLa-140	<8.43E+00	0.00E+00	8.43E+00
				Be-7	<2.08E+01	0.00E+00	2.08E+01
				K-40	<3.07E+01	0.00E+00	3.07E+01

Sample ID:	467525	Sample Dates:	1/2/2018 - 4/23/2018	Nuclide	Activity	2 Sigma Error	MDA
				H3DW	5.31E+02	1.21E+02	1.77E+02



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 119 [INDICATOR - SSW @ 7.4 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
473432	3/26/2018 - 4/23/2018	Beta	2.00E+00	9.00E-01	1.41E+00
		Mn-54	<3.15E+00	0.00E+00	3.15E+00
		Co-58	<2.89E+00	0.00E+00	2.89E+00
		Fe-59	<6.29E+00	0.00E+00	6.29E+00
		Co-60	<2.95E+00	0.00E+00	2.95E+00
		Zn-65	<3.91E+00	0.00E+00	3.91E+00
		Zr-95	<3.86E+00	0.00E+00	3.86E+00
		Nb-95	<3.91E+00	0.00E+00	3.91E+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	<2.15E+00	0.00E+00	2.15E+00
		BaLa-140	<7.00E+00	0.00E+00	7.00E+00
		Be-7	<2.82E+01	0.00E+00	2.82E+01
		K-40	3.43E+01	2.02E+01	2.45E+01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
474996	4/23/2018 - 5/21/2018	Beta	1.23E+00	8.87E-01	1.45E+00
		Mn-54	<3.43E+00	0.00E+00	3.43E+00
		Co-58	<2.76E+00	0.00E+00	2.76E+00
		Fe-59	<7.23E+00	0.00E+00	7.23E+00
		Co-60	<3.14E+00	0.00E+00	3.14E+00
		Zn-65	<5.80E+00	0.00E+00	5.80E+00
		Zr-95	<5.38E+00	0.00E+00	5.38E+00
		Nb-95	<3.82E+00	0.00E+00	3.82E+00
		I-131	<1.12E+01	0.00E+00	1.12E+01
		Cs-134	<2.76E+00	0.00E+00	2.76E+00
		Cs-137	<3.05E+00	0.00E+00	3.05E+00
		BaLa-140	<9.26E+00	0.00E+00	9.26E+00
		Be-7	<2.87E+01	0.00E+00	2.87E+01
		K-40	2.40E+01	2.48E+01	3.92E+01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
477659	5/21/2018 - 6/18/2018	Beta	1.38E+00	8.92E-01	1.45E+00
		Mn-54	<2.57E+00	0.00E+00	2.57E+00
		Co-58	<3.85E+00	0.00E+00	3.85E+00
		Fe-59	<8.05E+00	0.00E+00	8.05E+00
		Co-60	<2.94E+00	0.00E+00	2.94E+00
		Zn-65	<5.82E+00	0.00E+00	5.82E+00
		Zr-95	<7.21E+00	0.00E+00	7.21E+00
		Nb-95	<4.69E+00	0.00E+00	4.69E+00
		I-131	<1.12E+01	0.00E+00	1.12E+01
		Cs-134	<3.61E+00	0.00E+00	3.61E+00
		Cs-137	<3.25E+00	0.00E+00	3.25E+00
		BaLa-140	<8.87E+00	0.00E+00	8.87E+00
		Be-7	<3.63E+01	0.00E+00	3.63E+01
		K-40	<5.11E+01	0.00E+00	5.11E+01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
474722	4/23/2018 - 7/16/2018	H3DW	3.63E+02	1.21E+02	1.87E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
479527	6/18/2018 - 7/16/2018	Beta	2.11E+00	7.55E-01	1.15E+00
		Mn-54	<2.96E+00	0.00E+00	2.96E+00
		Co-58	<3.59E+00	0.00E+00	3.59E+00
		Fe-59	<6.90E+00	0.00E+00	6.90E+00
		Co-60	<3.53E+00	0.00E+00	3.53E+00
		Zn-65	<6.49E+00	0.00E+00	6.49E+00
		Zr-95	<6.88E+00	0.00E+00	6.88E+00
		Nb-95	<4.90E+00	0.00E+00	4.90E+00
		I-131	<1.15E+01	0.00E+00	1.15E+01
		Cs-134	<3.11E+00	0.00E+00	3.11E+00
		Cs-137	<3.75E+00	0.00E+00	3.75E+00
		BaLa-140	<7.53E+00	0.00E+00	7.53E+00
		Be-7	<3.16E+01	0.00E+00	3.16E+01
		K-40	3.90E+01	3.82E+01	6.05E+01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
481619	7/16/2018 - 8/13/2018	Beta	1.60E+00	8.57E-01	1.36E+00



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 119 [INDICATOR - SSW @ 7.4 miles]

Sample ID:	481619	Sample Dates:	7/16/2018 - 8/13/2018	Nuclide	Activity	2 Sigma Error	MDA
				Mn-54	<2.82E+00	0.00E+00	2.82E+00
				Co-58	<3.34E+00	0.00E+00	3.34E+00
				Fe-59	<5.71E+00	0.00E+00	5.71E+00
				Co-60	<1.98E+00	0.00E+00	1.98E+00
				Zn-65	<6.48E+00	0.00E+00	6.48E+00
				Zr-95	<7.93E+00	0.00E+00	7.93E+00
				Nb-95	<4.53E+00	0.00E+00	4.53E+00
				I-131	<1.19E+01	0.00E+00	1.19E+01
				Cs-134	<3.86E+00	0.00E+00	3.86E+00
				Cs-137	<2.32E+00	0.00E+00	2.32E+00
				BaLa-140	<8.97E+00	0.00E+00	8.97E+00
				Be-7	<3.51E+01	0.00E+00	3.51E+01
				K-40	5.73E+01	2.71E+01	2.40E+01

Sample ID:	483530	Sample Dates:	8/13/2018 - 9/10/2018	Nuclide	Activity	2 Sigma Error	MDA
				Beta	1.94E+00	8.69E-01	1.36E+00
				Mn-54	<3.25E+00	0.00E+00	3.25E+00
				Co-58	<4.35E+00	0.00E+00	4.35E+00
				Fe-59	<7.81E+00	0.00E+00	7.81E+00
				Co-60	<3.98E+00	0.00E+00	3.98E+00
				Zn-65	<7.33E+00	0.00E+00	7.33E+00
				Zr-95	<7.70E+00	0.00E+00	7.70E+00
				Nb-95	<5.33E+00	0.00E+00	5.33E+00
				I-131	<1.19E+01	0.00E+00	1.19E+01
				Cs-134	<4.58E+00	0.00E+00	4.58E+00
				Cs-137	<3.81E+00	0.00E+00	3.81E+00
				BaLa-140	<9.58E+00	0.00E+00	9.58E+00
				Be-7	<3.73E+01	0.00E+00	3.73E+01
				K-40	<6.18E+01	0.00E+00	6.18E+01

Sample ID:	481624	Sample Dates:	7/16/2018 - 10/8/2018	Nuclide	Activity	2 Sigma Error	MDA
				H3DW	3.82E+02	1.19E+02	1.83E+02

Sample ID:	485849	Sample Dates:	9/10/2018 - 10/8/2018	Nuclide	Activity	2 Sigma Error	MDA
				Beta	8.57E-01	8.66E-01	1.44E+00
				Mn-54	<3.17E+00	0.00E+00	3.17E+00
				Co-58	<4.84E+00	0.00E+00	4.84E+00
				Fe-59	<4.65E+00	0.00E+00	4.65E+00
				Co-60	<4.85E+00	0.00E+00	4.85E+00
				Zn-65	<7.80E+00	0.00E+00	7.80E+00
				Zr-95	<6.66E+00	0.00E+00	6.66E+00
				Nb-95	<4.95E+00	0.00E+00	4.95E+00
				I-131	<1.19E+01	0.00E+00	1.19E+01
				Cs-134	<3.22E+00	0.00E+00	3.22E+00
				Cs-137	<3.90E+00	0.00E+00	3.90E+00
				BaLa-140	<9.24E+00	0.00E+00	9.24E+00
				Be-7	<3.51E+01	0.00E+00	3.51E+01
				K-40	<6.03E+01	0.00E+00	6.03E+01

Sample ID:	488197	Sample Dates:	10/8/2018 - 11/5/2018	Nuclide	Activity	2 Sigma Error	MDA
				Beta	1.59E+00	8.50E-01	1.35E+00
				Mn-54	<3.03E+00	0.00E+00	3.03E+00
				Co-58	<3.45E+00	0.00E+00	3.45E+00
				Fe-59	<5.42E+00	0.00E+00	5.42E+00
				Co-60	<2.77E+00	0.00E+00	2.77E+00
				Zn-65	<5.73E+00	0.00E+00	5.73E+00
				Zr-95	<4.99E+00	0.00E+00	4.99E+00
				Nb-95	<3.14E+00	0.00E+00	3.14E+00
				I-131	<1.07E+01	0.00E+00	1.07E+01
				Cs-134	<3.16E+00	0.00E+00	3.16E+00
				Cs-137	<2.57E+00	0.00E+00	2.57E+00
				BaLa-140	<9.21E+00	0.00E+00	9.21E+00
				Be-7	<3.05E+01	0.00E+00	3.05E+01
				K-40	2.91E+01	2.36E+01	3.50E+01

Sample ID:	490026	Sample Dates:	11/5/2018 - 12/3/2018	Nuclide	Activity	2 Sigma Error	MDA
				Beta	2.07E+00	8.55E-01	1.32E+00
				Mn-54	<1.54E+00	0.00E+00	1.54E+00



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 119 [INDICATOR - SSW @ 7.4 miles]

Sample ID:	490026	Sample Dates:	11/5/2018 - 12/3/2018	Nuclide	Activity	2 Sigma Error	MDA
				Co-58	<2.08E+00	0.00E+00	2.08E+00
				Fe-59	<3.86E+00	0.00E+00	3.86E+00
				Co-60	<1.77E+00	0.00E+00	1.77E+00
				Zn-65	<3.54E+00	0.00E+00	3.54E+00
				Zr-95	<3.42E+00	0.00E+00	3.42E+00
				Nb-95	<2.43E+00	0.00E+00	2.43E+00
				I-131	<1.10E+01	0.00E+00	1.10E+01
				Cs-134	<1.76E+00	0.00E+00	1.76E+00
				Cs-137	<2.00E+00	0.00E+00	2.00E+00
				BaLa-140	<5.84E+00	0.00E+00	5.84E+00
				Be-7	<1.75E+01	0.00E+00	1.75E+01
				K-40	3.88E+01	1.83E+01	2.59E+01

Sample ID:	488740	Sample Dates:	10/8/2018 - 12/31/2018	Nuclide	Activity	2 Sigma Error	MDA
				H3DW	2.51E+02	1.17E+02	1.88E+02

Sample ID:	491611	Sample Dates:	12/3/2018 - 12/31/2018	Nuclide	Activity	2 Sigma Error	MDA
				Beta	2.13E+00	1.47E+00	2.42E+00
				Mn-54	<1.41E+00	0.00E+00	1.41E+00
				Co-58	<1.70E+00	0.00E+00	1.70E+00
				Fe-59	<3.38E+00	0.00E+00	3.38E+00
				Co-60	<1.61E+00	0.00E+00	1.61E+00
				Zn-65	<3.25E+00	0.00E+00	3.25E+00
				Zr-95	<2.77E+00	0.00E+00	2.77E+00
				Nb-95	<1.74E+00	0.00E+00	1.74E+00
				I-131	<8.95E+00	0.00E+00	8.95E+00
				Cs-134	<1.88E+00	0.00E+00	1.88E+00
				Cs-137	<1.29E+00	0.00E+00	1.29E+00
				BaLa-140	<5.37E+00	0.00E+00	5.37E+00
				Be-7	<1.41E+01	0.00E+00	1.41E+01
				K-40	1.20E+01	1.48E+01	2.43E+01

Sample Point 132 [INDICATOR - SSE @ 11.1 miles]

Sample ID:	466678	Sample Dates:	1/2/2018 - 1/29/2018	Nuclide	Activity	2 Sigma Error	MDA
				Beta	1.41E+00	8.91E-01	1.44E+00
				Mn-54	<2.49E+00	0.00E+00	2.49E+00
				Co-58	<3.43E+00	0.00E+00	3.43E+00
				Fe-59	<5.66E+00	0.00E+00	5.66E+00
				Co-60	<2.68E+00	0.00E+00	2.68E+00
				Zn-65	<6.14E+00	0.00E+00	6.14E+00
				Zr-95	<6.69E+00	0.00E+00	6.69E+00
				Nb-95	<3.94E+00	0.00E+00	3.94E+00
				I-131	<1.17E+01	0.00E+00	1.17E+01
				Cs-134	<3.20E+00	0.00E+00	3.20E+00
				Cs-137	<3.52E+00	0.00E+00	3.52E+00
				BaLa-140	<7.00E+00	0.00E+00	7.00E+00
				Be-7	<3.18E+01	0.00E+00	3.18E+01
				K-40	4.86E+01	3.11E+01	4.36E+01

Sample ID:	468533	Sample Dates:	1/29/2018 - 2/26/2018	Nuclide	Activity	2 Sigma Error	MDA
				Beta	2.42E+00	9.36E-01	1.44E+00
				Mn-54	<3.31E+00	0.00E+00	3.31E+00
				Co-58	<3.79E+00	0.00E+00	3.79E+00
				Fe-59	<7.14E+00	0.00E+00	7.14E+00
				Co-60	<2.73E+00	0.00E+00	2.73E+00
				Zn-65	<5.91E+00	0.00E+00	5.91E+00
				Zr-95	<6.73E+00	0.00E+00	6.73E+00
				Nb-95	<3.99E+00	0.00E+00	3.99E+00
				I-131	<1.11E+01	0.00E+00	1.11E+01
				Cs-134	<4.01E+00	0.00E+00	4.01E+00
				Cs-137	<3.20E+00	0.00E+00	3.20E+00
				BaLa-140	<4.70E+00	0.00E+00	4.70E+00
				Be-7	<3.31E+01	0.00E+00	3.31E+01
				K-40	5.63E+01	3.60E+01	5.17E+01

Sample ID:	471521	Sample Dates:	2/26/2018 - 3/26/2018	Nuclide	Activity	2 Sigma Error	MDA
				Beta	1.37E+00	7.58E-01	1.21E+00



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 132 [INDICATOR - SSE @ 11.1 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
471521	2/26/2018 - 3/26/2018	Mn-54	<1.99E+00	0.00E+00	1.99E+00
		Co-58	<2.37E+00	0.00E+00	2.37E+00
		Fe-59	<5.47E+00	0.00E+00	5.47E+00
		Co-60	<1.92E+00	0.00E+00	1.92E+00
		Zn-65	<4.77E+00	0.00E+00	4.77E+00
		Zr-95	<4.72E+00	0.00E+00	4.72E+00
		Nb-95	<3.50E+00	0.00E+00	3.50E+00
		I-131	<1.10E+01	0.00E+00	1.10E+01
		Cs-134	<2.04E+00	0.00E+00	2.04E+00
		Cs-137	<2.19E+00	0.00E+00	2.19E+00
		BaLa-140	<4.64E+00	0.00E+00	4.64E+00
		Be-7	<2.24E+01	0.00E+00	2.24E+01
		K-40	5.14E+01	2.43E+01	3.22E+01
		467526	1/2/2018 - 4/23/2018	H3DW	4.74E+02
473433	3/26/2018 - 4/23/2018	Beta	1.60E+00	8.99E-01	1.44E+00
		Mn-54	<2.06E+00	0.00E+00	2.06E+00
		Co-58	<3.69E+00	0.00E+00	3.69E+00
		Fe-59	<4.17E+00	0.00E+00	4.17E+00
		Co-60	<2.49E+00	0.00E+00	2.49E+00
		Zn-65	<4.85E+00	0.00E+00	4.85E+00
		Zr-95	<4.52E+00	0.00E+00	4.52E+00
		Nb-95	<3.44E+00	0.00E+00	3.44E+00
		I-131	<1.18E+01	0.00E+00	1.18E+01
		Cs-134	<2.68E+00	0.00E+00	2.68E+00
		Cs-137	<2.03E+00	0.00E+00	2.03E+00
		BaLa-140	<4.78E+00	0.00E+00	4.78E+00
		Be-7	<2.29E+01	0.00E+00	2.29E+01
		K-40	8.45E+01	2.53E+01	2.72E+01
474997	4/23/2018 - 5/21/2018	Beta	1.44E+00	9.09E-01	1.47E+00
		Mn-54	<3.21E+00	0.00E+00	3.21E+00
		Co-58	<2.38E+00	0.00E+00	2.38E+00
		Fe-59	<5.66E+00	0.00E+00	5.66E+00
		Co-60	<2.56E+00	0.00E+00	2.56E+00
		Zn-65	<5.71E+00	0.00E+00	5.71E+00
		Zr-95	<6.34E+00	0.00E+00	6.34E+00
		Nb-95	<3.87E+00	0.00E+00	3.87E+00
		I-131	<1.20E+01	0.00E+00	1.20E+01
		Cs-134	<2.95E+00	0.00E+00	2.95E+00
		Cs-137	<2.64E+00	0.00E+00	2.64E+00
		BaLa-140	<6.81E+00	0.00E+00	6.81E+00
		Be-7	<2.25E+01	0.00E+00	2.25E+01
		K-40	<5.55E+01	0.00E+00	5.55E+01
477660	5/21/2018 - 6/18/2018	Beta	1.21E+00	9.01E-01	1.48E+00
		Mn-54	<3.76E+00	0.00E+00	3.76E+00
		Co-58	<3.34E+00	0.00E+00	3.34E+00
		Fe-59	<9.90E+00	0.00E+00	9.90E+00
		Co-60	<4.35E+00	0.00E+00	4.35E+00
		Zn-65	<8.04E+00	0.00E+00	8.04E+00
		Zr-95	<6.97E+00	0.00E+00	6.97E+00
		Nb-95	<4.71E+00	0.00E+00	4.71E+00
		I-131	<1.19E+01	0.00E+00	1.19E+01
		Cs-134	<3.64E+00	0.00E+00	3.64E+00
		Cs-137	<3.43E+00	0.00E+00	3.43E+00
		BaLa-140	<9.99E+00	0.00E+00	9.99E+00
		Be-7	<2.95E+01	0.00E+00	2.95E+01
		K-40	<5.96E+01	0.00E+00	5.96E+01
474723	4/23/2018 - 7/16/2018	H3DW	3.13E+02	1.20E+02	1.88E+02



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 132 [INDICATOR - SSE @ 11.1 miles]

Sample ID	Sample Dates	Nuclide	Activity	2 Sigma Error	MDA
479528	6/18/2018 - 7/16/2018	Beta	1.68E+00	7.40E-01	1.15E+00
		Mn-54	<3.72E+00	0.00E+00	3.72E+00
		Co-58	<3.64E+00	0.00E+00	3.64E+00
		Fe-59	<5.57E+00	0.00E+00	5.57E+00
		Co-60	<3.98E+00	0.00E+00	3.98E+00
		Zn-65	<5.85E+00	0.00E+00	5.85E+00
		Zr-95	<7.01E+00	0.00E+00	7.01E+00
		Nb-95	<4.23E+00	0.00E+00	4.23E+00
		I-131	<1.17E+01	0.00E+00	1.17E+01
		Cs-134	<3.82E+00	0.00E+00	3.82E+00
		Cs-137	<3.34E+00	0.00E+00	3.34E+00
		BaLa-140	<1.12E+01	0.00E+00	1.12E+01
		Be-7	<3.44E+01	0.00E+00	3.44E+01
		K-40	<6.18E+01	0.00E+00	6.18E+01
481620	7/16/2018 - 8/13/2018	Beta	1.65E+00	8.73E-01	1.39E+00
		Mn-54	<3.73E+00	0.00E+00	3.73E+00
		Co-58	<3.48E+00	0.00E+00	3.48E+00
		Fe-59	<5.27E+00	0.00E+00	5.27E+00
		Co-60	<3.12E+00	0.00E+00	3.12E+00
		Zn-65	<6.13E+00	0.00E+00	6.13E+00
		Zr-95	<4.62E+00	0.00E+00	4.62E+00
		Nb-95	<3.62E+00	0.00E+00	3.62E+00
		I-131	<1.19E+01	0.00E+00	1.19E+01
		Cs-134	<3.47E+00	0.00E+00	3.47E+00
		Cs-137	<2.81E+00	0.00E+00	2.81E+00
		BaLa-140	<9.75E+00	0.00E+00	9.75E+00
		Be-7	<3.38E+01	0.00E+00	3.38E+01
		K-40	2.68E+01	2.38E+01	3.57E+01
483531	8/13/2018 - 9/10/2018	Beta	2.22E+00	9.07E-01	1.41E+00
		Mn-54	<2.49E+00	0.00E+00	2.49E+00
		Co-58	<3.69E+00	0.00E+00	3.69E+00
		Fe-59	<7.59E+00	0.00E+00	7.59E+00
		Co-60	<2.40E+00	0.00E+00	2.40E+00
		Zn-65	<7.98E+00	0.00E+00	7.98E+00
		Zr-95	<6.33E+00	0.00E+00	6.33E+00
		Nb-95	<3.85E+00	0.00E+00	3.85E+00
		I-131	<1.12E+01	0.00E+00	1.12E+01
		Cs-134	<4.42E+00	0.00E+00	4.42E+00
		Cs-137	<3.43E+00	0.00E+00	3.43E+00
		BaLa-140	<7.22E+00	0.00E+00	7.22E+00
		Be-7	<2.66E+01	0.00E+00	2.66E+01
		K-40	3.83E+01	3.49E+01	5.46E+01
481625	7/16/2018 - 10/8/2018	H3DW	3.04E+02	1.16E+02	1.83E+02
485850	9/10/2018 - 10/8/2018	Beta	2.10E+00	9.44E-01	1.49E+00
		Mn-54	<2.70E+00	0.00E+00	2.70E+00
		Co-58	<3.49E+00	0.00E+00	3.49E+00
		Fe-59	<5.97E+00	0.00E+00	5.97E+00
		Co-60	<3.61E+00	0.00E+00	3.61E+00
		Zn-65	<6.32E+00	0.00E+00	6.32E+00
		Zr-95	<5.76E+00	0.00E+00	5.76E+00
		Nb-95	<4.14E+00	0.00E+00	4.14E+00
		I-131	<1.19E+01	0.00E+00	1.19E+01
		Cs-134	<3.14E+00	0.00E+00	3.14E+00
		Cs-137	<2.96E+00	0.00E+00	2.96E+00
		BaLa-140	<5.35E+00	0.00E+00	5.35E+00
		Be-7	<3.25E+01	0.00E+00	3.25E+01
		K-40	6.06E+01	4.43E+01	6.80E+01
488198	10/8/2018 - 11/5/2018	Beta	8.30E-01	8.27E-01	1.37E+00



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 132 [INDICATOR - SSE @ 11.1 miles]

Sample ID:	488198	Sample Dates:	10/8/2018 - 11/5/2018	Nuclide	Activity	2 Sigma Error	MDA
				Mn-54	<2.81E+00	0.00E+00	2.81E+00
				Co-58	<3.24E+00	0.00E+00	3.24E+00
				Fe-59	<7.35E+00	0.00E+00	7.35E+00
				Co-60	<2.82E+00	0.00E+00	2.82E+00
				Zn-65	<7.72E+00	0.00E+00	7.72E+00
				Zr-95	<6.92E+00	0.00E+00	6.92E+00
				Nb-95	<3.88E+00	0.00E+00	3.88E+00
				I-131	<1.19E+01	0.00E+00	1.19E+01
				Cs-134	<3.49E+00	0.00E+00	3.49E+00
				Cs-137	<2.84E+00	0.00E+00	2.84E+00
				BaLa-140	<6.94E+00	0.00E+00	6.94E+00
				Be-7	<3.06E+01	0.00E+00	3.06E+01
				K-40	<5.44E+01	0.00E+00	5.44E+01

Sample ID:	490027	Sample Dates:	11/5/2018 - 12/3/2018	Nuclide	Activity	2 Sigma Error	MDA
				Beta	2.23E+00	8.72E-01	1.34E+00
				Mn-54	<1.48E+00	0.00E+00	1.48E+00
				Co-58	<1.59E+00	0.00E+00	1.59E+00
				Fe-59	<3.17E+00	0.00E+00	3.17E+00
				Co-60	<1.43E+00	0.00E+00	1.43E+00
				Zn-65	<2.90E+00	0.00E+00	2.90E+00
				Zr-95	<2.45E+00	0.00E+00	2.45E+00
				Nb-95	<2.36E+00	0.00E+00	2.36E+00
				I-131	<1.08E+01	0.00E+00	1.08E+01
				Cs-134	<1.61E+00	0.00E+00	1.61E+00
				Cs-137	<1.17E+00	0.00E+00	1.17E+00
				BaLa-140	<6.52E+00	0.00E+00	6.52E+00
				Be-7	<1.49E+01	0.00E+00	1.49E+01
				K-40	2.92E+01	1.36E+01	1.91E+01

Sample ID:	488741	Sample Dates:	10/8/2018 - 12/31/2018	Nuclide	Activity	2 Sigma Error	MDA
				H3DW	2.70E+02	1.17E+02	1.87E+02

Sample ID:	491612	Sample Dates:	12/3/2018 - 12/31/2018	Nuclide	Activity	2 Sigma Error	MDA
				Beta	2.19E+00	1.49E+00	2.46E+00
				Mn-54	<1.55E+00	0.00E+00	1.55E+00
				Co-58	<1.87E+00	0.00E+00	1.87E+00
				Fe-59	<4.46E+00	0.00E+00	4.46E+00
				Co-60	<1.56E+00	0.00E+00	1.56E+00
				Zn-65	<3.06E+00	0.00E+00	3.06E+00
				Zr-95	<3.01E+00	0.00E+00	3.01E+00
				Nb-95	<2.10E+00	0.00E+00	2.10E+00
				I-131	<1.19E+01	0.00E+00	1.19E+01
				Cs-134	<1.59E+00	0.00E+00	1.59E+00
				Cs-137	<1.50E+00	0.00E+00	1.50E+00
				BaLa-140	<5.88E+00	0.00E+00	5.88E+00
				Be-7	<1.31E+01	0.00E+00	1.31E+01
				K-40	4.13E+01	1.24E+01	1.29E+01

Sample Point 136 [CONTROL - NNE @ 12.7 miles]

Sample ID:	466679	Sample Dates:	1/2/2018 - 1/29/2018	Nuclide	Activity	2 Sigma Error	MDA
				Beta	1.58E+00	8.94E-01	1.44E+00
				Mn-54	<4.07E+00	0.00E+00	4.07E+00
				Co-58	<3.77E+00	0.00E+00	3.77E+00
				Fe-59	<7.94E+00	0.00E+00	7.94E+00
				Co-60	<2.70E+00	0.00E+00	2.70E+00
				Zn-65	<8.90E+00	0.00E+00	8.90E+00
				Zr-95	<5.52E+00	0.00E+00	5.52E+00
				Nb-95	<3.45E+00	0.00E+00	3.45E+00
				I-131	<1.17E+01	0.00E+00	1.17E+01
				Cs-134	<2.89E+00	0.00E+00	2.89E+00
				Cs-137	<3.66E+00	0.00E+00	3.66E+00
				BaLa-140	<8.06E+00	0.00E+00	8.06E+00
				Be-7	<2.35E+01	0.00E+00	2.35E+01
				K-40	<7.63E+01	0.00E+00	7.63E+01



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 136 [CONTROL - NNE @ 12.7 miles]

Sample ID	Sample Dates	Nuclide	Activity	2 Sigma Error	MDA
468534	1/29/2018 - 2/26/2018	Beta	2.12E+00	9.16E-01	1.43E+00
		Mn-54	<3.18E+00	0.00E+00	3.18E+00
		Co-58	<3.28E+00	0.00E+00	3.28E+00
		Fe-59	<8.96E+00	0.00E+00	8.96E+00
		Co-60	<3.25E+00	0.00E+00	3.25E+00
		Zn-65	<9.68E+00	0.00E+00	9.68E+00
		Zr-95	<5.82E+00	0.00E+00	5.82E+00
		Nb-95	<3.97E+00	0.00E+00	3.97E+00
		I-131	<1.06E+01	0.00E+00	1.06E+01
		Cs-134	<4.35E+00	0.00E+00	4.35E+00
		Cs-137	<3.63E+00	0.00E+00	3.63E+00
		BaLa-140	<1.10E+01	0.00E+00	1.10E+01
		Be-7	<2.93E+01	0.00E+00	2.93E+01
		K-40	<4.98E+01	0.00E+00	4.98E+01
471522	2/26/2018 - 3/26/2018	Beta	1.01E+00	7.39E-01	1.21E+00
		Mn-54	<1.63E+00	0.00E+00	1.63E+00
		Co-58	<2.45E+00	0.00E+00	2.45E+00
		Fe-59	<5.08E+00	0.00E+00	5.08E+00
		Co-60	<2.58E+00	0.00E+00	2.58E+00
		Zn-65	<4.44E+00	0.00E+00	4.44E+00
		Zr-95	<4.27E+00	0.00E+00	4.27E+00
		Nb-95	<3.17E+00	0.00E+00	3.17E+00
		I-131	<1.15E+01	0.00E+00	1.15E+01
		Cs-134	<2.19E+00	0.00E+00	2.19E+00
		Cs-137	<1.72E+00	0.00E+00	1.72E+00
		BaLa-140	<4.50E+00	0.00E+00	4.50E+00
		Be-7	<1.92E+01	0.00E+00	1.92E+01
		K-40	5.56E+01	2.14E+01	2.56E+01
467527	1/2/2018 - 4/23/2018	Nuclide	Activity	2 Sigma Error	MDA
		H3DW	<2.62E+01	0.00E+00	1.77E+02
473434	3/26/2018 - 4/23/2018	Beta	1.97E+00	9.07E-01	1.43E+00
		Mn-54	<2.69E+00	0.00E+00	2.69E+00
		Co-58	<3.30E+00	0.00E+00	3.30E+00
		Fe-59	<5.97E+00	0.00E+00	5.97E+00
		Co-60	<3.78E+00	0.00E+00	3.78E+00
		Zn-65	<5.91E+00	0.00E+00	5.91E+00
		Zr-95	<5.86E+00	0.00E+00	5.86E+00
		Nb-95	<3.42E+00	0.00E+00	3.42E+00
		I-131	<1.18E+01	0.00E+00	1.18E+01
		Cs-134	<3.53E+00	0.00E+00	3.53E+00
		Cs-137	<3.19E+00	0.00E+00	3.19E+00
		BaLa-140	<8.00E+00	0.00E+00	8.00E+00
		Be-7	<2.78E+01	0.00E+00	2.78E+01
		K-40	<5.40E+01	0.00E+00	5.40E+01
474998	4/23/2018 - 5/21/2018	Beta	1.27E+00	9.01E-01	1.47E+00
		Mn-54	<3.02E+00	0.00E+00	3.02E+00
		Co-58	<2.75E+00	0.00E+00	2.75E+00
		Fe-59	<6.04E+00	0.00E+00	6.04E+00
		Co-60	<2.78E+00	0.00E+00	2.78E+00
		Zn-65	<6.29E+00	0.00E+00	6.29E+00
		Zr-95	<5.82E+00	0.00E+00	5.82E+00
		Nb-95	<3.09E+00	0.00E+00	3.09E+00
		I-131	<9.85E+00	0.00E+00	9.85E+00
		Cs-134	<3.35E+00	0.00E+00	3.35E+00
		Cs-137	<2.02E+00	0.00E+00	2.02E+00
		BaLa-140	<5.82E+00	0.00E+00	5.82E+00
		Be-7	<2.36E+01	0.00E+00	2.36E+01
		K-40	<3.98E+01	0.00E+00	3.98E+01
477661	5/21/2018 - 6/18/2018	Nuclide	Activity	2 Sigma Error	MDA
		Beta	9.68E-01	8.86E-01	1.47E+00



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 136 [CONTROL - NNE @ 12.7 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA		
477661	5/21/2018 - 6/18/2018	Mn-54	<3.29E+00	0.00E+00	3.29E+00		
		Co-58	<4.42E+00	0.00E+00	4.42E+00		
		Fe-59	<7.94E+00	0.00E+00	7.94E+00		
		Co-60	<5.56E+00	0.00E+00	5.56E+00		
		Zn-65	<8.68E+00	0.00E+00	8.68E+00		
		Zr-95	<4.59E+00	0.00E+00	4.59E+00		
		Nb-95	<4.11E+00	0.00E+00	4.11E+00		
		I-131	<1.18E+01	0.00E+00	1.18E+01		
		Cs-134	<4.41E+00	0.00E+00	4.41E+00		
		Cs-137	<3.65E+00	0.00E+00	3.65E+00		
		BaLa-140	<6.82E+00	0.00E+00	6.82E+00		
		Be-7	<3.69E+01	0.00E+00	3.69E+01		
		K-40	<5.51E+01	0.00E+00	5.51E+01		
		474724	4/23/2018 - 7/16/2018	H3DW	<6.52E+01	0.00E+00	1.86E+02
		479529	6/18/2018 - 7/16/2018	Beta	1.97E+00	7.47E-01	1.15E+00
Mn-54	<3.68E+00			0.00E+00	3.68E+00		
Co-58	<3.11E+00			0.00E+00	3.11E+00		
Fe-59	<7.34E+00			0.00E+00	7.34E+00		
Co-60	<3.10E+00			0.00E+00	3.10E+00		
Zn-65	<8.21E+00			0.00E+00	8.21E+00		
Zr-95	<4.55E+00			0.00E+00	4.55E+00		
Nb-95	<3.46E+00			0.00E+00	3.46E+00		
I-131	<1.16E+01			0.00E+00	1.16E+01		
Cs-134	<3.43E+00			0.00E+00	3.43E+00		
Cs-137	<3.01E+00			0.00E+00	3.01E+00		
BaLa-140	<6.73E+00			0.00E+00	6.73E+00		
Be-7	<2.93E+01			0.00E+00	2.93E+01		
K-40	<5.39E+01			0.00E+00	5.39E+01		
481621	7/16/2018 - 8/13/2018			Beta	1.35E+00	8.55E-01	1.38E+00
		Mn-54	<3.07E+00	0.00E+00	3.07E+00		
		Co-58	<3.95E+00	0.00E+00	3.95E+00		
		Fe-59	<7.08E+00	0.00E+00	7.08E+00		
		Co-60	<4.10E+00	0.00E+00	4.10E+00		
		Zn-65	<6.05E+00	0.00E+00	6.05E+00		
		Zr-95	<5.28E+00	0.00E+00	5.28E+00		
		Nb-95	<3.60E+00	0.00E+00	3.60E+00		
		I-131	<1.20E+01	0.00E+00	1.20E+01		
		Cs-134	<3.60E+00	0.00E+00	3.60E+00		
		Cs-137	<3.85E+00	0.00E+00	3.85E+00		
		BaLa-140	<5.55E+00	0.00E+00	5.55E+00		
		Be-7	<3.20E+01	0.00E+00	3.20E+01		
		K-40	5.85E+01	2.99E+01	3.28E+01		
		483532	8/13/2018 - 9/10/2018	Beta	1.68E+00	8.73E-01	1.39E+00
Mn-54	<3.68E+00			0.00E+00	3.68E+00		
Co-58	<3.08E+00			0.00E+00	3.08E+00		
Fe-59	<1.02E+01			0.00E+00	1.02E+01		
Co-60	<4.26E+00			0.00E+00	4.26E+00		
Zn-65	<5.62E+00			0.00E+00	5.62E+00		
Zr-95	<5.46E+00			0.00E+00	5.46E+00		
Nb-95	<3.46E+00			0.00E+00	3.46E+00		
I-131	<1.19E+01			0.00E+00	1.19E+01		
Cs-134	<3.30E+00			0.00E+00	3.30E+00		
Cs-137	<2.88E+00			0.00E+00	2.88E+00		
BaLa-140	<8.50E+00			0.00E+00	8.50E+00		
Be-7	<2.62E+01			0.00E+00	2.62E+01		
K-40	2.32E+01			3.71E+01	6.25E+01		
481626	7/16/2018 - 10/8/2018			H3DW	<1.14E+02	0.00E+00	1.83E+02



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 136 [CONTROL - NNE @ 12.7 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
485851	9/10/2018 - 10/8/2018	Beta	1.11E+00	8.88E-01	1.46E+00
		Mn-54	<3.84E+00	0.00E+00	3.84E+00
		Co-58	<3.75E+00	0.00E+00	3.75E+00
		Fe-59	<5.74E+00	0.00E+00	5.74E+00
		Co-60	<3.58E+00	0.00E+00	3.58E+00
		Zn-65	<4.67E+00	0.00E+00	4.67E+00
		Zr-95	<7.23E+00	0.00E+00	7.23E+00
		Nb-95	<4.18E+00	0.00E+00	4.18E+00
		I-131	<1.15E+01	0.00E+00	1.15E+01
		Cs-134	<3.94E+00	0.00E+00	3.94E+00
		Cs-137	<2.79E+00	0.00E+00	2.79E+00
		BaLa-140	<6.71E+00	0.00E+00	6.71E+00
		Be-7	<2.96E+01	0.00E+00	2.96E+01
		K-40	<5.61E+01	0.00E+00	5.61E+01
		488199	10/8/2018 - 11/5/2018	Beta	1.12E+00
Mn-54	<4.51E+00			0.00E+00	4.51E+00
Co-58	<3.73E+00			0.00E+00	3.73E+00
Fe-59	<8.85E+00			0.00E+00	8.85E+00
Co-60	<3.86E+00			0.00E+00	3.86E+00
Zn-65	<5.48E+00			0.00E+00	5.48E+00
Zr-95	<9.70E+00			0.00E+00	9.70E+00
Nb-95	<5.13E+00			0.00E+00	5.13E+00
I-131	<1.18E+01			0.00E+00	1.18E+01
Cs-134	<3.99E+00			0.00E+00	3.99E+00
Cs-137	<4.21E+00			0.00E+00	4.21E+00
BaLa-140	<6.30E+00			0.00E+00	6.30E+00
Be-7	<3.73E+01			0.00E+00	3.73E+01
K-40	3.58E+01			3.48E+01	5.37E+01
490028	11/5/2018 - 12/3/2018			Beta	1.66E+00
		Mn-54	<2.59E+00	0.00E+00	2.59E+00
		Co-58	<2.69E+00	0.00E+00	2.69E+00
		Fe-59	<5.54E+00	0.00E+00	5.54E+00
		Co-60	<2.10E+00	0.00E+00	2.10E+00
		Zn-65	<4.77E+00	0.00E+00	4.77E+00
		Zr-95	<4.47E+00	0.00E+00	4.47E+00
		Nb-95	<3.54E+00	0.00E+00	3.54E+00
		I-131	<9.70E+00	0.00E+00	9.70E+00
		Cs-134	<2.22E+00	0.00E+00	2.22E+00
		Cs-137	<1.88E+00	0.00E+00	1.88E+00
		BaLa-140	<6.24E+00	0.00E+00	6.24E+00
		Be-7	<1.91E+01	0.00E+00	1.91E+01
		K-40	1.61E+01	1.85E+01	2.99E+01
		488742	10/8/2018 - 12/31/2018	H3DW	<3.97E+01
491613	12/3/2018 - 12/31/2018	Beta	2.63E+00	1.49E+00	2.44E+00
		Mn-54	<1.29E+00	0.00E+00	1.29E+00
		Co-58	<1.61E+00	0.00E+00	1.61E+00
		Fe-59	<3.39E+00	0.00E+00	3.39E+00
		Co-60	<1.39E+00	0.00E+00	1.39E+00
		Zn-65	<2.56E+00	0.00E+00	2.56E+00
		Zr-95	<2.09E+00	0.00E+00	2.09E+00
		Nb-95	<2.12E+00	0.00E+00	2.12E+00
		I-131	<1.08E+01	0.00E+00	1.08E+01
		Cs-134	<1.57E+00	0.00E+00	1.57E+00
		Cs-137	<1.41E+00	0.00E+00	1.41E+00
		BaLa-140	<5.47E+00	0.00E+00	5.47E+00
		Be-7	<1.49E+01	0.00E+00	1.49E+01
		K-40	3.04E+01	1.43E+01	2.01E+01



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 194 [INDICATOR - NNW @ 6.73 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466680	1/2/2018 - 1/29/2018	Beta	1.02E+00	8.66E-01	1.43E+00
		Mn-54	<3.80E+00	0.00E+00	3.80E+00
		Co-58	<4.63E+00	0.00E+00	4.63E+00
		Fe-59	<1.04E+01	0.00E+00	1.04E+01
		Co-60	<3.16E+00	0.00E+00	3.16E+00
		Zn-65	<8.79E+00	0.00E+00	8.79E+00
		Zr-95	<6.44E+00	0.00E+00	6.44E+00
		Nb-95	<5.78E+00	0.00E+00	5.78E+00
		I-131	<1.13E+01	0.00E+00	1.13E+01
		Cs-134	<5.82E+00	0.00E+00	5.82E+00
		Cs-137	<4.09E+00	0.00E+00	4.09E+00
		BaLa-140	<6.43E+00	0.00E+00	6.43E+00
		Be-7	<3.51E+01	0.00E+00	3.51E+01
		K-40	<7.94E+01	0.00E+00	7.94E+01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
468535	1/29/2018 - 2/26/2018	Beta	1.72E+00	8.97E-01	1.43E+00
		Mn-54	<3.80E+00	0.00E+00	3.80E+00
		Co-58	<4.63E+00	0.00E+00	4.63E+00
		Fe-59	<7.61E+00	0.00E+00	7.61E+00
		Co-60	<3.46E+00	0.00E+00	3.46E+00
		Zn-65	<8.88E+00	0.00E+00	8.88E+00
		Zr-95	<7.47E+00	0.00E+00	7.47E+00
		Nb-95	<3.91E+00	0.00E+00	3.91E+00
		I-131	<1.13E+01	0.00E+00	1.13E+01
		Cs-134	<3.74E+00	0.00E+00	3.74E+00
		Cs-137	<3.27E+00	0.00E+00	3.27E+00
		BaLa-140	<6.54E+00	0.00E+00	6.54E+00
		Be-7	<4.20E+01	0.00E+00	4.20E+01
		K-40	<7.14E+01	0.00E+00	7.14E+01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
471523	2/26/2018 - 3/26/2018	Beta	2.46E+00	8.03E-01	1.21E+00
		Mn-54	<1.61E+00	0.00E+00	1.61E+00
		Co-58	<1.70E+00	0.00E+00	1.70E+00
		Fe-59	<3.48E+00	0.00E+00	3.48E+00
		Co-60	<1.55E+00	0.00E+00	1.55E+00
		Zn-65	<3.29E+00	0.00E+00	3.29E+00
		Zr-95	<3.16E+00	0.00E+00	3.16E+00
		Nb-95	<1.98E+00	0.00E+00	1.98E+00
		I-131	<9.43E+00	0.00E+00	9.43E+00
		Cs-134	<1.83E+00	0.00E+00	1.83E+00
		Cs-137	<1.76E+00	0.00E+00	1.76E+00
		BaLa-140	<5.22E+00	0.00E+00	5.22E+00
		Be-7	<1.57E+01	0.00E+00	1.57E+01
		K-40	4.12E+01	1.56E+01	2.07E+01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467528	1/2/2018 - 4/23/2018	H3DW	<1.40E+02	0.00E+00	1.77E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
473435	3/26/2018 - 4/23/2018	Beta	2.31E+00	9.24E-01	1.43E+00
		Mn-54	<3.24E+00	0.00E+00	3.24E+00
		Co-58	<3.09E+00	0.00E+00	3.09E+00
		Fe-59	<1.07E+01	0.00E+00	1.07E+01
		Co-60	<2.25E+00	0.00E+00	2.25E+00
		Zn-65	<6.79E+00	0.00E+00	6.79E+00
		Zr-95	<7.96E+00	0.00E+00	7.96E+00
		Nb-95	<4.38E+00	0.00E+00	4.38E+00
		I-131	<1.17E+01	0.00E+00	1.17E+01
		Cs-134	<4.24E+00	0.00E+00	4.24E+00
		Cs-137	<3.14E+00	0.00E+00	3.14E+00
		BaLa-140	<1.07E+01	0.00E+00	1.07E+01
		Be-7	<3.66E+01	0.00E+00	3.66E+01
		K-40	<6.08E+01	0.00E+00	6.08E+01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
474999	4/23/2018 - 5/21/2018	Beta	1.95E+00	9.30E-01	1.46E+00



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 194 [INDICATOR - NNW @ 6.73 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
474999	4/23/2018 - 5/21/2018	Mn-54	<2.81E+00	0.00E+00	2.81E+00
		Co-58	<3.51E+00	0.00E+00	3.51E+00
		Fe-59	<7.90E+00	0.00E+00	7.90E+00
		Co-60	<2.88E+00	0.00E+00	2.88E+00
		Zn-65	<7.80E+00	0.00E+00	7.80E+00
		Zr-95	<6.53E+00	0.00E+00	6.53E+00
		Nb-95	<4.83E+00	0.00E+00	4.83E+00
		I-131	<1.16E+01	0.00E+00	1.16E+01
		Cs-134	<4.30E+00	0.00E+00	4.30E+00
		Cs-137	<3.63E+00	0.00E+00	3.63E+00
		BaLa-140	<9.70E+00	0.00E+00	9.70E+00
		Be-7	<3.01E+01	0.00E+00	3.01E+01
		K-40	7.96E+01	4.15E+01	5.49E+01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
477662	5/21/2018 - 6/18/2018	Beta	1.09E+00	8.92E-01	1.47E+00
		Mn-54	<3.11E+00	0.00E+00	3.11E+00
		Co-58	<3.34E+00	0.00E+00	3.34E+00
		Fe-59	<7.64E+00	0.00E+00	7.64E+00
		Co-60	<3.38E+00	0.00E+00	3.38E+00
		Zn-65	<3.65E+00	0.00E+00	3.65E+00
		Zr-95	<6.34E+00	0.00E+00	6.34E+00
		Nb-95	<4.01E+00	0.00E+00	4.01E+00
		I-131	<1.18E+01	0.00E+00	1.18E+01
		Cs-134	<3.78E+00	0.00E+00	3.78E+00
		Cs-137	<2.33E+00	0.00E+00	2.33E+00
		BaLa-140	<7.09E+00	0.00E+00	7.09E+00
		Be-7	<2.34E+01	0.00E+00	2.34E+01
		K-40	8.83E+01	3.22E+01	3.14E+01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
474725	4/23/2018 - 7/16/2018	H3DW	<1.34E+02	0.00E+00	1.87E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
479530	6/18/2018 - 7/16/2018	Beta	1.68E+00	7.35E-01	1.15E+00
		Mn-54	<2.26E+00	0.00E+00	2.26E+00
		Co-58	<3.40E+00	0.00E+00	3.40E+00
		Fe-59	<6.83E+00	0.00E+00	6.83E+00
		Co-60	<3.51E+00	0.00E+00	3.51E+00
		Zn-65	<4.92E+00	0.00E+00	4.92E+00
		Zr-95	<5.10E+00	0.00E+00	5.10E+00
		Nb-95	<4.42E+00	0.00E+00	4.42E+00
		I-131	<1.19E+01	0.00E+00	1.19E+01
		Cs-134	<3.58E+00	0.00E+00	3.58E+00
		Cs-137	<3.61E+00	0.00E+00	3.61E+00
		BaLa-140	<9.85E+00	0.00E+00	9.85E+00
		Be-7	<3.51E+01	0.00E+00	3.51E+01
		K-40	3.58E+01	2.91E+01	4.29E+01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
481622	7/16/2018 - 8/13/2018	Beta	2.23E+00	8.95E-01	1.37E+00
		Mn-54	<1.98E+00	0.00E+00	1.98E+00
		Co-58	<3.46E+00	0.00E+00	3.46E+00
		Fe-59	<6.99E+00	0.00E+00	6.99E+00
		Co-60	<2.37E+00	0.00E+00	2.37E+00
		Zn-65	<5.73E+00	0.00E+00	5.73E+00
		Zr-95	<6.36E+00	0.00E+00	6.36E+00
		Nb-95	<4.06E+00	0.00E+00	4.06E+00
		I-131	<1.18E+01	0.00E+00	1.18E+01
		Cs-134	<2.89E+00	0.00E+00	2.89E+00
		Cs-137	<2.77E+00	0.00E+00	2.77E+00
		BaLa-140	<5.97E+00	0.00E+00	5.97E+00
		Be-7	<3.49E+01	0.00E+00	3.49E+01
		K-40	<5.25E+01	0.00E+00	5.25E+01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
483533	8/13/2018 - 9/10/2018	Beta	2.17E+00	8.87E-01	1.38E+00
		Mn-54	<3.78E+00	0.00E+00	3.78E+00



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 194 [INDICATOR - NNW @ 6.73 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
483533	8/13/2018 - 9/10/2018	Co-58	<4.49E+00	0.00E+00	4.49E+00
		Fe-59	<6.57E+00	0.00E+00	6.57E+00
		Co-60	<2.61E+00	0.00E+00	2.61E+00
		Zn-65	<6.76E+00	0.00E+00	6.76E+00
		Zr-95	<7.95E+00	0.00E+00	7.95E+00
		Nb-95	<5.00E+00	0.00E+00	5.00E+00
		I-131	<1.18E+01	0.00E+00	1.18E+01
		Cs-134	<3.48E+00	0.00E+00	3.48E+00
		Cs-137	<2.85E+00	0.00E+00	2.85E+00
		BaLa-140	<8.93E+00	0.00E+00	8.93E+00
		Be-7	<2.93E+01	0.00E+00	2.93E+01
		K-40	<7.09E+01	0.00E+00	7.09E+01
		481627	7/16/2018 - 10/8/2018	H3DW	<8.79E+01
485852	9/10/2018 - 10/8/2018	Beta	<6.83E-01	0.00E+00	1.46E+00
		Mn-54	<2.43E+00	0.00E+00	2.43E+00
		Co-58	<3.56E+00	0.00E+00	3.56E+00
		Fe-59	<6.33E+00	0.00E+00	6.33E+00
		Co-60	<3.71E+00	0.00E+00	3.71E+00
		Zn-65	<5.97E+00	0.00E+00	5.97E+00
		Zr-95	<5.11E+00	0.00E+00	5.11E+00
		Nb-95	<4.13E+00	0.00E+00	4.13E+00
		I-131	<1.08E+01	0.00E+00	1.08E+01
		Cs-134	<4.01E+00	0.00E+00	4.01E+00
		Cs-137	<2.86E+00	0.00E+00	2.86E+00
		BaLa-140	<6.99E+00	0.00E+00	6.99E+00
		Be-7	<2.80E+01	0.00E+00	2.80E+01
		K-40	<5.22E+01	0.00E+00	5.22E+01
		488200	10/8/2018 - 11/5/2018	Beta	1.26E+00
Mn-54	<3.97E+00			0.00E+00	3.97E+00
Co-58	<4.38E+00			0.00E+00	4.38E+00
Fe-59	<9.78E+00			0.00E+00	9.78E+00
Co-60	<5.01E+00			0.00E+00	5.01E+00
Zn-65	<9.22E+00			0.00E+00	9.22E+00
Zr-95	<7.35E+00			0.00E+00	7.35E+00
Nb-95	<5.79E+00			0.00E+00	5.79E+00
I-131	<1.14E+01			0.00E+00	1.14E+01
Cs-134	<4.17E+00			0.00E+00	4.17E+00
Cs-137	<4.05E+00			0.00E+00	4.05E+00
BaLa-140	<6.48E+00			0.00E+00	6.48E+00
Be-7	<3.23E+01			0.00E+00	3.23E+01
K-40	<6.44E+01			0.00E+00	6.44E+01
490029	11/5/2018 - 12/3/2018			Beta	1.91E+00
		Mn-54	<1.62E+00	0.00E+00	1.62E+00
		Co-58	<1.81E+00	0.00E+00	1.81E+00
		Fe-59	<3.74E+00	0.00E+00	3.74E+00
		Co-60	<1.50E+00	0.00E+00	1.50E+00
		Zn-65	<4.15E+00	0.00E+00	4.15E+00
		Zr-95	<3.48E+00	0.00E+00	3.48E+00
		Nb-95	<2.68E+00	0.00E+00	2.68E+00
		I-131	<1.02E+01	0.00E+00	1.02E+01
		Cs-134	<2.02E+00	0.00E+00	2.02E+00
		Cs-137	<2.10E+00	0.00E+00	2.10E+00
		BaLa-140	<5.53E+00	0.00E+00	5.53E+00
		Be-7	<1.80E+01	0.00E+00	1.80E+01
		K-40	2.51E+01	3.12E+01	5.14E+01
		488743	10/8/2018 - 12/31/2018	H3DW	<-2.3E+00



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 194 [INDICATOR - NNW @ 6.73 miles]

Sample ID:	491614	Sample Dates:	12/3/2018 - 12/31/2018	Nuclide	Activity	2 Sigma Error	MDA
				Beta	<2.47E-01	0.00E+00	2.46E+00
				Mn-54	<1.16E+00	0.00E+00	1.16E+00
				Co-58	<1.42E+00	0.00E+00	1.42E+00
				Fe-59	<3.11E+00	0.00E+00	3.11E+00
				Co-60	<1.12E+00	0.00E+00	1.12E+00
				Zn-65	<2.55E+00	0.00E+00	2.55E+00
				Zr-95	<2.30E+00	0.00E+00	2.30E+00
				Nb-95	<1.93E+00	0.00E+00	1.93E+00
				I-131	<9.75E+00	0.00E+00	9.75E+00
				Cs-134	<1.32E+00	0.00E+00	1.32E+00
				Cs-137	<1.23E+00	0.00E+00	1.23E+00
				BaLa-140	<4.02E+00	0.00E+00	4.02E+00
				Be-7	<1.12E+01	0.00E+00	1.12E+01
				K-40	2.47E+01	1.49E+01	2.31E+01

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

Sample Point 129 [INDICATOR - ENE @ 0.51 miles]

Sample ID:	472906	Sample Dates:	4/9/2018 - 4/9/2018	FREESWIM	Nuclide	Activity	2 Sigma Error	MDA
					Mn-54	<3.03E+01	0.00E+00	3.03E+01
					Co-58	<2.08E+01	0.00E+00	2.08E+01
					Fe-59	<7.51E+01	0.00E+00	7.51E+01
					Co-60	<2.30E+01	0.00E+00	2.30E+01
					Zn-65	<8.73E+01	0.00E+00	8.73E+01
					Nb-95	<2.48E+01	0.00E+00	2.48E+01
					I-131	<3.85E+01	0.00E+00	3.85E+01
					Cs-134	<1.76E+01	0.00E+00	1.76E+01
					Cs-137	<3.71E+01	0.00E+00	3.71E+01
					Be-7	<1.89E+02	0.00E+00	1.89E+02
					K-40	3.08E+03	7.29E+02	5.47E+02
					Ag-110M	<1.99E+01	0.00E+00	1.99E+01
					Sb-122	<2.48E+02	0.00E+00	2.48E+02
					Sb-125	<5.99E+01	0.00E+00	5.99E+01

Sample ID:	472908	Sample Dates:	4/9/2018 - 4/9/2018	BOTMFEDER	Nuclide	Activity	2 Sigma Error	MDA
					Mn-54	<1.78E+01	0.00E+00	1.78E+01
					Co-58	<2.34E+01	0.00E+00	2.34E+01
					Fe-59	<6.46E+01	0.00E+00	6.46E+01
					Co-60	<4.22E+01	0.00E+00	4.22E+01
					Zn-65	<8.12E+01	0.00E+00	8.12E+01
					Nb-95	<3.11E+01	0.00E+00	3.11E+01
					I-131	<4.32E+01	0.00E+00	4.32E+01
					Cs-134	<3.52E+01	0.00E+00	3.52E+01
					Cs-137	<4.49E+01	0.00E+00	4.49E+01
					Be-7	<2.12E+02	0.00E+00	2.12E+02
					K-40	4.15E+03	8.58E+02	4.10E+02
					Ag-110M	<2.74E+01	0.00E+00	2.74E+01
					Sb-122	<2.95E+02	0.00E+00	2.95E+02
					Sb-125	<6.26E+01	0.00E+00	6.26E+01

Sample ID:	472907	Sample Dates:	4/9/2018 - 4/10/2018	FREESWIM	Nuclide	Activity	2 Sigma Error	MDA
					Mn-54	<3.18E+01	0.00E+00	3.18E+01
					Co-58	<3.04E+01	0.00E+00	3.04E+01
					Fe-59	<6.48E+01	0.00E+00	6.48E+01
					Co-60	<9.55E+00	0.00E+00	9.55E+00
					Zn-65	<5.77E+01	0.00E+00	5.77E+01
					Nb-95	<3.41E+01	0.00E+00	3.41E+01
					I-131	<4.33E+01	0.00E+00	4.33E+01
					Cs-134	<2.91E+01	0.00E+00	2.91E+01
					Cs-137	<3.47E+01	0.00E+00	3.47E+01
					Be-7	<2.44E+02	0.00E+00	2.44E+02
					K-40	2.68E+03	6.79E+02	3.97E+02
					Ag-110M	<2.95E+01	0.00E+00	2.95E+01
					Sb-122	<2.61E+02	0.00E+00	2.61E+02
					Sb-125	<7.61E+01	0.00E+00	7.61E+01

Sample ID:	486169	Sample Dates:	10/2/2018 - 10/2/2018	BOTMFEDER	Nuclide	Activity	2 Sigma Error	MDA
					Mn-54	<4.69E+01	0.00E+00	4.69E+01



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 129 [INDICATOR - ENE @ 0.51 miles]

Sample ID:	Sample Dates:	BOTMFEEDER	Nuclide	Activity	2 Sigma Error	MDA
486169	10/2/2018 - 10/2/2018		Co-58	<5.09E+01	0.00E+00	5.09E+01
			Fe-59	<1.31E+02	0.00E+00	1.31E+02
			Co-60	<7.44E+01	0.00E+00	7.44E+01
			Zn-65	<1.56E+02	0.00E+00	1.56E+02
			Nb-95	<6.69E+01	0.00E+00	6.69E+01
			I-131	<1.36E+02	0.00E+00	1.36E+02
			Cs-134	<5.21E+01	0.00E+00	5.21E+01
			Cs-137	<4.86E+01	0.00E+00	4.86E+01
			Be-7	<4.77E+02	0.00E+00	4.77E+02
			K-40	3.14E+03	9.04E+02	7.36E+02
			Ag-110M	<5.01E+01	0.00E+00	5.01E+01
			Sb-122	<1.98E+03	0.00E+00	1.98E+03
			Sb-125	<1.10E+02	0.00E+00	1.10E+02

Sample ID:	Sample Dates:	FREESWIM	Nuclide	Activity	2 Sigma Error	MDA
486170	10/2/2018 - 10/2/2018		Mn-54	<4.66E+01	0.00E+00	4.66E+01
			Co-58	<7.91E+01	0.00E+00	7.91E+01
			Fe-59	<1.60E+02	0.00E+00	1.60E+02
			Co-60	<5.05E+01	0.00E+00	5.05E+01
			Zn-65	<1.18E+02	0.00E+00	1.18E+02
			Nb-95	<7.24E+01	0.00E+00	7.24E+01
			I-131	<1.65E+02	0.00E+00	1.65E+02
			Cs-134	<7.49E+01	0.00E+00	7.49E+01
			Cs-137	<7.01E+01	0.00E+00	7.01E+01
			Be-7	<4.99E+02	0.00E+00	4.99E+02
			K-40	3.41E+03	1.05E+03	1.03E+03
			Ag-110M	<5.13E+01	0.00E+00	5.13E+01
			Sb-122	<1.94E+03	0.00E+00	1.94E+03
			Sb-125	<1.66E+02	0.00E+00	1.66E+02

Sample ID:	Sample Dates:	FREESWIM	Nuclide	Activity	2 Sigma Error	MDA
486171	10/2/2018 - 10/2/2018		Mn-54	<7.38E+01	0.00E+00	7.38E+01
			Co-58	<8.46E+01	0.00E+00	8.46E+01
			Fe-59	<2.01E+02	0.00E+00	2.01E+02
			Co-60	<6.30E+01	0.00E+00	6.30E+01
			Zn-65	<1.85E+02	0.00E+00	1.85E+02
			Nb-95	<1.01E+02	0.00E+00	1.01E+02
			I-131	<1.63E+02	0.00E+00	1.63E+02
			Cs-134	<8.66E+01	0.00E+00	8.66E+01
			Cs-137	<8.57E+01	0.00E+00	8.57E+01
			Be-7	<6.52E+02	0.00E+00	6.52E+02
			K-40	4.86E+03	1.29E+03	9.31E+02
			Ag-110M	<8.16E+01	0.00E+00	8.16E+01
			Sb-122	<2.03E+03	0.00E+00	2.03E+03
			Sb-125	<1.74E+02	0.00E+00	1.74E+02

Sample Point 137 [CONTROL - N @ 12 miles]

Sample ID:	Sample Dates:	FREESWIM	Nuclide	Activity	2 Sigma Error	MDA
472909	4/10/2018 - 4/10/2018		Mn-54	<3.19E+01	0.00E+00	3.19E+01
			Co-58	<3.02E+01	0.00E+00	3.02E+01
			Fe-59	<8.35E+01	0.00E+00	8.35E+01
			Co-60	<3.26E+01	0.00E+00	3.26E+01
			Zn-65	<8.73E+01	0.00E+00	8.73E+01
			Nb-95	<4.07E+01	0.00E+00	4.07E+01
			I-131	<5.69E+01	0.00E+00	5.69E+01
			Cs-134	<3.82E+01	0.00E+00	3.82E+01
			Cs-137	<2.51E+01	0.00E+00	2.51E+01
			Be-7	<3.14E+02	0.00E+00	3.14E+02
			K-40	4.07E+03	8.70E+02	5.25E+02
			Ag-110M	<2.76E+01	0.00E+00	2.76E+01
			Sb-122	<2.54E+02	0.00E+00	2.54E+02
			Sb-125	<6.31E+01	0.00E+00	6.31E+01

Sample ID:	Sample Dates:	FREESWIM	Nuclide	Activity	2 Sigma Error	MDA
472910	4/10/2018 - 4/10/2018		Mn-54	<3.49E+01	0.00E+00	3.49E+01
			Co-58	<3.61E+01	0.00E+00	3.61E+01
			Fe-59	<4.44E+01	0.00E+00	4.44E+01



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 137 [CONTROL - N @ 12 miles]

Sample ID:	Sample Dates:	Location:	Nuclide	Activity	2 Sigma Error	MDA
472910	4/10/2018 - 4/10/2018	FREESWIM	Co-60	<2.63E+01	0.00E+00	2.63E+01
			Zn-65	<5.86E+01	0.00E+00	5.86E+01
			Nb-95	<2.42E+01	0.00E+00	2.42E+01
			I-131	<4.56E+01	0.00E+00	4.56E+01
			Cs-134	<2.56E+01	0.00E+00	2.56E+01
			Cs-137	<2.85E+01	0.00E+00	2.85E+01
			Be-7	<2.86E+02	0.00E+00	2.86E+02
			K-40	2.62E+03	6.50E+02	9.71E+01
			Ag-110M	<2.31E+01	0.00E+00	2.31E+01
			Sb-122	<2.33E+02	0.00E+00	2.33E+02
			Sb-125	<7.78E+01	0.00E+00	7.78E+01
472911	4/10/2018 - 4/10/2018	BOTMFEDER	Mn-54	<2.99E+01	0.00E+00	2.99E+01
			Co-58	<3.77E+01	0.00E+00	3.77E+01
			Fe-59	<8.18E+01	0.00E+00	8.18E+01
			Co-60	<3.77E+01	0.00E+00	3.77E+01
			Zn-65	<7.67E+01	0.00E+00	7.67E+01
			Nb-95	<4.13E+01	0.00E+00	4.13E+01
			I-131	<4.87E+01	0.00E+00	4.87E+01
			Cs-134	<3.72E+01	0.00E+00	3.72E+01
			Cs-137	<3.99E+01	0.00E+00	3.99E+01
			Be-7	<2.60E+02	0.00E+00	2.60E+02
			K-40	3.83E+03	9.74E+02	8.89E+02
			Ag-110M	<3.81E+01	0.00E+00	3.81E+01
			Sb-122	<2.47E+02	0.00E+00	2.47E+02
			Sb-125	<9.19E+01	0.00E+00	9.19E+01
486172	10/3/2018 - 10/3/2018	BOTMFEDER	Mn-54	<5.95E+01	0.00E+00	5.95E+01
			Co-58	<7.69E+01	0.00E+00	7.69E+01
			Fe-59	<1.34E+02	0.00E+00	1.34E+02
			Co-60	<7.73E+01	0.00E+00	7.73E+01
			Zn-65	<1.49E+02	0.00E+00	1.49E+02
			Nb-95	<6.45E+01	0.00E+00	6.45E+01
			I-131	<1.11E+02	0.00E+00	1.11E+02
			Cs-134	<7.86E+01	0.00E+00	7.86E+01
			Cs-137	<6.84E+01	0.00E+00	6.84E+01
			Be-7	<5.54E+02	0.00E+00	5.54E+02
			K-40	4.63E+03	1.15E+03	6.79E+02
			Ag-110M	<4.87E+01	0.00E+00	4.87E+01
			Sb-122	<6.01E+02	0.00E+00	6.01E+02
			Sb-125	<1.64E+02	0.00E+00	1.64E+02
486173	10/3/2018 - 10/3/2018	FREESWIM	Mn-54	<8.24E+01	0.00E+00	8.24E+01
			Co-58	<6.22E+01	0.00E+00	6.22E+01
			Fe-59	<1.38E+02	0.00E+00	1.38E+02
			Co-60	<8.06E+01	0.00E+00	8.06E+01
			Zn-65	<1.11E+02	0.00E+00	1.11E+02
			Nb-95	<9.83E+01	0.00E+00	9.83E+01
			I-131	<1.61E+02	0.00E+00	1.61E+02
			Cs-134	<6.42E+01	0.00E+00	6.42E+01
			Cs-137	<5.92E+01	0.00E+00	5.92E+01
			Be-7	<5.17E+02	0.00E+00	5.17E+02
			K-40	4.44E+03	1.14E+03	8.05E+02
			Ag-110M	<4.73E+01	0.00E+00	4.73E+01
			Sb-122	<1.58E+03	0.00E+00	1.58E+03
			Sb-125	<1.78E+02	0.00E+00	1.78E+02
486174	10/3/2018 - 10/3/2018	FREESWIM	Mn-54	<4.59E+01	0.00E+00	4.59E+01
			Co-58	<5.17E+01	0.00E+00	5.17E+01
			Fe-59	<8.19E+01	0.00E+00	8.19E+01
			Co-60	<4.76E+01	0.00E+00	4.76E+01
			Zn-65	<1.07E+02	0.00E+00	1.07E+02
			Nb-95	<5.41E+01	0.00E+00	5.41E+01
			I-131	<1.21E+02	0.00E+00	1.21E+02



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 137 [CONTROL - N @ 12 miles]

Sample ID:	486174	Sample Dates:	10/3/2018 - 10/3/2018	FREESWIM	Nuclide	Activity	2 Sigma Error	MDA
					Cs-134	<5.19E+01	0.00E+00	5.19E+01
					Cs-137	<4.23E+01	0.00E+00	4.23E+01
					Be-7	<3.70E+02	0.00E+00	3.70E+02
					K-40	3.67E+03	8.36E+02	7.08E+02
					Ag-110M	<4.77E+01	0.00E+00	4.77E+01
					Sb-122	<1.35E+03	0.00E+00	1.35E+03
					Sb-125	<1.05E+02	0.00E+00	1.05E+02

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

Sample Point 141 [CONTROL - WNW @ 14.8 miles]

Sample ID:	466208	Sample Dates:	1/8/2018 - 1/8/2018		Nuclide	Activity	2 Sigma Error	MDA
					LLI-131	<6.15E-01	0.00E+00	6.15E-01
					I-131	<6.74E+00	0.00E+00	6.74E+00
					Cs-134	<8.52E+00	0.00E+00	8.52E+00
					Cs-137	<1.01E+01	0.00E+00	1.01E+01
					BaLa-140	<7.95E+00	0.00E+00	7.95E+00
					Be-7	<5.81E+01	0.00E+00	5.81E+01
					K-40	1.35E+03	2.35E+02	1.51E+02

Sample ID:	466991	Sample Dates:	1/22/2018 - 1/22/2018		Nuclide	Activity	2 Sigma Error	MDA
					LLI-131	<6.04E-01	0.00E+00	6.04E-01
					I-131	<7.57E+00	0.00E+00	7.57E+00
					Cs-134	<6.82E+00	0.00E+00	6.82E+00
					Cs-137	<8.74E+00	0.00E+00	8.74E+00
					BaLa-140	<2.32E+00	0.00E+00	2.32E+00
					Be-7	<5.01E+01	0.00E+00	5.01E+01
					K-40	1.74E+03	2.59E+02	1.86E+01

Sample ID:	467667	Sample Dates:	2/5/2018 - 2/5/2018		Nuclide	Activity	2 Sigma Error	MDA
					LLI-131	<6.17E-01	0.00E+00	6.17E-01
					I-131	<6.74E+00	0.00E+00	6.74E+00
					Cs-134	<8.30E+00	0.00E+00	8.30E+00
					Cs-137	<7.71E+00	0.00E+00	7.71E+00
					BaLa-140	<2.14E+00	0.00E+00	2.14E+00
					Be-7	<4.35E+01	0.00E+00	4.35E+01
					K-40	1.15E+03	2.10E+02	1.48E+02

Sample ID:	468769	Sample Dates:	2/19/2018 - 2/19/2018		Nuclide	Activity	2 Sigma Error	MDA
					LLI-131	<6.35E-01	0.00E+00	6.35E-01
					I-131	<8.23E+00	0.00E+00	8.23E+00
					Cs-134	<8.70E+00	0.00E+00	8.70E+00
					Cs-137	<7.20E+00	0.00E+00	7.20E+00
					BaLa-140	<1.07E+01	0.00E+00	1.07E+01
					Be-7	<7.25E+01	0.00E+00	7.25E+01
					K-40	6.52E+02	1.36E+02	1.35E+02

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

Sample Point 129 [INDICATOR - ENE @ 0.51 miles]

Sample ID:	470608	Sample Dates:	4/9/2018 - 4/9/2018		Nuclide	Activity	2 Sigma Error	MDA
					Mn-54	<4.02E+01	0.00E+00	4.02E+01
					Co-58	<2.72E+01	0.00E+00	2.72E+01
					Fe-59	<6.72E+01	0.00E+00	6.72E+01
					Co-60	<4.80E+01	0.00E+00	4.80E+01
					Zn-65	<6.38E+01	0.00E+00	6.38E+01
					Zr-95	<6.61E+01	0.00E+00	6.61E+01
					Nb-95	<5.01E+01	0.00E+00	5.01E+01
					I-131	<8.34E+01	0.00E+00	8.34E+01
					Cs-134	<4.28E+01	0.00E+00	4.28E+01
					Cs-137	<2.73E+01	0.00E+00	2.73E+01
					Be-7	<3.33E+02	0.00E+00	3.33E+02
					K-40	4.30E+03	8.08E+02	3.14E+02
					Co-57	<2.41E+01	0.00E+00	2.41E+01
					Mo-99	<1.08E+04	0.00E+00	1.08E+04
					Ag-110M	<2.98E+01	0.00E+00	2.98E+01
					Sb-122	<1.68E+03	0.00E+00	1.68E+03
					Sb-125	<7.32E+01	0.00E+00	7.32E+01



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 129 [INDICATOR - ENE @ 0.51 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
484031	10/15/2018 - 10/15/2018	Mn-54	<4.13E+01	0.00E+00	4.13E+01
		Co-58	<4.38E+01	0.00E+00	4.38E+01
		Fe-59	<7.96E+01	0.00E+00	7.96E+01
		Co-60	<5.18E+01	0.00E+00	5.18E+01
		Zn-65	<8.01E+01	0.00E+00	8.01E+01
		Zr-95	<9.01E+01	0.00E+00	9.01E+01
		Nb-95	<5.42E+01	0.00E+00	5.42E+01
		I-131	<8.50E+01	0.00E+00	8.50E+01
		Cs-134	<5.40E+01	0.00E+00	5.40E+01
		Cs-137	<3.58E+01	0.00E+00	3.58E+01
		Be-7	<4.06E+02	0.00E+00	4.06E+02
		K-40	1.97E+03	6.35E+02	1.30E+02
		Co-57	<3.82E+01	0.00E+00	3.82E+01
		Mo-99	<4.31E+03	0.00E+00	4.31E+03
		Ag-110M	<4.26E+01	0.00E+00	4.26E+01
		Sb-122	<6.68E+02	0.00E+00	6.68E+02
		Sb-125	<1.12E+02	0.00E+00	1.12E+02

Sample Point 130 [INDICATOR - SW @ 0.52 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
470609	4/9/2018 - 4/9/2018	Mn-54	<5.08E+01	0.00E+00	5.08E+01
		Co-58	<4.10E+01	0.00E+00	4.10E+01
		Fe-59	<9.71E+01	0.00E+00	9.71E+01
		Co-60	<3.58E+01	0.00E+00	3.58E+01
		Zn-65	<1.14E+02	0.00E+00	1.14E+02
		Zr-95	<9.72E+01	0.00E+00	9.72E+01
		Nb-95	<6.86E+01	0.00E+00	6.86E+01
		I-131	<1.21E+02	0.00E+00	1.21E+02
		Cs-134	<5.93E+01	0.00E+00	5.93E+01
		Cs-137	<6.62E+01	0.00E+00	6.62E+01
		Be-7	<3.92E+02	0.00E+00	3.92E+02
		K-40	1.66E+04	2.00E+03	7.72E+02
		Co-57	<3.17E+01	0.00E+00	3.17E+01
		Mo-99	<1.21E+04	0.00E+00	1.21E+04
		Ag-110M	<4.03E+01	0.00E+00	4.03E+01
		Sb-122	<1.89E+03	0.00E+00	1.89E+03
		Sb-125	<9.11E+01	0.00E+00	9.11E+01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
484032	10/15/2018 - 10/15/2018	Mn-54	<8.19E+01	0.00E+00	8.19E+01
		Co-58	<8.16E+01	0.00E+00	8.16E+01
		Fe-59	<1.56E+02	0.00E+00	1.56E+02
		Co-60	<8.73E+01	0.00E+00	8.73E+01
		Zn-65	<1.57E+02	0.00E+00	1.57E+02
		Zr-95	<8.84E+01	0.00E+00	8.84E+01
		Nb-95	<8.29E+01	0.00E+00	8.29E+01
		I-131	<1.25E+02	0.00E+00	1.25E+02
		Cs-134	<9.13E+01	0.00E+00	9.13E+01
		Cs-137	<8.59E+01	0.00E+00	8.59E+01
		Be-7	<5.48E+02	0.00E+00	5.48E+02
		K-40	1.76E+04	2.45E+03	6.73E+02
		Co-57	<5.03E+01	0.00E+00	5.03E+01
		Mo-99	<6.66E+03	0.00E+00	6.66E+03
		Ag-110M	<6.32E+01	0.00E+00	6.32E+01
		Sb-122	<8.99E+02	0.00E+00	8.99E+02
		Sb-125	<1.91E+02	0.00E+00	1.91E+02

Sample Point 137 [CONTROL - N @ 12 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
470610	4/9/2018 - 4/9/2018	Mn-54	<3.95E+01	0.00E+00	3.95E+01
		Co-58	<4.24E+01	0.00E+00	4.24E+01
		Fe-59	<9.94E+01	0.00E+00	9.94E+01
		Co-60	<3.88E+01	0.00E+00	3.88E+01
		Zn-65	<1.03E+02	0.00E+00	1.03E+02
		Zr-95	<7.26E+01	0.00E+00	7.26E+01
		Nb-95	<3.14E+01	0.00E+00	3.14E+01



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 137 [CONTROL - N @ 12 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
470610	4/9/2018 - 4/9/2018	I-131	<6.24E+01	0.00E+00	6.24E+01
		Cs-134	<3.57E+01	0.00E+00	3.57E+01
		Cs-137	<2.82E+01	0.00E+00	2.82E+01
		Be-7	<3.17E+02	0.00E+00	3.17E+02
		K-40	1.90E+04	2.09E+03	6.62E+01
		Co-57	<2.65E+01	0.00E+00	2.65E+01
		Mo-99	<8.12E+03	0.00E+00	8.12E+03
		Ag-110M	<2.49E+01	0.00E+00	2.49E+01
		Sb-122	<1.31E+03	0.00E+00	1.31E+03
		Sb-125	<7.36E+01	0.00E+00	7.36E+01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
484033	10/15/2018 - 10/15/2018	Mn-54	<6.28E+01	0.00E+00	6.28E+01
		Co-58	<5.82E+01	0.00E+00	5.82E+01
		Fe-59	<1.58E+02	0.00E+00	1.58E+02
		Co-60	<5.87E+01	0.00E+00	5.87E+01
		Zn-65	<1.52E+02	0.00E+00	1.52E+02
		Zr-95	<9.08E+01	0.00E+00	9.08E+01
		Nb-95	<6.14E+01	0.00E+00	6.14E+01
		I-131	<8.33E+01	0.00E+00	8.33E+01
		Cs-134	<5.44E+01	0.00E+00	5.44E+01
		Cs-137	<6.52E+01	0.00E+00	6.52E+01
		Be-7	<3.50E+02	0.00E+00	3.50E+02
		K-40	1.94E+04	2.55E+03	6.66E+02
		Co-57	<3.21E+01	0.00E+00	3.21E+01
		Mo-99	<6.26E+03	0.00E+00	6.26E+03
		Ag-110M	<5.08E+01	0.00E+00	5.08E+01
		Sb-122	<7.22E+02	0.00E+00	7.22E+02
		Sb-125	<1.31E+02	0.00E+00	1.31E+02

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

Sample Point 128 [INDICATOR - NE @ 0.45 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467341	1/2/2018 - 1/29/2018	Mn-54	<2.19E+00	0.00E+00	2.19E+00
		Co-58	<3.89E+00	0.00E+00	3.89E+00
		Fe-59	<7.35E+00	0.00E+00	7.35E+00
		Co-60	<4.77E+00	0.00E+00	4.77E+00
		Zn-65	<6.26E+00	0.00E+00	6.26E+00
		Zr-95	<6.46E+00	0.00E+00	6.46E+00
		Nb-95	<4.04E+00	0.00E+00	4.04E+00
		I-131	<1.19E+01	0.00E+00	1.19E+01
		Cs-134	<3.93E+00	0.00E+00	3.93E+00
		Cs-137	<3.82E+00	0.00E+00	3.82E+00
		BaLa-140	<5.97E+00	0.00E+00	5.97E+00
		Be-7	<3.96E+01	0.00E+00	3.96E+01
		K-40	<6.71E+01	0.00E+00	6.71E+01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
469575	1/29/2018 - 2/26/2018	Mn-54	<2.98E+00	0.00E+00	2.98E+00
		Co-58	<3.88E+00	0.00E+00	3.88E+00
		Fe-59	<7.05E+00	0.00E+00	7.05E+00
		Co-60	<3.08E+00	0.00E+00	3.08E+00
		Zn-65	<5.68E+00	0.00E+00	5.68E+00
		Zr-95	<6.40E+00	0.00E+00	6.40E+00
		Nb-95	<4.05E+00	0.00E+00	4.05E+00
		I-131	<1.15E+01	0.00E+00	1.15E+01
		Cs-134	<4.36E+00	0.00E+00	4.36E+00
		Cs-137	<4.68E+00	0.00E+00	4.68E+00
		BaLa-140	<8.49E+00	0.00E+00	8.49E+00
		Be-7	<3.63E+01	0.00E+00	3.63E+01
		K-40	<5.47E+01	0.00E+00	5.47E+01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
472513	2/26/2018 - 3/26/2018	Mn-54	<1.96E+00	0.00E+00	1.96E+00
		Co-58	<2.35E+00	0.00E+00	2.35E+00
		Fe-59	<4.94E+00	0.00E+00	4.94E+00
		Co-60	<1.68E+00	0.00E+00	1.68E+00



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 128 [INDICATOR - NE @ 0.45 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
472513	2/26/2018 - 3/26/2018	Zn-65	<4.64E+00	0.00E+00	4.64E+00
		Zr-95	<4.55E+00	0.00E+00	4.55E+00
		Nb-95	<2.82E+00	0.00E+00	2.82E+00
		I-131	<1.14E+01	0.00E+00	1.14E+01
		Cs-134	<2.20E+00	0.00E+00	2.20E+00
		Cs-137	<2.09E+00	0.00E+00	2.09E+00
		BaLa-140	<7.21E+00	0.00E+00	7.21E+00
		Be-7	<2.09E+01	0.00E+00	2.09E+01
		K-40	3.47E+01	1.87E+01	2.59E+01
		467529	1/2/2018 - 4/23/2018	H3SW	6.64E+02
474157	3/26/2018 - 4/23/2018	Mn-54	<2.66E+00	0.00E+00	2.66E+00
		Co-58	<3.43E+00	0.00E+00	3.43E+00
		Fe-59	<7.12E+00	0.00E+00	7.12E+00
		Co-60	<2.89E+00	0.00E+00	2.89E+00
		Zn-65	<5.61E+00	0.00E+00	5.61E+00
		Zr-95	<6.08E+00	0.00E+00	6.08E+00
		Nb-95	<3.98E+00	0.00E+00	3.98E+00
		I-131	<1.17E+01	0.00E+00	1.17E+01
		Cs-134	<2.74E+00	0.00E+00	2.74E+00
		Cs-137	<3.03E+00	0.00E+00	3.03E+00
		BaLa-140	<8.84E+00	0.00E+00	8.84E+00
		Be-7	<2.69E+01	0.00E+00	2.69E+01
		K-40	2.51E+01	2.39E+01	3.72E+01
		475543	4/23/2018 - 5/21/2018	Mn-54	<3.26E+00
Co-58	<3.92E+00			0.00E+00	3.92E+00
Fe-59	<7.46E+00			0.00E+00	7.46E+00
Co-60	<3.99E+00			0.00E+00	3.99E+00
Zn-65	<8.06E+00			0.00E+00	8.06E+00
Zr-95	<6.69E+00			0.00E+00	6.69E+00
Nb-95	<3.71E+00			0.00E+00	3.71E+00
I-131	<1.18E+01			0.00E+00	1.18E+01
Cs-134	<3.29E+00			0.00E+00	3.29E+00
Cs-137	<3.41E+00			0.00E+00	3.41E+00
BaLa-140	<8.42E+00			0.00E+00	8.42E+00
Be-7	<3.04E+01			0.00E+00	3.04E+01
K-40	4.96E+01			2.99E+01	3.91E+01
478430	5/21/2018 - 6/18/2018			Mn-54	<2.28E+00
		Co-58	<3.36E+00	0.00E+00	3.36E+00
		Fe-59	<6.90E+00	0.00E+00	6.90E+00
		Co-60	<3.29E+00	0.00E+00	3.29E+00
		Zn-65	<6.05E+00	0.00E+00	6.05E+00
		Zr-95	<5.13E+00	0.00E+00	5.13E+00
		Nb-95	<4.21E+00	0.00E+00	4.21E+00
		I-131	<1.19E+01	0.00E+00	1.19E+01
		Cs-134	<3.49E+00	0.00E+00	3.49E+00
		Cs-137	<3.27E+00	0.00E+00	3.27E+00
		BaLa-140	<6.92E+00	0.00E+00	6.92E+00
		Be-7	1.81E+00	1.80E+01	3.50E+01
		K-40	3.01E+01	3.16E+01	5.04E+01
		474726	4/23/2018 - 7/16/2018	H3SW	7.33E+02
480253	6/18/2018 - 7/16/2018	Mn-54	<3.57E+00	0.00E+00	3.57E+00
		Co-58	<3.93E+00	0.00E+00	3.93E+00
		Fe-59	<1.05E+01	0.00E+00	1.05E+01
		Co-60	<9.21E-01	0.00E+00	9.21E-01
		Zn-65	<6.72E+00	0.00E+00	6.72E+00
		Zr-95	<9.29E+00	0.00E+00	9.29E+00



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 128 [INDICATOR - NE @ 0.45 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
480253	6/18/2018 - 7/16/2018	Nb-95	<5.40E+00	0.00E+00	5.40E+00
		I-131	<1.17E+01	0.00E+00	1.17E+01
		Cs-134	<4.46E+00	0.00E+00	4.46E+00
		Cs-137	<3.68E+00	0.00E+00	3.68E+00
		BaLa-140	<8.31E+00	0.00E+00	8.31E+00
		Be-7	<3.53E+01	0.00E+00	3.53E+01
		K-40	<1.03E+02	0.00E+00	1.03E+02
482489	7/16/2018 - 8/13/2018	Mn-54	<1.72E+00	0.00E+00	1.72E+00
		Co-58	<1.75E+00	0.00E+00	1.75E+00
		Fe-59	<4.15E+00	0.00E+00	4.15E+00
		Co-60	<1.70E+00	0.00E+00	1.70E+00
		Zn-65	<3.41E+00	0.00E+00	3.41E+00
		Zr-95	<3.95E+00	0.00E+00	3.95E+00
		Nb-95	<2.62E+00	0.00E+00	2.62E+00
		I-131	<1.14E+01	0.00E+00	1.14E+01
		Cs-134	<1.87E+00	0.00E+00	1.87E+00
		Cs-137	<1.90E+00	0.00E+00	1.90E+00
		BaLa-140	<4.71E+00	0.00E+00	4.71E+00
		Be-7	<1.70E+01	0.00E+00	1.70E+01
		K-40	4.69E+01	1.87E+01	2.49E+01
484608	8/13/2018 - 9/10/2018	Mn-54	<4.38E+00	0.00E+00	4.38E+00
		Co-58	<2.87E+00	0.00E+00	2.87E+00
		Fe-59	<8.25E+00	0.00E+00	8.25E+00
		Co-60	<2.99E+00	0.00E+00	2.99E+00
		Zn-65	<8.36E+00	0.00E+00	8.36E+00
		Zr-95	<6.19E+00	0.00E+00	6.19E+00
		Nb-95	<3.20E+00	0.00E+00	3.20E+00
		I-131	<1.18E+01	0.00E+00	1.18E+01
		Cs-134	<4.47E+00	0.00E+00	4.47E+00
		Cs-137	<3.73E+00	0.00E+00	3.73E+00
		BaLa-140	<1.11E+01	0.00E+00	1.11E+01
		Be-7	<2.81E+01	0.00E+00	2.81E+01
		K-40	<6.22E+01	0.00E+00	6.22E+01
481628	7/16/2018 - 10/8/2018	H3SW	8.57E+02	1.33E+02	1.83E+02
486705	9/10/2018 - 10/8/2018	Mn-54	<3.80E+00	0.00E+00	3.80E+00
		Co-58	<4.86E+00	0.00E+00	4.86E+00
		Fe-59	<7.93E+00	0.00E+00	7.93E+00
		Co-60	<5.11E+00	0.00E+00	5.11E+00
		Zn-65	<1.04E+01	0.00E+00	1.04E+01
		Zr-95	<6.96E+00	0.00E+00	6.96E+00
		Nb-95	<6.23E+00	0.00E+00	6.23E+00
		I-131	<1.17E+01	0.00E+00	1.17E+01
		Cs-134	<5.47E+00	0.00E+00	5.47E+00
		Cs-137	<3.68E+00	0.00E+00	3.68E+00
		BaLa-140	<9.63E+00	0.00E+00	9.63E+00
		Be-7	<3.09E+01	0.00E+00	3.09E+01
		K-40	<7.39E+01	0.00E+00	7.39E+01
488859	10/8/2018 - 11/5/2018	Mn-54	<3.19E+00	0.00E+00	3.19E+00
		Co-58	<1.84E+00	0.00E+00	1.84E+00
		Fe-59	<6.28E+00	0.00E+00	6.28E+00
		Co-60	<3.21E+00	0.00E+00	3.21E+00
		Zn-65	<5.92E+00	0.00E+00	5.92E+00
		Zr-95	<7.41E+00	0.00E+00	7.41E+00
		Nb-95	<4.31E+00	0.00E+00	4.31E+00
		I-131	<1.13E+01	0.00E+00	1.13E+01
		Cs-134	<3.36E+00	0.00E+00	3.36E+00
		Cs-137	<3.26E+00	0.00E+00	3.26E+00
		BaLa-140	<7.59E+00	0.00E+00	7.59E+00



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 128 [INDICATOR - NE @ 0.45 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
488859	10/8/2018 - 11/5/2018	Be-7	<2.20E+01	0.00E+00	2.20E+01
		K-40	<4.41E+01	0.00E+00	4.41E+01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
490808	11/5/2018 - 12/3/2018	Mn-54	<3.13E+00	0.00E+00	3.13E+00
		Co-58	<2.62E+00	0.00E+00	2.62E+00
		Fe-59	<5.49E+00	0.00E+00	5.49E+00
		Co-60	<3.47E+00	0.00E+00	3.47E+00
		Zn-65	<6.10E+00	0.00E+00	6.10E+00
		Zr-95	<5.62E+00	0.00E+00	5.62E+00
		Nb-95	<3.60E+00	0.00E+00	3.60E+00
		I-131	<1.18E+01	0.00E+00	1.18E+01
		Cs-134	<2.74E+00	0.00E+00	2.74E+00
		Cs-137	<2.83E+00	0.00E+00	2.83E+00
		BaLa-140	<8.68E+00	0.00E+00	8.68E+00
		Be-7	<2.83E+01	0.00E+00	2.83E+01
		K-40	5.20E+01	2.77E+01	3.51E+01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
488744	10/8/2018 - 12/31/2018	H3SW	4.86E+02	1.24E+02	1.88E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
492230	12/3/2018 - 12/31/2018	Mn-54	<1.65E+00	0.00E+00	1.65E+00
		Co-58	<1.81E+00	0.00E+00	1.81E+00
		Fe-59	<4.09E+00	0.00E+00	4.09E+00
		Co-60	<1.44E+00	0.00E+00	1.44E+00
		Zn-65	<3.21E+00	0.00E+00	3.21E+00
		Zr-95	<3.33E+00	0.00E+00	3.33E+00
		Nb-95	<2.57E+00	0.00E+00	2.57E+00
		I-131	<1.14E+01	0.00E+00	1.14E+01
		Cs-134	<1.84E+00	0.00E+00	1.84E+00
		Cs-137	<1.67E+00	0.00E+00	1.67E+00
		BaLa-140	<4.13E+00	0.00E+00	4.13E+00
		Be-7	<1.68E+01	0.00E+00	1.68E+01
		K-40	4.69E+01	1.74E+01	2.25E+01

Sample Point 131 [INDICATOR - WNW @ 0.64 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467342	1/2/2018 - 1/29/2018	Mn-54	<3.58E+00	0.00E+00	3.58E+00
		Co-58	<4.58E+00	0.00E+00	4.58E+00
		Fe-59	<6.71E+00	0.00E+00	6.71E+00
		Co-60	<2.98E+00	0.00E+00	2.98E+00
		Zn-65	<7.72E+00	0.00E+00	7.72E+00
		Zr-95	<6.99E+00	0.00E+00	6.99E+00
		Nb-95	<5.69E+00	0.00E+00	5.69E+00
		I-131	<1.15E+01	0.00E+00	1.15E+01
		Cs-134	<3.47E+00	0.00E+00	3.47E+00
		Cs-137	<4.03E+00	0.00E+00	4.03E+00
		BaLa-140	<9.03E+00	0.00E+00	9.03E+00
		Be-7	<3.59E+01	0.00E+00	3.59E+01
		K-40	<5.77E+01	0.00E+00	5.77E+01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
469576	1/29/2018 - 2/26/2018	Mn-54	<2.55E+00	0.00E+00	2.55E+00
		Co-58	<2.94E+00	0.00E+00	2.94E+00
		Fe-59	<3.35E+00	0.00E+00	3.35E+00
		Co-60	<2.55E+00	0.00E+00	2.55E+00
		Zn-65	<5.02E+00	0.00E+00	5.02E+00
		Zr-95	<6.01E+00	0.00E+00	6.01E+00
		Nb-95	<3.53E+00	0.00E+00	3.53E+00
		I-131	<1.14E+01	0.00E+00	1.14E+01
		Cs-134	<2.83E+00	0.00E+00	2.83E+00
		Cs-137	<2.64E+00	0.00E+00	2.64E+00
		BaLa-140	<6.73E+00	0.00E+00	6.73E+00
		Be-7	<2.70E+01	0.00E+00	2.70E+01
		K-40	<4.65E+01	0.00E+00	4.65E+01



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 131 [INDICATOR - WNW @ 0.64 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
472514	2/26/2018 - 3/26/2018	Mn-54	<1.53E+00	0.00E+00	1.53E+00
		Co-58	<2.12E+00	0.00E+00	2.12E+00
		Fe-59	<3.99E+00	0.00E+00	3.99E+00
		Co-60	<1.49E+00	0.00E+00	1.49E+00
		Zn-65	<3.57E+00	0.00E+00	3.57E+00
		Zr-95	<3.51E+00	0.00E+00	3.51E+00
		Nb-95	<2.61E+00	0.00E+00	2.61E+00
		I-131	<1.01E+01	0.00E+00	1.01E+01
		Cs-134	<2.04E+00	0.00E+00	2.04E+00
		Cs-137	<1.66E+00	0.00E+00	1.66E+00
		BaLa-140	<5.11E+00	0.00E+00	5.11E+00
		Be-7	<1.60E+01	0.00E+00	1.60E+01
		K-40	8.43E+01	2.25E+01	2.76E+01
		467530	1/2/2018 - 4/23/2018	H3SW	5.24E+02
474158	3/26/2018 - 4/23/2018	Mn-54	<2.70E+00	0.00E+00	2.70E+00
		Co-58	<2.19E+00	0.00E+00	2.19E+00
		Fe-59	<6.11E+00	0.00E+00	6.11E+00
		Co-60	<2.45E+00	0.00E+00	2.45E+00
		Zn-65	<4.83E+00	0.00E+00	4.83E+00
		Zr-95	<5.22E+00	0.00E+00	5.22E+00
		Nb-95	<3.55E+00	0.00E+00	3.55E+00
		I-131	<1.00E+01	0.00E+00	1.00E+01
		Cs-134	<3.46E+00	0.00E+00	3.46E+00
		Cs-137	<3.15E+00	0.00E+00	3.15E+00
		BaLa-140	<6.23E+00	0.00E+00	6.23E+00
		Be-7	<2.20E+01	0.00E+00	2.20E+01
		K-40	<4.79E+01	0.00E+00	4.79E+01
		475544	4/23/2018 - 5/21/2018	Mn-54	<2.88E+00
Co-58	<2.94E+00			0.00E+00	2.94E+00
Fe-59	<7.33E+00			0.00E+00	7.33E+00
Co-60	<2.55E+00			0.00E+00	2.55E+00
Zn-65	<6.52E+00			0.00E+00	6.52E+00
Zr-95	<5.22E+00			0.00E+00	5.22E+00
Nb-95	<4.00E+00			0.00E+00	4.00E+00
I-131	<1.19E+01			0.00E+00	1.19E+01
Cs-134	<3.31E+00			0.00E+00	3.31E+00
Cs-137	<2.79E+00			0.00E+00	2.79E+00
BaLa-140	<7.81E+00			0.00E+00	7.81E+00
Be-7	<2.92E+01			0.00E+00	2.92E+01
K-40	<4.73E+01			0.00E+00	4.73E+01
478431	5/21/2018 - 6/18/2018			Mn-54	<2.29E+00
		Co-58	<3.71E+00	0.00E+00	3.71E+00
		Fe-59	<5.43E+00	0.00E+00	5.43E+00
		Co-60	<3.57E+00	0.00E+00	3.57E+00
		Zn-65	<7.80E+00	0.00E+00	7.80E+00
		Zr-95	<6.58E+00	0.00E+00	6.58E+00
		Nb-95	<4.68E+00	0.00E+00	4.68E+00
		I-131	<1.14E+01	0.00E+00	1.14E+01
		Cs-134	<3.36E+00	0.00E+00	3.36E+00
		Cs-137	<3.09E+00	0.00E+00	3.09E+00
		BaLa-140	<1.08E+01	0.00E+00	1.08E+01
		Be-7	<2.73E+01	0.00E+00	2.73E+01
		K-40	3.97E+01	2.61E+01	3.41E+01
		474727	4/23/2018 - 7/16/2018	H3SW	2.19E+02
480254	6/18/2018 - 7/16/2018	Mn-54	<3.59E+00	0.00E+00	3.59E+00
		Co-58	<3.96E+00	0.00E+00	3.96E+00



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 131 [INDICATOR - WNW @ 0.64 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
480254	6/18/2018 - 7/16/2018	Fe-59	<6.75E+00	0.00E+00	6.75E+00
		Co-60	<2.98E+00	0.00E+00	2.98E+00
		Zn-65	<8.32E+00	0.00E+00	8.32E+00
		Zr-95	<7.41E+00	0.00E+00	7.41E+00
		Nb-95	<4.90E+00	0.00E+00	4.90E+00
		I-131	<1.06E+01	0.00E+00	1.06E+01
		Cs-134	<4.20E+00	0.00E+00	4.20E+00
		Cs-137	<3.67E+00	0.00E+00	3.67E+00
		BaLa-140	<2.32E+00	0.00E+00	2.32E+00
		Be-7	<2.94E+01	0.00E+00	2.94E+01
		K-40	4.94E+01	3.64E+01	5.16E+01
		482490	7/16/2018 - 8/13/2018	Mn-54	<3.81E+00
Co-58	<3.74E+00			0.00E+00	3.74E+00
Fe-59	<7.12E+00			0.00E+00	7.12E+00
Co-60	<3.60E+00			0.00E+00	3.60E+00
Zn-65	<6.62E+00			0.00E+00	6.62E+00
Zr-95	<6.14E+00			0.00E+00	6.14E+00
Nb-95	<4.50E+00			0.00E+00	4.50E+00
I-131	<1.12E+01			0.00E+00	1.12E+01
Cs-134	<2.98E+00			0.00E+00	2.98E+00
Cs-137	<3.02E+00			0.00E+00	3.02E+00
BaLa-140	<8.04E+00			0.00E+00	8.04E+00
Be-7	<3.14E+01			0.00E+00	3.14E+01
K-40	<5.20E+01	0.00E+00	5.20E+01		
484609	8/13/2018 - 9/10/2018	Mn-54	<3.22E+00	0.00E+00	3.22E+00
		Co-58	<2.50E+00	0.00E+00	2.50E+00
		Fe-59	<7.21E+00	0.00E+00	7.21E+00
		Co-60	<3.23E+00	0.00E+00	3.23E+00
		Zn-65	<5.07E+00	0.00E+00	5.07E+00
		Zr-95	<6.13E+00	0.00E+00	6.13E+00
		Nb-95	<3.74E+00	0.00E+00	3.74E+00
		I-131	<1.18E+01	0.00E+00	1.18E+01
		Cs-134	<3.31E+00	0.00E+00	3.31E+00
		Cs-137	<4.14E+00	0.00E+00	4.14E+00
		BaLa-140	<9.07E+00	0.00E+00	9.07E+00
		Be-7	<3.00E+01	0.00E+00	3.00E+01
K-40	5.26E+01	2.90E+01	3.69E+01		
481629	7/16/2018 - 10/8/2018	H3SW	3.04E+02	1.16E+02	1.83E+02
486706	9/10/2018 - 10/8/2018	Mn-54	<3.41E+00	0.00E+00	3.41E+00
		Co-58	<3.76E+00	0.00E+00	3.76E+00
		Fe-59	<7.03E+00	0.00E+00	7.03E+00
		Co-60	<3.60E+00	0.00E+00	3.60E+00
		Zn-65	<7.12E+00	0.00E+00	7.12E+00
		Zr-95	<6.35E+00	0.00E+00	6.35E+00
		Nb-95	<3.55E+00	0.00E+00	3.55E+00
		I-131	<1.14E+01	0.00E+00	1.14E+01
		Cs-134	<4.84E+00	0.00E+00	4.84E+00
		Cs-137	<2.80E+00	0.00E+00	2.80E+00
		BaLa-140	<1.10E+01	0.00E+00	1.10E+01
		Be-7	<3.64E+01	0.00E+00	3.64E+01
K-40	3.19E+01	2.91E+01	4.39E+01		
488860	10/9/2018 - 11/5/2018	Mn-54	<4.18E+00	0.00E+00	4.18E+00
		Co-58	<4.18E+00	0.00E+00	4.18E+00
		Fe-59	<9.92E+00	0.00E+00	9.92E+00
		Co-60	<4.37E+00	0.00E+00	4.37E+00
		Zn-65	<9.77E+00	0.00E+00	9.77E+00
		Zr-95	<8.23E+00	0.00E+00	8.23E+00
		Nb-95	<3.37E+00	0.00E+00	3.37E+00



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 131 [INDICATOR - WNW @ 0.64 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
488860	10/9/2018 - 11/5/2018	I-131	<1.18E+01	0.00E+00	1.18E+01
		Cs-134	<5.42E+00	0.00E+00	5.42E+00
		Cs-137	<4.05E+00	0.00E+00	4.05E+00
		BaLa-140	<6.79E+00	0.00E+00	6.79E+00
		Be-7	<4.06E+01	0.00E+00	4.06E+01
		K-40	<6.44E+01	0.00E+00	6.44E+01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
490809	11/5/2018 - 12/3/2018	Mn-54	<1.77E+00	0.00E+00	1.77E+00
		Co-58	<1.87E+00	0.00E+00	1.87E+00
		Fe-59	<4.10E+00	0.00E+00	4.10E+00
		Co-60	<1.80E+00	0.00E+00	1.80E+00
		Zn-65	<4.25E+00	0.00E+00	4.25E+00
		Zr-95	<3.90E+00	0.00E+00	3.90E+00
		Nb-95	<2.53E+00	0.00E+00	2.53E+00
		I-131	<1.17E+01	0.00E+00	1.17E+01
		Cs-134	<2.04E+00	0.00E+00	2.04E+00
		Cs-137	<1.67E+00	0.00E+00	1.67E+00
		BaLa-140	<6.27E+00	0.00E+00	6.27E+00
		Be-7	<1.84E+01	0.00E+00	1.84E+01
		K-40	6.15E+01	2.20E+01	2.94E+01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
488745	10/9/2018 - 12/31/2018	H3SW	2.80E+02	1.18E+02	1.88E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
492231	12/3/2018 - 12/31/2018	Mn-54	<1.76E+00	0.00E+00	1.76E+00
		Co-58	<1.95E+00	0.00E+00	1.95E+00
		Fe-59	<4.99E+00	0.00E+00	4.99E+00
		Co-60	<1.97E+00	0.00E+00	1.97E+00
		Zn-65	<3.68E+00	0.00E+00	3.68E+00
		Zr-95	<3.83E+00	0.00E+00	3.83E+00
		Nb-95	<2.30E+00	0.00E+00	2.30E+00
		I-131	<1.10E+01	0.00E+00	1.10E+01
		Cs-134	<2.42E+00	0.00E+00	2.42E+00
		Cs-137	<1.99E+00	0.00E+00	1.99E+00
		BaLa-140	<6.58E+00	0.00E+00	6.58E+00
		Be-7	<1.67E+01	0.00E+00	1.67E+01
		K-40	4.84E+01	2.18E+01	3.01E+01

Sample Point 135 [CONTROL - N @ 11.9 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467343	1/2/2018 - 1/29/2018	Mn-54	<3.98E+00	0.00E+00	3.98E+00
		Co-58	<3.95E+00	0.00E+00	3.95E+00
		Fe-59	<6.70E+00	0.00E+00	6.70E+00
		Co-60	<2.99E+00	0.00E+00	2.99E+00
		Zn-65	<4.34E+00	0.00E+00	4.34E+00
		Zr-95	<8.44E+00	0.00E+00	8.44E+00
		Nb-95	<4.37E+00	0.00E+00	4.37E+00
		I-131	<1.12E+01	0.00E+00	1.12E+01
		Cs-134	<3.99E+00	0.00E+00	3.99E+00
		Cs-137	<3.48E+00	0.00E+00	3.48E+00
		BaLa-140	<7.72E+00	0.00E+00	7.72E+00
		Be-7	<3.58E+01	0.00E+00	3.58E+01
		K-40	<5.79E+01	0.00E+00	5.79E+01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
469577	1/29/2018 - 2/26/2018	Mn-54	<3.16E+00	0.00E+00	3.16E+00
		Co-58	<3.26E+00	0.00E+00	3.26E+00
		Fe-59	<6.70E+00	0.00E+00	6.70E+00
		Co-60	<3.18E+00	0.00E+00	3.18E+00
		Zn-65	<6.23E+00	0.00E+00	6.23E+00
		Zr-95	<6.01E+00	0.00E+00	6.01E+00
		Nb-95	<4.10E+00	0.00E+00	4.10E+00
		I-131	<1.08E+01	0.00E+00	1.08E+01
		Cs-134	<3.10E+00	0.00E+00	3.10E+00
		Cs-137	<3.74E+00	0.00E+00	3.74E+00



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 135 [CONTROL - N @ 11.9 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
469577	1/29/2018 - 2/26/2018	BaLa-140	<6.84E+00	0.00E+00	6.84E+00
		Be-7	<2.64E+01	0.00E+00	2.64E+01
		K-40	<6.12E+01	0.00E+00	6.12E+01
472515	2/26/2018 - 3/26/2018	Mn-54	<1.39E+00	0.00E+00	1.39E+00
		Co-58	<1.54E+00	0.00E+00	1.54E+00
		Fe-59	<3.40E+00	0.00E+00	3.40E+00
		Co-60	<1.39E+00	0.00E+00	1.39E+00
		Zn-65	<2.83E+00	0.00E+00	2.83E+00
		Zr-95	<2.77E+00	0.00E+00	2.77E+00
		Nb-95	<2.20E+00	0.00E+00	2.20E+00
		I-131	<8.30E+00	0.00E+00	8.30E+00
		Cs-134	<1.41E+00	0.00E+00	1.41E+00
		Cs-137	<1.49E+00	0.00E+00	1.49E+00
		BaLa-140	<4.36E+00	0.00E+00	4.36E+00
		Be-7	<1.34E+01	0.00E+00	1.34E+01
		K-40	3.74E+01	1.64E+01	2.35E+01
467531	1/2/2018 - 4/23/2018	Nuclide	Activity	2 Sigma Error	MDA
		H3SW	<3.79E+01	0.00E+00	1.77E+02
474159	3/26/2018 - 4/23/2018	Mn-54	<2.85E+00	0.00E+00	2.85E+00
		Co-58	<3.90E+00	0.00E+00	3.90E+00
		Fe-59	<7.16E+00	0.00E+00	7.16E+00
		Co-60	<3.08E+00	0.00E+00	3.08E+00
		Zn-65	<5.69E+00	0.00E+00	5.69E+00
		Zr-95	<6.16E+00	0.00E+00	6.16E+00
		Nb-95	<3.62E+00	0.00E+00	3.62E+00
		I-131	<1.18E+01	0.00E+00	1.18E+01
		Cs-134	<4.06E+00	0.00E+00	4.06E+00
		Cs-137	<3.37E+00	0.00E+00	3.37E+00
		BaLa-140	<7.70E+00	0.00E+00	7.70E+00
		Be-7	<2.90E+01	0.00E+00	2.90E+01
		K-40	<5.42E+01	0.00E+00	5.42E+01
475545	4/23/2018 - 5/21/2018	Mn-54	<3.29E+00	0.00E+00	3.29E+00
		Co-58	<3.44E+00	0.00E+00	3.44E+00
		Fe-59	<7.62E+00	0.00E+00	7.62E+00
		Co-60	<3.84E+00	0.00E+00	3.84E+00
		Zn-65	<9.81E+00	0.00E+00	9.81E+00
		Zr-95	<6.10E+00	0.00E+00	6.10E+00
		Nb-95	<3.60E+00	0.00E+00	3.60E+00
		I-131	<1.13E+01	0.00E+00	1.13E+01
		Cs-134	<3.65E+00	0.00E+00	3.65E+00
		Cs-137	<3.99E+00	0.00E+00	3.99E+00
		BaLa-140	<1.16E+01	0.00E+00	1.16E+01
		Be-7	<3.55E+01	0.00E+00	3.55E+01
		K-40	3.02E+01	3.39E+01	5.43E+01
478432	5/21/2018 - 6/18/2018	Mn-54	<3.14E+00	0.00E+00	3.14E+00
		Co-58	<3.49E+00	0.00E+00	3.49E+00
		Fe-59	<4.68E+00	0.00E+00	4.68E+00
		Co-60	<4.22E+00	0.00E+00	4.22E+00
		Zn-65	<7.11E+00	0.00E+00	7.11E+00
		Zr-95	<5.68E+00	0.00E+00	5.68E+00
		Nb-95	<4.75E+00	0.00E+00	4.75E+00
		I-131	<1.14E+01	0.00E+00	1.14E+01
		Cs-134	<3.17E+00	0.00E+00	3.17E+00
		Cs-137	<2.79E+00	0.00E+00	2.79E+00
		BaLa-140	<1.08E+01	0.00E+00	1.08E+01
		Be-7	<4.10E+01	0.00E+00	4.10E+01
		K-40	<6.61E+01	0.00E+00	6.61E+01



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 135 [CONTROL - N @ 11.9 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
474728	4/23/2018 - 7/16/2018	H3SW	<5.82E+01	0.00E+00	1.86E+02
480255	6/18/2018 - 7/16/2018	Mn-54	<3.53E+00	0.00E+00	3.53E+00
		Co-58	<3.37E+00	0.00E+00	3.37E+00
		Fe-59	<8.28E+00	0.00E+00	8.28E+00
		Co-60	<3.07E+00	0.00E+00	3.07E+00
		Zn-65	<7.17E+00	0.00E+00	7.17E+00
		Zr-95	<7.30E+00	0.00E+00	7.30E+00
		Nb-95	<4.71E+00	0.00E+00	4.71E+00
		I-131	<1.20E+01	0.00E+00	1.20E+01
		Cs-134	<3.09E+00	0.00E+00	3.09E+00
		Cs-137	<2.70E+00	0.00E+00	2.70E+00
		BaLa-140	<8.09E+00	0.00E+00	8.09E+00
		Be-7	<3.75E+01	0.00E+00	3.75E+01
		K-40	6.71E+01	3.63E+01	4.89E+01
482491	7/16/2018 - 8/13/2018	Mn-54	<2.63E+00	0.00E+00	2.63E+00
		Co-58	<2.74E+00	0.00E+00	2.74E+00
		Fe-59	<6.49E+00	0.00E+00	6.49E+00
		Co-60	<2.16E+00	0.00E+00	2.16E+00
		Zn-65	<7.16E+00	0.00E+00	7.16E+00
		Zr-95	<6.73E+00	0.00E+00	6.73E+00
		Nb-95	<3.96E+00	0.00E+00	3.96E+00
		I-131	<1.17E+01	0.00E+00	1.17E+01
		Cs-134	<2.55E+00	0.00E+00	2.55E+00
		Cs-137	<2.56E+00	0.00E+00	2.56E+00
		BaLa-140	<5.95E+00	0.00E+00	5.95E+00
		Be-7	<2.29E+01	0.00E+00	2.29E+01
		K-40	<5.54E+01	0.00E+00	5.54E+01
484610	8/13/2018 - 9/10/2018	Mn-54	<4.57E+00	0.00E+00	4.57E+00
		Co-58	<4.64E+00	0.00E+00	4.64E+00
		Fe-59	<8.60E+00	0.00E+00	8.60E+00
		Co-60	<2.47E+00	0.00E+00	2.47E+00
		Zn-65	<9.27E+00	0.00E+00	9.27E+00
		Zr-95	<6.97E+00	0.00E+00	6.97E+00
		Nb-95	<6.25E+00	0.00E+00	6.25E+00
		I-131	<1.16E+01	0.00E+00	1.16E+01
		Cs-134	<4.67E+00	0.00E+00	4.67E+00
		Cs-137	<3.69E+00	0.00E+00	3.69E+00
		BaLa-140	<9.57E+00	0.00E+00	9.57E+00
		Be-7	<3.55E+01	0.00E+00	3.55E+01
		K-40	<6.68E+01	0.00E+00	6.68E+01
481630	7/16/2018 - 10/8/2018	H3SW	<7.12E+01	0.00E+00	1.83E+02
486707	9/10/2018 - 10/8/2018	Mn-54	<3.78E+00	0.00E+00	3.78E+00
		Co-58	<4.41E+00	0.00E+00	4.41E+00
		Fe-59	<9.23E+00	0.00E+00	9.23E+00
		Co-60	<4.39E+00	0.00E+00	4.39E+00
		Zn-65	<8.71E+00	0.00E+00	8.71E+00
		Zr-95	<7.83E+00	0.00E+00	7.83E+00
		Nb-95	<4.37E+00	0.00E+00	4.37E+00
		I-131	<1.10E+01	0.00E+00	1.10E+01
		Cs-134	<3.67E+00	0.00E+00	3.67E+00
		Cs-137	<3.46E+00	0.00E+00	3.46E+00
		BaLa-140	<8.20E+00	0.00E+00	8.20E+00
		Be-7	<3.55E+01	0.00E+00	3.55E+01
		K-40	<5.27E+01	0.00E+00	5.27E+01
488861	10/8/2018 - 11/5/2018	Mn-54	<2.74E+00	0.00E+00	2.74E+00
		Co-58	<3.73E+00	0.00E+00	3.73E+00



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 135 [CONTROL - N @ 11.9 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
488861	10/8/2018 - 11/5/2018	Fe-59	<6.65E+00	0.00E+00	6.65E+00
		Co-60	<3.41E+00	0.00E+00	3.41E+00
		Zn-65	<6.27E+00	0.00E+00	6.27E+00
		Zr-95	<7.63E+00	0.00E+00	7.63E+00
		Nb-95	<4.49E+00	0.00E+00	4.49E+00
		I-131	<1.17E+01	0.00E+00	1.17E+01
		Cs-134	<4.20E+00	0.00E+00	4.20E+00
		Cs-137	<3.28E+00	0.00E+00	3.28E+00
		BaLa-140	<8.25E+00	0.00E+00	8.25E+00
		Be-7	<2.49E+01	0.00E+00	2.49E+01
		K-40	<6.44E+01	0.00E+00	6.44E+01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
490810	11/5/2018 - 12/3/2018	Mn-54	<1.99E+00	0.00E+00	1.99E+00
		Co-58	<2.09E+00	0.00E+00	2.09E+00
		Fe-59	<4.65E+00	0.00E+00	4.65E+00
		Co-60	<1.98E+00	0.00E+00	1.98E+00
		Zn-65	<3.87E+00	0.00E+00	3.87E+00
		Zr-95	<3.62E+00	0.00E+00	3.62E+00
		Nb-95	<3.13E+00	0.00E+00	3.13E+00
		I-131	<1.18E+01	0.00E+00	1.18E+01
		Cs-134	<2.65E+00	0.00E+00	2.65E+00
		Cs-137	<1.96E+00	0.00E+00	1.96E+00
		BaLa-140	<7.29E+00	0.00E+00	7.29E+00
		Be-7	<1.74E+01	0.00E+00	1.74E+01
		K-40	2.17E+01	1.85E+01	2.86E+01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
488746	10/8/2018 - 12/31/2018	H3SW	<1.16E+01	0.00E+00	1.88E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
492232	12/3/2018 - 12/31/2018	Mn-54	<1.92E+00	0.00E+00	1.92E+00
		Co-58	<2.67E+00	0.00E+00	2.67E+00
		Fe-59	<6.01E+00	0.00E+00	6.01E+00
		Co-60	<1.68E+00	0.00E+00	1.68E+00
		Zn-65	<4.15E+00	0.00E+00	4.15E+00
		Zr-95	<4.09E+00	0.00E+00	4.09E+00
		Nb-95	<3.53E+00	0.00E+00	3.53E+00
		I-131	<1.20E+01	0.00E+00	1.20E+01
		Cs-134	<2.62E+00	0.00E+00	2.62E+00
		Cs-137	<2.33E+00	0.00E+00	2.33E+00
		BaLa-140	<7.61E+00	0.00E+00	7.61E+00
		Be-7	<2.17E+01	0.00E+00	2.17E+01
		K-40	4.61E+01	2.08E+01	2.49E+01

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

Sample Point 143 [INDICATOR - NW @ 0.27 miles]

TLD RING TLD_INNER

Sample ID:	Sample Dates:	Nuclide	Activity
470209	12/13/2017 - 3/14/2018	mR/Std Qtr	21.33
477167	3/14/2018 - 6/13/2018	mR/Std Qtr	17.82
483797	6/13/2018 - 9/12/2018	mR/Std Qtr	14.46
490581	9/12/2018 - 12/12/2018	mR/Std Qtr	16.75

Sample Point 144 [INDICATOR - NNE @ 0.46 miles]

TLD RING TLD_INNER

Sample ID:	Sample Dates:	Nuclide	Activity
470210	12/13/2017 - 3/14/2018	mR/Std Qtr	15.12
477168	3/14/2018 - 6/13/2018	mR/Std Qtr	15.46
483798	6/13/2018 - 9/12/2018	mR/Std Qtr	12.81



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 144 [INDICATOR - NNE @ 0.46 miles]

TLD RING TLD_INNER

Sample ID:	490582	Sample Dates:	9/12/2018 - 12/12/2018	Nuclide	Activity
				mR/Std Qtr	14.71

Sample Point 145 [INDICATOR - NE @ 0.47 miles]

TLD RING TLD_INNER

Sample ID:	470211	Sample Dates:	12/13/2017 - 3/14/2018	Nuclide	Activity
				mR/Std Qtr	16.67
Sample ID:	477169	Sample Dates:	3/14/2018 - 6/13/2018	Nuclide	Activity
				mR/Std Qtr	16.13
Sample ID:	483799	Sample Dates:	6/13/2018 - 9/12/2018	Nuclide	Activity
				mR/Std Qtr	12.64
Sample ID:	490583	Sample Dates:	9/12/2018 - 12/12/2018	Nuclide	Activity
				mR/Std Qtr	16.67

Sample Point 146 [INDICATOR - ENE @ 0.42 miles]

TLD RING TLD_INNER

Sample ID:	470212	Sample Dates:	12/13/2017 - 3/14/2018	Nuclide	Activity
				mR/Std Qtr	16.62
Sample ID:	477170	Sample Dates:	3/14/2018 - 6/13/2018	Nuclide	Activity
				mR/Std Qtr	14.89
Sample ID:	483800	Sample Dates:	6/13/2018 - 9/12/2018	Nuclide	Activity
				mR/Std Qtr	13.91
Sample ID:	490584	Sample Dates:	9/12/2018 - 12/12/2018	Nuclide	Activity
				mR/Std Qtr	16.85

Sample Point 147 [INDICATOR - E @ 0.44 miles]

TLD RING TLD_INNER

Sample ID:	470213	Sample Dates:	12/13/2017 - 3/14/2018	Nuclide	Activity
				mR/Std Qtr	15.68
Sample ID:	477171	Sample Dates:	3/14/2018 - 6/13/2018	Nuclide	Activity
				mR/Std Qtr	14.88
Sample ID:	483801	Sample Dates:	6/13/2018 - 9/12/2018	Nuclide	Activity
				mR/Std Qtr	13.82
Sample ID:	490585	Sample Dates:	9/12/2018 - 12/12/2018	Nuclide	Activity
				mR/Std Qtr	14.98

Sample Point 148 [INDICATOR - ESE @ 0.46 miles]

TLD RING TLD_INNER

Sample ID:	470214	Sample Dates:	12/13/2017 - 3/14/2018	Nuclide	Activity
				mR/Std Qtr	16.52
Sample ID:	477172	Sample Dates:	3/14/2018 - 6/13/2018	Nuclide	Activity
				mR/Std Qtr	13.49
Sample ID:	483802	Sample Dates:	6/13/2018 - 9/12/2018	Nuclide	Activity
				mR/Std Qtr	12.36
Sample ID:	490586	Sample Dates:	9/12/2018 - 12/12/2018	Nuclide	Activity
				mR/Std Qtr	13.68

Sample Point 149 [INDICATOR - SE @ 0.5 miles]

TLD RING TLD_INNER

Sample ID:	470215	Sample Dates:	12/13/2017 - 3/14/2018	Nuclide	Activity
				mR/Std Qtr	13.18
Sample ID:	477173	Sample Dates:	3/14/2018 - 6/13/2018	Nuclide	Activity
				mR/Std Qtr	12.89
Sample ID:	483803	Sample Dates:	6/13/2018 - 9/12/2018	Nuclide	Activity
				mR/Std Qtr	12.37
Sample ID:	490587	Sample Dates:	9/12/2018 - 12/12/2018	Nuclide	Activity
				mR/Std Qtr	12.83

Sample Point 151 [INDICATOR - S @ 0.37 miles]

TLD RING TLD_INNER

Sample ID:	470216	Sample Dates:	12/13/2017 - 3/14/2018	Nuclide	Activity
				mR/Std Qtr	16.60



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 151 [INDICATOR - S @ 0.37 miles]

TLD RING TLD_INNER

Sample ID	Sample Dates	Nuclide	Activity
477174	3/14/2018 - 6/13/2018	mR/Std Qtr	16.10
483804	6/13/2018 - 9/12/2018	mR/Std Qtr	13.84
490588	9/12/2018 - 12/12/2018	mR/Std Qtr	14.76

Sample Point 152 [INDICATOR - SSW @ 0.44 miles]

TLD RING TLD_INNER

Sample ID	Sample Dates	Nuclide	Activity
470217	12/13/2017 - 3/14/2018	mR/Std Qtr	14.69
477175	3/14/2018 - 6/13/2018	mR/Std Qtr	14.19
483805	6/13/2018 - 9/12/2018	mR/Std Qtr	13.14
490589	9/12/2018 - 12/12/2018	mR/Std Qtr	13.76

Sample Point 153 [INDICATOR - SW @ 0.47 miles]

TLD RING TLD_INNER

Sample ID	Sample Dates	Nuclide	Activity
470218	12/13/2017 - 3/14/2018	mR/Std Qtr	20.03
477176	3/14/2018 - 6/13/2018	mR/Std Qtr	18.06
483806	6/13/2018 - 9/12/2018	mR/Std Qtr	17.01
490590	9/12/2018 - 12/12/2018	mR/Std Qtr	19.12

Sample Point 154 [INDICATOR - W @ 0.45 miles]

TLD RING TLD_INNER

Sample ID	Sample Dates	Nuclide	Activity
470219	12/13/2017 - 3/14/2018	mR/Std Qtr	21.11
477177	3/14/2018 - 6/13/2018	mR/Std Qtr	18.91
483807	6/13/2018 - 9/12/2018	mR/Std Qtr	15.69
490591	9/12/2018 - 12/12/2018	mR/Std Qtr	17.06

Sample Point 156 [INDICATOR - WNW @ 0.44 miles]

TLD RING TLD_INNER

Sample ID	Sample Dates	Nuclide	Activity
470220	12/13/2017 - 3/14/2018	mR/Std Qtr	18.72
477178	3/14/2018 - 6/13/2018	mR/Std Qtr	18.39
483808	6/13/2018 - 9/12/2018	mR/Std Qtr	14.81
490592	9/12/2018 - 12/12/2018	mR/Std Qtr	16.13

Sample Point 157 [INDICATOR - N @ 4.69 miles]

TLD RING TLD_OUTER

Sample ID	Sample Dates	Nuclide	Activity
470221	12/13/2017 - 3/14/2018	mR/Std Qtr	16.63
477179	3/14/2018 - 6/13/2018	mR/Std Qtr	16.46
483809	6/13/2018 - 9/12/2018	mR/Std Qtr	14.46



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 157 [INDICATOR - N @ 4.69 miles]

TLD RING TLD_OUTER

Sample ID: 490593	Sample Dates: 9/12/2018 - 12/12/2018	Nuclide mR/Std Qtr	Activity 15.39
-------------------	--------------------------------------	-----------------------	-------------------

Sample Point 158 [INDICATOR - NNE @ 4.33 miles]

TLD RING TLD_OUTER

Sample ID: 470222	Sample Dates: 12/13/2017 - 3/14/2018	Nuclide mR/Std Qtr	Activity 18.27
Sample ID: 477180	Sample Dates: 3/14/2018 - 6/13/2018	Nuclide mR/Std Qtr	Activity 16.21
Sample ID: 483810	Sample Dates: 6/13/2018 - 9/12/2018	Nuclide mR/Std Qtr	Activity 13.03
Sample ID: 490594	Sample Dates: 9/12/2018 - 12/12/2018	Nuclide mR/Std Qtr	Activity 14.43

Sample Point 159 [INDICATOR - NE @ 4.77 miles]

TLD RING TLD_OUTER

Sample ID: 470223	Sample Dates: 12/13/2017 - 3/14/2018	Nuclide mR/Std Qtr	Activity 18.53
Sample ID: 477181	Sample Dates: 3/14/2018 - 6/13/2018	Nuclide mR/Std Qtr	Activity 17.69
Sample ID: 483811	Sample Dates: 6/13/2018 - 9/12/2018	Nuclide mR/Std Qtr	Activity 14.51
Sample ID: 490595	Sample Dates: 9/12/2018 - 12/12/2018	Nuclide mR/Std Qtr	Activity 14.60

Sample Point 160 [INDICATOR - ENE @ 4.89 miles]

TLD RING TLD_OUTER

Sample ID: 470224	Sample Dates: 12/13/2017 - 3/14/2018	Nuclide mR/Std Qtr	Activity 15.87
Sample ID: 477182	Sample Dates: 3/14/2018 - 6/13/2018	Nuclide mR/Std Qtr	Activity 14.53
Sample ID: 483812	Sample Dates: 6/13/2018 - 9/12/2018	Nuclide mR/Std Qtr	Activity 13.40
Sample ID: 490596	Sample Dates: 9/12/2018 - 12/12/2018	Nuclide mR/Std Qtr	Activity 13.62

Sample Point 161 [INDICATOR - E @ 4.7 miles]

TLD RING TLD_OUTER

Sample ID: 470225	Sample Dates: 12/13/2017 - 3/14/2018	Nuclide mR/Std Qtr	Activity 16.68
Sample ID: 477183	Sample Dates: 3/14/2018 - 6/13/2018	Nuclide mR/Std Qtr	Activity 13.86
Sample ID: 483813	Sample Dates: 6/13/2018 - 9/12/2018	Nuclide mR/Std Qtr	Activity 13.59
Sample ID: 490597	Sample Dates: 9/12/2018 - 12/12/2018	Nuclide mR/Std Qtr	Activity 13.80

Sample Point 162 [INDICATOR - ESE @ 4.53 miles]

TLD RING TLD_OUTER

Sample ID: 470226	Sample Dates: 12/13/2017 - 3/14/2018	Nuclide mR/Std Qtr	Activity 12.74
Sample ID: 477184	Sample Dates: 3/14/2018 - 6/13/2018	Nuclide mR/Std Qtr	Activity 13.09
Sample ID: 483814	Sample Dates: 6/13/2018 - 9/12/2018	Nuclide mR/Std Qtr	Activity 10.74
Sample ID: 490598	Sample Dates: 9/12/2018 - 12/12/2018	Nuclide mR/Std Qtr	Activity 12.54

Sample Point 163 [INDICATOR - SE @ 4.94 miles]

TLD RING TLD_OUTER

Sample ID: 470227	Sample Dates: 12/13/2017 - 3/14/2018	Nuclide mR/Std Qtr	Activity 14.11
-------------------	--------------------------------------	-----------------------	-------------------



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 163 [INDICATOR - SE @ 4.94 miles]

TLD RING TLD_OUTER

Sample ID	Sample Dates	Nuclide	Activity
477185	3/14/2018 - 6/13/2018	mR/Std Qtr	12.40
483815	6/13/2018 - 9/12/2018	mR/Std Qtr	10.76
490599	9/12/2018 - 12/12/2018	mR/Std Qtr	10.38

Sample Point 164 [INDICATOR - SSE @ 4.64 miles]

TLD RING TLD_OUTER

Sample ID	Sample Dates	Nuclide	Activity
470228	12/13/2017 - 3/14/2018	mR/Std Qtr	12.57
477186	3/14/2018 - 6/13/2018	mR/Std Qtr	11.11
483816	6/13/2018 - 9/12/2018	mR/Std Qtr	10.94
490600	9/12/2018 - 12/12/2018	mR/Std Qtr	10.62

Sample Point 165 [INDICATOR - S @ 4.57 miles]

TLD RING TLD_OUTER

Sample ID	Sample Dates	Nuclide	Activity
470229	12/13/2017 - 3/14/2018	mR/Std Qtr	21.39
477187	3/14/2018 - 6/13/2018	mR/Std Qtr	20.31
483817	6/13/2018 - 9/12/2018	mR/Std Qtr	17.96
490601	9/12/2018 - 12/12/2018	mR/Std Qtr	18.06

Sample Point 166 [INDICATOR - SSW @ 4.44 miles]

TLD RING TLD_OUTER

Sample ID	Sample Dates	Nuclide	Activity
470230	12/13/2017 - 3/14/2018	mR/Std Qtr	18.38
477188	3/14/2018 - 6/13/2018	mR/Std Qtr	18.24
483818	6/13/2018 - 9/12/2018	mR/Std Qtr	16.33

Sample Point 167 [INDICATOR - SW @ 4.87 miles]

TLD RING TLD_OUTER

Sample ID	Sample Dates	Nuclide	Activity
470231	12/13/2017 - 3/14/2018	mR/Std Qtr	22.16
477189	3/14/2018 - 6/13/2018	mR/Std Qtr	18.64
483819	6/13/2018 - 9/12/2018	mR/Std Qtr	18.39
490603	9/12/2018 - 12/12/2018	mR/Std Qtr	19.47

Sample Point 168 [INDICATOR - WSW @ 4.6 miles]

TLD RING TLD_OUTER

Sample ID	Sample Dates	Nuclide	Activity
470232	12/13/2017 - 3/14/2018	mR/Std Qtr	19.50
477190	3/14/2018 - 6/13/2018	mR/Std Qtr	17.74
483820	6/13/2018 - 9/12/2018	mR/Std Qtr	16.76
490604	9/12/2018 - 12/12/2018	mR/Std Qtr	17.71



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 169 [INDICATOR - W @ 4.03 miles]

TLD RING TLD_OUTER

Sample ID	Sample Dates	Nuclide	Activity
470233	12/13/2017 - 3/14/2018	mR/Std Qtr	15.83
477191	3/14/2018 - 6/13/2018	mR/Std Qtr	15.03
483821	6/13/2018 - 9/12/2018	mR/Std Qtr	13.39
490605	9/12/2018 - 12/12/2018	mR/Std Qtr	14.35

Sample Point 170 [INDICATOR - WNW @ 4.32 miles]

TLD RING TLD_OUTER

Sample ID	Sample Dates	Nuclide	Activity
470234	12/13/2017 - 3/14/2018	mR/Std Qtr	27.62
477192	3/14/2018 - 6/13/2018	mR/Std Qtr	25.89
483822	6/13/2018 - 9/12/2018	mR/Std Qtr	23.37
490606	9/12/2018 - 12/12/2018	mR/Std Qtr	25.85

Sample Point 171 [INDICATOR - NW @ 3.95 miles]

TLD RING TLD_OUTER

Sample ID	Sample Dates	Nuclide	Activity
470235	12/13/2017 - 3/14/2018	mR/Std Qtr	23.15
477193	3/14/2018 - 6/13/2018	mR/Std Qtr	19.23
483823	6/13/2018 - 9/12/2018	mR/Std Qtr	18.83
490607	9/12/2018 - 12/12/2018	mR/Std Qtr	21.93

Sample Point 172 [INDICATOR - NNW @ 4.69 miles]

TLD RING TLD_OUTER

Sample ID	Sample Dates	Nuclide	Activity
470236	12/13/2017 - 3/14/2018	mR/Std Qtr	16.60
477194	3/14/2018 - 6/13/2018	mR/Std Qtr	14.55
483824	6/13/2018 - 9/12/2018	mR/Std Qtr	13.63
490608	9/12/2018 - 12/12/2018	mR/Std Qtr	15.95

Sample Point 173 [INDICATOR - NNW @ 8.39 miles]

TLD RING TLD_SPEC

Sample ID	Sample Dates	Nuclide	Activity
470237	12/13/2017 - 3/14/2018	mR/Std Qtr	26.07
477195	3/14/2018 - 6/13/2018	mR/Std Qtr	23.95
483825	6/13/2018 - 9/12/2018	mR/Std Qtr	22.65
490609	9/12/2018 - 12/12/2018	mR/Std Qtr	24.18

Sample Point 174 [INDICATOR - WNW @ 8.85 miles]

TLD RING TLD_SPEC

Sample ID	Sample Dates	Nuclide	Activity
470238	12/13/2017 - 3/14/2018	mR/Std Qtr	25.35
477196	3/14/2018 - 6/13/2018	mR/Std Qtr	23.06



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 174 [INDICATOR - WNW @ 8.85 miles]

TLD RING TLD_SPEC

Sample ID: 483826	Sample Dates: 6/13/2018 - 9/12/2018	Nuclide mR/Std Qtr	Activity 20.24
Sample ID: 490610	Sample Dates: 9/12/2018 - 12/12/2018	Nuclide mR/Std Qtr	Activity 20.83

Sample Point 175 [CONTROL - WNW @ 15.5 miles]

TLD RING TLD_CTRL

Sample ID: 470239	Sample Dates: 12/13/2017 - 3/14/2018	Nuclide mR/Std Qtr	Activity 25.88
Sample ID: 477197	Sample Dates: 3/14/2018 - 6/13/2018	Nuclide mR/Std Qtr	Activity 23.95
Sample ID: 483827	Sample Dates: 6/13/2018 - 9/12/2018	Nuclide mR/Std Qtr	Activity 21.23
Sample ID: 490611	Sample Dates: 9/12/2018 - 12/12/2018	Nuclide mR/Std Qtr	Activity 23.04

Sample Point 177 [INDICATOR - S @ 8.77 miles]

TLD RING TLD_SPEC

Sample ID: 470240	Sample Dates: 12/13/2017 - 3/14/2018	Nuclide mR/Std Qtr	Activity 14.60
Sample ID: 477198	Sample Dates: 3/14/2018 - 6/13/2018	Nuclide mR/Std Qtr	Activity 15.11
Sample ID: 483828	Sample Dates: 6/13/2018 - 9/12/2018	Nuclide mR/Std Qtr	Activity 13.00
Sample ID: 490612	Sample Dates: 9/12/2018 - 12/12/2018	Nuclide mR/Std Qtr	Activity 13.27

Sample Point 178 [INDICATOR - SE @ 9.36 miles]

TLD RING TLD_SPEC

Sample ID: 470241	Sample Dates: 12/13/2017 - 3/14/2018	Nuclide mR/Std Qtr	Activity 19.33
Sample ID: 477199	Sample Dates: 3/14/2018 - 6/13/2018	Nuclide mR/Std Qtr	Activity 14.91
Sample ID: 483829	Sample Dates: 6/13/2018 - 9/12/2018	Nuclide mR/Std Qtr	Activity 13.26
Sample ID: 490613	Sample Dates: 9/12/2018 - 12/12/2018	Nuclide mR/Std Qtr	Activity 16.26

Sample Point 180 [INDICATOR - NNE @ 12.7 miles]

TLD RING TLD_SPEC

Sample ID: 470242	Sample Dates: 12/13/2017 - 3/14/2018	Nuclide mR/Std Qtr	Activity 27.52
Sample ID: 477200	Sample Dates: 3/14/2018 - 6/13/2018	Nuclide mR/Std Qtr	Activity 24.90
Sample ID: 483830	Sample Dates: 6/13/2018 - 9/12/2018	Nuclide mR/Std Qtr	Activity 25.47
Sample ID: 490614	Sample Dates: 9/12/2018 - 12/12/2018	Nuclide mR/Std Qtr	Activity 25.48

Sample Point 181 [INDICATOR - NE @ 7.02 miles]

TLD RING TLD_SPEC

Sample ID: 470243	Sample Dates: 12/13/2017 - 3/14/2018	Nuclide mR/Std Qtr	Activity 18.14
Sample ID: 477201	Sample Dates: 3/14/2018 - 6/13/2018	Nuclide mR/Std Qtr	Activity 16.13
Sample ID: 483831	Sample Dates: 6/13/2018 - 9/12/2018	Nuclide mR/Std Qtr	Activity 15.30
Sample ID: 490615	Sample Dates: 9/12/2018 - 12/12/2018	Nuclide mR/Std Qtr	Activity 17.24



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 182 [INDICATOR - ENE @ 6.23 miles]

TLD RING TLD_SPEC

Sample ID	Sample Dates	Nuclide	Activity
470244	12/13/2017 - 3/14/2018	mR/Std Qtr	21.73
477202	3/14/2018 - 6/13/2018	mR/Std Qtr	19.65
483832	6/13/2018 - 9/12/2018	mR/Std Qtr	16.04
490616	9/12/2018 - 12/12/2018	mR/Std Qtr	17.61

Sample Point 186 [INDICATOR - NNW @ 0.24 miles]

TLD RING TLD_SPEC

Sample ID	Sample Dates	Nuclide	Activity
470245	12/13/2017 - 3/14/2018	mR/Std Qtr	17.66
477203	3/14/2018 - 6/13/2018	mR/Std Qtr	15.89
483833	6/13/2018 - 9/12/2018	mR/Std Qtr	16.17
490617	9/12/2018 - 12/12/2018	mR/Std Qtr	17.06

Sample Point 187 [INDICATOR - N @ 0.19 miles]

TLD RING TLD_SPEC

Sample ID	Sample Dates	Nuclide	Activity
470246	12/13/2017 - 3/14/2018	mR/Std Qtr	19.15
477204	3/14/2018 - 6/13/2018	mR/Std Qtr	17.97
483834	6/13/2018 - 9/12/2018	mR/Std Qtr	15.96
490618	9/12/2018 - 12/12/2018	mR/Std Qtr	17.08

Sample Point 189 [INDICATOR - SSE @ 0.43 miles]

TLD RING TLD_INNER

Sample ID	Sample Dates	Nuclide	Activity
470247	12/13/2017 - 3/14/2018	mR/Std Qtr	17.48
477205	3/14/2018 - 6/13/2018	mR/Std Qtr	16.31
483835	6/13/2018 - 9/12/2018	mR/Std Qtr	14.88
490619	9/12/2018 - 12/12/2018	mR/Std Qtr	15.24

Sample Point 190 [INDICATOR - WSW @ 0.37 miles]

TLD RING TLD_INNER

Sample ID	Sample Dates	Nuclide	Activity
470248	12/13/2017 - 3/14/2018	mR/Std Qtr	20.28
477206	3/14/2018 - 6/13/2018	mR/Std Qtr	20.97
483836	6/13/2018 - 9/12/2018	mR/Std Qtr	18.61
490620	9/12/2018 - 12/12/2018	mR/Std Qtr	19.68

Sample Point 191 [INDICATOR - NNE @ 2.84 miles]

TLD RING TLD_SPEC

Sample ID	Sample Dates	Nuclide	Activity
470249	12/13/2017 - 3/14/2018	mR/Std Qtr	18.46
477207	3/14/2018 - 6/13/2018	mR/Std Qtr	16.52



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 191 [INDICATOR - NNE @ 2.84 miles]

TLD RING TLD_SPEC

Sample ID:	Sample Dates:	Nuclide	Activity
483837	6/13/2018 - 9/12/2018	mR/Std Qtr	16.13
490621	9/12/2018 - 12/12/2018	mR/Std Qtr	17.09

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

Sample Point 102 [CONTROL - WNW @ 9.89 miles]

Sample ID:	Sample Dates:	MIXEDBLV	Nuclide	Activity	2 Sigma Error	MDA
465999	1/2/2018 - 1/2/2018	MIXEDBLV	Mn-54	<3.56E+01	0.00E+00	3.56E+01
			Co-58	<3.22E+01	0.00E+00	3.22E+01
			Fe-59	<5.87E+01	0.00E+00	5.87E+01
			Co-60	<3.66E+01	0.00E+00	3.66E+01
			Zn-65	<7.09E+01	0.00E+00	7.09E+01
			Zr-95	<6.23E+01	0.00E+00	6.23E+01
			Nb-95	<3.50E+01	0.00E+00	3.50E+01
			I-131	<3.34E+01	0.00E+00	3.34E+01
			Cs-134	<4.08E+01	0.00E+00	4.08E+01
			Cs-137	<3.15E+01	0.00E+00	3.15E+01
			BaLa-140	<3.69E+01	0.00E+00	3.69E+01
			Be-7	1.36E+03	3.21E+02	3.94E+02
			K-40	5.10E+03	8.03E+02	6.53E+02
			467662	2/5/2018 - 2/5/2018	MIXEDBLV	Mn-54
Co-58	<2.30E+01	0.00E+00				2.30E+01
Fe-59	<5.19E+01	0.00E+00				5.19E+01
Co-60	<2.31E+01	0.00E+00				2.31E+01
Zn-65	<5.19E+01	0.00E+00				5.19E+01
Zr-95	<3.85E+01	0.00E+00				3.85E+01
Nb-95	<2.05E+01	0.00E+00				2.05E+01
I-131	<3.58E+01	0.00E+00				3.58E+01
Cs-134	<3.14E+01	0.00E+00				3.14E+01
Cs-137	<2.64E+01	0.00E+00				2.64E+01
BaLa-140	<8.33E+00	0.00E+00				8.33E+00
Be-7	6.50E+02	2.26E+02				2.92E+02
K-40	3.81E+03	6.36E+02				3.92E+02
470602	3/5/2018 - 3/5/2018	MIXEDBLV				Mn-54
			Co-58	<2.33E+01	0.00E+00	2.33E+01
			Fe-59	<3.87E+01	0.00E+00	3.87E+01
			Co-60	<2.82E+01	0.00E+00	2.82E+01
			Zn-65	<4.30E+01	0.00E+00	4.30E+01
			Zr-95	<4.19E+01	0.00E+00	4.19E+01
			Nb-95	<2.08E+01	0.00E+00	2.08E+01
			I-131	<2.18E+01	0.00E+00	2.18E+01
			Cs-134	<3.09E+01	0.00E+00	3.09E+01
			Cs-137	<2.27E+01	0.00E+00	2.27E+01
			BaLa-140	<2.89E+01	0.00E+00	2.89E+01
			Be-7	2.15E+03	3.33E+02	2.75E+02
			K-40	4.73E+03	6.67E+02	3.64E+02
			472986	4/2/2018 - 4/2/2018	MIXEDBLV	Mn-54
Co-58	<2.70E+01	0.00E+00				2.70E+01
Fe-59	<6.44E+01	0.00E+00				6.44E+01
Co-60	<1.73E+01	0.00E+00				1.73E+01
Zn-65	<5.81E+01	0.00E+00				5.81E+01
Zr-95	<5.82E+01	0.00E+00				5.82E+01
Nb-95	<2.62E+01	0.00E+00				2.62E+01
I-131	<2.93E+01	0.00E+00				2.93E+01
Cs-134	<3.78E+01	0.00E+00				3.78E+01
Cs-137	<3.53E+01	0.00E+00				3.53E+01
BaLa-140	<2.32E+01	0.00E+00				2.32E+01
Be-7	3.63E+02	2.53E+02				3.88E+02
K-40	5.21E+03	8.30E+02				3.11E+02



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 102 [CONTROL - WNW @ 9.89 miles]

Sample ID:	Sample Dates:	MIXEDBLV	Nuclide	Activity	2 Sigma Error	MDA
474900	5/7/2018 - 5/7/2018	MIXEDBLV	Mn-54	<1.94E+01	0.00E+00	1.94E+01
			Co-58	<2.08E+01	0.00E+00	2.08E+01
			Fe-59	<4.76E+01	0.00E+00	4.76E+01
			Co-60	<2.64E+01	0.00E+00	2.64E+01
			Zn-65	<4.62E+01	0.00E+00	4.62E+01
			Zr-95	<5.12E+01	0.00E+00	5.12E+01
			Nb-95	<2.63E+01	0.00E+00	2.63E+01
			I-131	<2.72E+01	0.00E+00	2.72E+01
			Cs-134	<3.04E+01	0.00E+00	3.04E+01
			Cs-137	<2.62E+01	0.00E+00	2.62E+01
			BaLa-140	<2.01E+01	0.00E+00	2.01E+01
			Be-7	3.82E+02	1.79E+02	2.42E+02
			K-40	3.69E+03	6.54E+02	3.95E+02
			477386	6/4/2018 - 6/4/2018	MIXEDBLV	Mn-54
Co-58	<1.91E+01	0.00E+00				1.91E+01
Fe-59	<3.77E+01	0.00E+00				3.77E+01
Co-60	<1.94E+01	0.00E+00				1.94E+01
Zn-65	<4.65E+01	0.00E+00				4.65E+01
Zr-95	<3.76E+01	0.00E+00				3.76E+01
Nb-95	<1.85E+01	0.00E+00				1.85E+01
I-131	<2.18E+01	0.00E+00				2.18E+01
Cs-134	<2.87E+01	0.00E+00				2.87E+01
Cs-137	<1.55E+01	0.00E+00				1.55E+01
BaLa-140	<1.87E+01	0.00E+00				1.87E+01
Be-7	9.23E+02	2.05E+02				2.31E+02
K-40	3.65E+03	5.30E+02				2.72E+02
479208	7/2/2018 - 7/2/2018	MIXEDBLV				Mn-54
			Co-58	<2.07E+01	0.00E+00	2.07E+01
			Fe-59	<4.67E+01	0.00E+00	4.67E+01
			Co-60	<1.26E+01	0.00E+00	1.26E+01
			Zn-65	<4.28E+01	0.00E+00	4.28E+01
			Zr-95	<4.50E+01	0.00E+00	4.50E+01
			Nb-95	<2.24E+01	0.00E+00	2.24E+01
			I-131	<3.07E+01	0.00E+00	3.07E+01
			Cs-134	<3.39E+01	0.00E+00	3.39E+01
			Cs-137	<2.62E+01	0.00E+00	2.62E+01
			BaLa-140	<3.41E+01	0.00E+00	3.41E+01
			Be-7	6.78E+02	1.99E+02	2.19E+02
			K-40	2.63E+03	5.06E+02	3.43E+02
			481969	8/6/2018 - 8/6/2018	MIXEDBLV	Mn-54
Co-58	<3.27E+01	0.00E+00				3.27E+01
Fe-59	<8.15E+01	0.00E+00				8.15E+01
Co-60	<3.97E+01	0.00E+00				3.97E+01
Zn-65	<6.90E+01	0.00E+00				6.90E+01
Zr-95	<5.85E+01	0.00E+00				5.85E+01
Nb-95	<4.34E+01	0.00E+00				4.34E+01
I-131	<3.25E+01	0.00E+00				3.25E+01
Cs-134	<4.07E+01	0.00E+00				4.07E+01
Cs-137	<4.18E+01	0.00E+00				4.18E+01
BaLa-140	<5.43E+01	0.00E+00				5.43E+01
Be-7	1.91E+03	3.93E+02				3.15E+02
K-40	4.24E+03	8.62E+02				6.40E+02
484026	9/4/2018 - 9/4/2018	MIXEDBLV				Mn-54
			Co-58	<2.57E+01	0.00E+00	2.57E+01
			Fe-59	<4.32E+01	0.00E+00	4.32E+01
			Co-60	<2.09E+01	0.00E+00	2.09E+01
			Zn-65	<5.21E+01	0.00E+00	5.21E+01
			Zr-95	<5.02E+01	0.00E+00	5.02E+01
			Nb-95	<2.58E+01	0.00E+00	2.58E+01
			I-131	<3.35E+01	0.00E+00	3.35E+01



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 102 [CONTROL - WNW @ 9.89 miles]

Sample ID:	Sample Dates:	MIXEDBLV	Nuclide	Activity	2 Sigma Error	MDA
484026	9/4/2018 - 9/4/2018		Cs-134	<2.68E+01	0.00E+00	2.68E+01
			Cs-137	<1.96E+01	0.00E+00	1.96E+01
			BaLa-140	<2.46E+01	0.00E+00	2.46E+01
			Be-7	1.32E+03	2.78E+02	3.16E+02
			K-40	3.83E+03	5.85E+02	3.76E+02

Sample ID:	Sample Dates:	MIXEDBLV	Nuclide	Activity	2 Sigma Error	MDA
486165	10/1/2018 - 10/1/2018		Mn-54	<2.54E+01	0.00E+00	2.54E+01
			Co-58	<1.92E+01	0.00E+00	1.92E+01
			Fe-59	<4.06E+01	0.00E+00	4.06E+01
			Co-60	<1.97E+01	0.00E+00	1.97E+01
			Zn-65	<4.05E+01	0.00E+00	4.05E+01
			Zr-95	<4.65E+01	0.00E+00	4.65E+01
			Nb-95	<2.16E+01	0.00E+00	2.16E+01
			I-131	<2.00E+01	0.00E+00	2.00E+01
			Cs-134	<3.24E+01	0.00E+00	3.24E+01
			Cs-137	<1.94E+01	0.00E+00	1.94E+01
			BaLa-140	<2.32E+01	0.00E+00	2.32E+01
			Be-7	1.01E+03	2.17E+02	2.17E+02
			K-40	3.64E+03	5.56E+02	2.74E+02

Sample ID:	Sample Dates:	MIXEDBLV	Nuclide	Activity	2 Sigma Error	MDA
488855	11/5/2018 - 11/5/2018		Mn-54	<3.10E+01	0.00E+00	3.10E+01
			Co-58	<2.16E+01	0.00E+00	2.16E+01
			Fe-59	<3.03E+01	0.00E+00	3.03E+01
			Co-60	<2.97E+01	0.00E+00	2.97E+01
			Zn-65	<5.18E+01	0.00E+00	5.18E+01
			Zr-95	<4.52E+01	0.00E+00	4.52E+01
			Nb-95	<2.79E+01	0.00E+00	2.79E+01
			I-131	<2.33E+01	0.00E+00	2.33E+01
			Cs-134	<3.92E+01	0.00E+00	3.92E+01
			Cs-137	<2.75E+01	0.00E+00	2.75E+01
			BaLa-140	<1.96E+01	0.00E+00	1.96E+01
			Be-7	1.58E+03	3.29E+02	3.17E+02
			K-40	2.72E+03	5.27E+02	5.72E+01

Sample ID:	Sample Dates:	MIXEDBLV	Nuclide	Activity	2 Sigma Error	MDA
490804	12/3/2018 - 12/3/2018		Mn-54	<3.45E+01	0.00E+00	3.45E+01
			Co-58	<1.54E+01	0.00E+00	1.54E+01
			Fe-59	<2.79E+01	0.00E+00	2.79E+01
			Co-60	<2.61E+01	0.00E+00	2.61E+01
			Zn-65	<1.14E+01	0.00E+00	1.14E+01
			Zr-95	<4.79E+01	0.00E+00	4.79E+01
			Nb-95	<3.03E+01	0.00E+00	3.03E+01
			I-131	<2.73E+01	0.00E+00	2.73E+01
			Cs-134	<4.09E+01	0.00E+00	4.09E+01
			Cs-137	<3.25E+01	0.00E+00	3.25E+01
			BaLa-140	<3.00E+01	0.00E+00	3.00E+01
			Be-7	9.53E+02	3.11E+02	3.96E+02
			K-40	3.77E+03	7.02E+02	3.82E+02

Sample Point 120 [INDICATOR - NNE @ 0.46 miles]

Sample ID:	Sample Dates:	MIXEDBLV	Nuclide	Activity	2 Sigma Error	MDA
466000	1/2/2018 - 1/2/2018		Mn-54	<3.00E+01	0.00E+00	3.00E+01
			Co-58	<2.75E+01	0.00E+00	2.75E+01
			Fe-59	<5.31E+01	0.00E+00	5.31E+01
			Co-60	<3.78E+01	0.00E+00	3.78E+01
			Zn-65	<5.77E+01	0.00E+00	5.77E+01
			Zr-95	<5.07E+01	0.00E+00	5.07E+01
			Nb-95	<3.06E+01	0.00E+00	3.06E+01
			I-131	<3.58E+01	0.00E+00	3.58E+01
			Cs-134	<3.59E+01	0.00E+00	3.59E+01
			Cs-137	<3.31E+01	0.00E+00	3.31E+01
			BaLa-140	<3.54E+01	0.00E+00	3.54E+01
			Be-7	7.01E+02	2.30E+02	3.10E+02
			K-40	5.58E+03	5.21E+02	3.19E+02



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 120 [INDICATOR - NNE @ 0.46 miles]

Sample ID:	Sample Dates:	MIXEDBLV	Nuclide	Activity	2 Sigma Error	MDA
467663	2/5/2018 - 2/5/2018	MIXEDBLV	Mn-54	<2.62E+01	0.00E+00	2.62E+01
			Co-58	<2.97E+01	0.00E+00	2.97E+01
			Fe-59	<5.26E+01	0.00E+00	5.26E+01
			Co-60	<2.58E+01	0.00E+00	2.58E+01
			Zn-65	<6.47E+01	0.00E+00	6.47E+01
			Zr-95	<5.88E+01	0.00E+00	5.88E+01
			Nb-95	<3.09E+01	0.00E+00	3.09E+01
			I-131	<4.42E+01	0.00E+00	4.42E+01
			Cs-134	<2.92E+01	0.00E+00	2.92E+01
			Cs-137	<3.37E+01	0.00E+00	3.37E+01
			BaLa-140	<4.48E+01	0.00E+00	4.48E+01
			Be-7	6.90E+02	2.42E+02	3.21E+02
			K-40	3.26E+03	6.04E+02	4.89E+02
			470603	3/5/2018 - 3/5/2018	MIXEDBLV	Mn-54
Co-58	<3.08E+01	0.00E+00				3.08E+01
Fe-59	<6.41E+01	0.00E+00				6.41E+01
Co-60	<4.52E+01	0.00E+00				4.52E+01
Zn-65	<7.52E+01	0.00E+00				7.52E+01
Zr-95	<6.15E+01	0.00E+00				6.15E+01
Nb-95	<4.11E+01	0.00E+00				4.11E+01
I-131	<3.37E+01	0.00E+00				3.37E+01
Cs-134	<4.36E+01	0.00E+00				4.36E+01
Cs-137	<3.12E+01	0.00E+00				3.12E+01
BaLa-140	<3.70E+01	0.00E+00				3.70E+01
Be-7	8.30E+02	2.81E+02				3.46E+02
K-40	5.19E+03	8.83E+02				4.72E+02
472987	4/2/2018 - 4/2/2018	MIXEDBLV				Mn-54
			Co-58	<2.64E+01	0.00E+00	2.64E+01
			Fe-59	<4.01E+01	0.00E+00	4.01E+01
			Co-60	<2.29E+01	0.00E+00	2.29E+01
			Zn-65	<6.73E+01	0.00E+00	6.73E+01
			Zr-95	<4.21E+01	0.00E+00	4.21E+01
			Nb-95	<2.00E+01	0.00E+00	2.00E+01
			I-131	<2.21E+01	0.00E+00	2.21E+01
			Cs-134	<3.20E+01	0.00E+00	3.20E+01
			Cs-137	<2.57E+01	0.00E+00	2.57E+01
			BaLa-140	<3.75E+01	0.00E+00	3.75E+01
			Be-7	1.03E+03	1.92E+02	2.26E+02
			K-40	3.52E+03	6.38E+02	3.19E+02
			474901	5/7/2018 - 5/7/2018	MIXEDBLV	Mn-54
Co-58	<2.96E+01	0.00E+00				2.96E+01
Fe-59	<6.17E+01	0.00E+00				6.17E+01
Co-60	<3.73E+01	0.00E+00				3.73E+01
Zn-65	<8.14E+01	0.00E+00				8.14E+01
Zr-95	<4.90E+01	0.00E+00				4.90E+01
Nb-95	<2.99E+01	0.00E+00				2.99E+01
I-131	<3.55E+01	0.00E+00				3.55E+01
Cs-134	<3.47E+01	0.00E+00				3.47E+01
Cs-137	<3.11E+01	0.00E+00				3.11E+01
BaLa-140	<2.46E+01	0.00E+00				2.46E+01
Be-7	4.04E+02	2.14E+02				3.01E+02
K-40	4.15E+03	7.97E+02				6.06E+02
477387	6/4/2018 - 6/4/2018	MIXEDBLV				Mn-54
			Co-58	<3.55E+01	0.00E+00	3.55E+01
			Fe-59	<5.50E+01	0.00E+00	5.50E+01
			Co-60	<4.62E+01	0.00E+00	4.62E+01
			Zn-65	<6.85E+01	0.00E+00	6.85E+01
			Zr-95	<6.15E+01	0.00E+00	6.15E+01
			Nb-95	<3.06E+01	0.00E+00	3.06E+01
			I-131	<3.22E+01	0.00E+00	3.22E+01



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 120 [INDICATOR - NNE @ 0.46 miles]

Sample ID:	Sample Dates:	MIXEDBLV	Nuclide	Activity	2 Sigma Error	MDA
477387	6/4/2018 - 6/4/2018	MIXEDBLV	Cs-134	<4.20E+01	0.00E+00	4.20E+01
			Cs-137	<2.62E+01	0.00E+00	2.62E+01
			BaLa-140	<4.68E+01	0.00E+00	4.68E+01
			Be-7	7.31E+02	2.95E+02	3.75E+02
			K-40	5.04E+03	1.00E+03	7.67E+02
479209	7/2/2018 - 7/2/2018	MIXEDBLV	Mn-54	<2.57E+01	0.00E+00	2.57E+01
			Co-58	<2.68E+01	0.00E+00	2.68E+01
			Fe-59	<4.78E+01	0.00E+00	4.78E+01
			Co-60	<2.56E+01	0.00E+00	2.56E+01
			Zn-65	<5.65E+01	0.00E+00	5.65E+01
			Zr-95	<4.02E+01	0.00E+00	4.02E+01
			Nb-95	<3.18E+01	0.00E+00	3.18E+01
			I-131	<3.90E+01	0.00E+00	3.90E+01
			Cs-134	<2.97E+01	0.00E+00	2.97E+01
			Cs-137	<2.65E+01	0.00E+00	2.65E+01
			BaLa-140	<3.65E+01	0.00E+00	3.65E+01
			Be-7	9.23E+02	2.61E+02	2.88E+02
			K-40	3.01E+03	5.90E+02	3.47E+02
481970	8/6/2018 - 8/6/2018	MIXEDBLV	Mn-54	<3.17E+01	0.00E+00	3.17E+01
			Co-58	<3.39E+01	0.00E+00	3.39E+01
			Fe-59	<6.53E+01	0.00E+00	6.53E+01
			Co-60	<2.84E+01	0.00E+00	2.84E+01
			Zn-65	<7.58E+01	0.00E+00	7.58E+01
			Zr-95	<5.58E+01	0.00E+00	5.58E+01
			Nb-95	<3.02E+01	0.00E+00	3.02E+01
			I-131	<2.79E+01	0.00E+00	2.79E+01
			Cs-134	<4.01E+01	0.00E+00	4.01E+01
			Cs-137	<3.75E+01	0.00E+00	3.75E+01
			BaLa-140	<4.41E+01	0.00E+00	4.41E+01
			Be-7	1.94E+03	3.84E+02	3.80E+02
			K-40	3.54E+03	7.20E+02	6.47E+02
484027	9/4/2018 - 9/4/2018	MIXEDBLV	Mn-54	<3.12E+01	0.00E+00	3.12E+01
			Co-58	<3.23E+01	0.00E+00	3.23E+01
			Fe-59	<4.54E+01	0.00E+00	4.54E+01
			Co-60	<3.87E+01	0.00E+00	3.87E+01
			Zn-65	<7.07E+01	0.00E+00	7.07E+01
			Zr-95	<5.62E+01	0.00E+00	5.62E+01
			Nb-95	<3.29E+01	0.00E+00	3.29E+01
			I-131	<4.72E+01	0.00E+00	4.72E+01
			Cs-134	<2.99E+01	0.00E+00	2.99E+01
			Cs-137	<3.29E+01	0.00E+00	3.29E+01
			BaLa-140	<5.04E+01	0.00E+00	5.04E+01
			Be-7	1.78E+03	3.77E+02	3.96E+02
			K-40	2.98E+03	6.16E+02	5.08E+02
486166	10/1/2018 - 10/1/2018	MIXEDBLV	Mn-54	<3.18E+01	0.00E+00	3.18E+01
			Co-58	<2.71E+01	0.00E+00	2.71E+01
			Fe-59	<4.91E+01	0.00E+00	4.91E+01
			Co-60	<2.99E+01	0.00E+00	2.99E+01
			Zn-65	<4.42E+01	0.00E+00	4.42E+01
			Zr-95	<4.86E+01	0.00E+00	4.86E+01
			Nb-95	<2.42E+01	0.00E+00	2.42E+01
			I-131	<2.61E+01	0.00E+00	2.61E+01
			Cs-134	<3.48E+01	0.00E+00	3.48E+01
			Cs-137	<3.40E+01	0.00E+00	3.40E+01
			BaLa-140	<4.06E+01	0.00E+00	4.06E+01
			Be-7	1.01E+03	2.76E+02	3.17E+02
			K-40	3.84E+03	7.01E+02	4.90E+02
488856	11/5/2018 - 11/5/2018	MIXEDBLV	Nuclide	Activity	2 Sigma Error	MDA
			Mn-54	<2.51E+01	0.00E+00	2.51E+01



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 120 [INDICATOR - NNE @ 0.46 miles]

Sample ID:	488856	Sample Dates:	11/5/2018 - 11/5/2018	MIXEDBLV	Nuclide	Activity	2 Sigma Error	MDA
					Co-58	<1.05E+01	0.00E+00	1.05E+01
					Fe-59	<4.85E+01	0.00E+00	4.85E+01
					Co-60	<2.75E+01	0.00E+00	2.75E+01
					Zn-65	<5.79E+01	0.00E+00	5.79E+01
					Zr-95	<3.90E+01	0.00E+00	3.90E+01
					Nb-95	<2.27E+01	0.00E+00	2.27E+01
					I-131	<1.93E+01	0.00E+00	1.93E+01
					Cs-134	<3.72E+01	0.00E+00	3.72E+01
					Cs-137	<2.33E+01	0.00E+00	2.33E+01
					BaLa-140	<2.82E+01	0.00E+00	2.82E+01
					Be-7	8.69E+02	2.70E+02	3.39E+02
					K-40	3.57E+03	6.43E+02	3.16E+02

Sample ID:	490805	Sample Dates:	12/3/2018 - 12/3/2018	MIXEDBLV	Nuclide	Activity	2 Sigma Error	MDA
					Mn-54	<3.28E+01	0.00E+00	3.28E+01
					Co-58	<3.58E+01	0.00E+00	3.58E+01
					Fe-59	<7.01E+01	0.00E+00	7.01E+01
					Co-60	<2.78E+01	0.00E+00	2.78E+01
					Zn-65	<9.82E+01	0.00E+00	9.82E+01
					Zr-95	<6.20E+01	0.00E+00	6.20E+01
					Nb-95	<3.46E+01	0.00E+00	3.46E+01
					I-131	<2.46E+01	0.00E+00	2.46E+01
					Cs-134	<4.66E+01	0.00E+00	4.66E+01
					Cs-137	<3.50E+01	0.00E+00	3.50E+01
					BaLa-140	<4.21E+01	0.00E+00	4.21E+01
					Be-7	6.21E+02	2.85E+02	3.88E+02
					K-40	5.59E+03	9.91E+02	6.32E+02

Sample Point 125 [INDICATOR - SW @ 0.38 miles]

Sample ID:	466001	Sample Dates:	1/2/2018 - 1/2/2018	MIXEDBLV	Nuclide	Activity	2 Sigma Error	MDA
					Mn-54	<3.49E+01	0.00E+00	3.49E+01
					Co-58	<3.53E+01	0.00E+00	3.53E+01
					Fe-59	<7.89E+01	0.00E+00	7.89E+01
					Co-60	<3.55E+01	0.00E+00	3.55E+01
					Zn-65	<8.07E+01	0.00E+00	8.07E+01
					Zr-95	<5.65E+01	0.00E+00	5.65E+01
					Nb-95	<3.85E+01	0.00E+00	3.85E+01
					I-131	<3.11E+01	0.00E+00	3.11E+01
					Cs-134	<4.09E+01	0.00E+00	4.09E+01
					Cs-137	<4.06E+01	0.00E+00	4.06E+01
					BaLa-140	<3.87E+01	0.00E+00	3.87E+01
					Be-7	4.67E+02	3.27E+02	5.17E+02
					K-40	5.63E+03	8.70E+02	6.29E+02

Sample ID:	467664	Sample Dates:	2/5/2018 - 2/5/2018	MIXEDBLV	Nuclide	Activity	2 Sigma Error	MDA
					Mn-54	<3.06E+01	0.00E+00	3.06E+01
					Co-58	<3.16E+01	0.00E+00	3.16E+01
					Fe-59	<5.60E+01	0.00E+00	5.60E+01
					Co-60	<3.80E+01	0.00E+00	3.80E+01
					Zn-65	<7.44E+01	0.00E+00	7.44E+01
					Zr-95	<5.02E+01	0.00E+00	5.02E+01
					Nb-95	<2.96E+01	0.00E+00	2.96E+01
					I-131	<4.66E+01	0.00E+00	4.66E+01
					Cs-134	<2.57E+01	0.00E+00	2.57E+01
					Cs-137	<3.09E+01	0.00E+00	3.09E+01
					BaLa-140	<4.09E+01	0.00E+00	4.09E+01
					Be-7	6.23E+02	3.17E+02	4.62E+02
					K-40	4.75E+03	8.20E+02	3.80E+02

Sample ID:	470604	Sample Dates:	3/5/2018 - 3/5/2018	MIXEDBLV	Nuclide	Activity	2 Sigma Error	MDA
					Mn-54	<3.33E+01	0.00E+00	3.33E+01
					Co-58	<3.53E+01	0.00E+00	3.53E+01
					Fe-59	<7.04E+01	0.00E+00	7.04E+01
					Co-60	<4.84E+01	0.00E+00	4.84E+01
					Zn-65	<9.98E+01	0.00E+00	9.98E+01
					Zr-95	<6.12E+01	0.00E+00	6.12E+01
					Nb-95	<2.74E+01	0.00E+00	2.74E+01



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 125 [INDICATOR - SW @ 0.38 miles]

Sample ID:	Sample Dates:	MIXEDBLV	Nuclide	Activity	2 Sigma Error	MDA
470604	3/5/2018 - 3/5/2018	MIXEDBLV	I-131	<3.82E+01	0.00E+00	3.82E+01
			Cs-134	<4.42E+01	0.00E+00	4.42E+01
			Cs-137	<4.61E+01	0.00E+00	4.61E+01
			BaLa-140	<4.22E+01	0.00E+00	4.22E+01
			Be-7	8.51E+02	3.46E+02	4.56E+02
			K-40	3.82E+03	8.39E+02	5.78E+02
472988	4/2/2018 - 4/2/2018	MIXEDBLV	Mn-54	<3.15E+01	0.00E+00	3.15E+01
			Co-58	<2.66E+01	0.00E+00	2.66E+01
			Fe-59	<7.51E+01	0.00E+00	7.51E+01
			Co-60	<2.56E+01	0.00E+00	2.56E+01
			Zn-65	<5.16E+01	0.00E+00	5.16E+01
			Zr-95	<5.94E+01	0.00E+00	5.94E+01
			Nb-95	<3.58E+01	0.00E+00	3.58E+01
			I-131	<2.87E+01	0.00E+00	2.87E+01
			Cs-134	<3.37E+01	0.00E+00	3.37E+01
			Cs-137	<2.59E+01	0.00E+00	2.59E+01
			BaLa-140	<1.00E+01	0.00E+00	1.00E+01
			Be-7	4.79E+02	2.46E+02	3.44E+02
			K-40	3.26E+03	7.22E+02	5.76E+02
474902	5/7/2018 - 5/7/2018	MIXEDBLV	Mn-54	<1.21E+01	0.00E+00	1.21E+01
			Co-58	<1.15E+01	0.00E+00	1.15E+01
			Fe-59	<2.50E+01	0.00E+00	2.50E+01
			Co-60	<1.26E+01	0.00E+00	1.26E+01
			Zn-65	<2.74E+01	0.00E+00	2.74E+01
			Zr-95	<2.33E+01	0.00E+00	2.33E+01
			Nb-95	<1.25E+01	0.00E+00	1.25E+01
			I-131	<1.93E+01	0.00E+00	1.93E+01
			Cs-134	<1.52E+01	0.00E+00	1.52E+01
			Cs-137	<1.25E+01	0.00E+00	1.25E+01
			BaLa-140	<1.53E+01	0.00E+00	1.53E+01
			Be-7	6.96E+02	1.42E+02	1.66E+02
			K-40	4.90E+03	5.23E+02	1.67E+02
477388	6/4/2018 - 6/4/2018	MIXEDBLV	Mn-54	<3.33E+01	0.00E+00	3.33E+01
			Co-58	<3.32E+01	0.00E+00	3.32E+01
			Fe-59	<6.91E+01	0.00E+00	6.91E+01
			Co-60	<3.65E+01	0.00E+00	3.65E+01
			Zn-65	<8.09E+01	0.00E+00	8.09E+01
			Zr-95	<5.24E+01	0.00E+00	5.24E+01
			Nb-95	<3.22E+01	0.00E+00	3.22E+01
			I-131	<3.11E+01	0.00E+00	3.11E+01
			Cs-134	<4.19E+01	0.00E+00	4.19E+01
			Cs-137	<3.37E+01	0.00E+00	3.37E+01
			BaLa-140	<3.43E+01	0.00E+00	3.43E+01
			Be-7	1.31E+03	3.90E+02	4.88E+02
			K-40	5.68E+03	9.39E+02	4.18E+02
479210	7/2/2018 - 7/2/2018	MIXEDBLV	Mn-54	<2.41E+01	0.00E+00	2.41E+01
			Co-58	<2.81E+01	0.00E+00	2.81E+01
			Fe-59	<4.47E+01	0.00E+00	4.47E+01
			Co-60	<1.84E+01	0.00E+00	1.84E+01
			Zn-65	<5.86E+01	0.00E+00	5.86E+01
			Zr-95	<3.29E+01	0.00E+00	3.29E+01
			Nb-95	<2.23E+01	0.00E+00	2.23E+01
			I-131	<3.74E+01	0.00E+00	3.74E+01
			Cs-134	<2.79E+01	0.00E+00	2.79E+01
			Cs-137	<2.20E+01	0.00E+00	2.20E+01
			BaLa-140	<2.70E+01	0.00E+00	2.70E+01
			Be-7	1.28E+03	2.82E+02	2.59E+02
			K-40	4.99E+03	7.66E+02	2.85E+02



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 125 [INDICATOR - SW @ 0.38 miles]

Sample ID:	Sample Dates:	MIXEDBLV	Nuclide	Activity	2 Sigma Error	MDA
481971	8/6/2018 - 8/6/2018	MIXEDBLV	Mn-54	<3.59E+01	0.00E+00	3.59E+01
			Co-58	<3.68E+01	0.00E+00	3.68E+01
			Fe-59	<6.83E+01	0.00E+00	6.83E+01
			Co-60	<4.64E+01	0.00E+00	4.64E+01
			Zn-65	<8.78E+01	0.00E+00	8.78E+01
			Zr-95	<6.37E+01	0.00E+00	6.37E+01
			Nb-95	<3.30E+01	0.00E+00	3.30E+01
			I-131	<3.07E+01	0.00E+00	3.07E+01
			Cs-134	<3.89E+01	0.00E+00	3.89E+01
			Cs-137	<3.48E+01	0.00E+00	3.48E+01
			BaLa-140	<2.62E+01	0.00E+00	2.62E+01
			Be-7	2.23E+03	4.28E+02	3.65E+02
			K-40	6.44E+03	1.04E+03	5.75E+02
			484028	9/4/2018 - 9/4/2018	MIXEDBLV	Mn-54
Co-58	<3.73E+01	0.00E+00				3.73E+01
Fe-59	<6.54E+01	0.00E+00				6.54E+01
Co-60	<3.20E+01	0.00E+00				3.20E+01
Zn-65	<7.57E+01	0.00E+00				7.57E+01
Zr-95	<5.61E+01	0.00E+00				5.61E+01
Nb-95	<3.56E+01	0.00E+00				3.56E+01
I-131	<4.70E+01	0.00E+00				4.70E+01
Cs-134	<4.19E+01	0.00E+00				4.19E+01
Cs-137	<3.30E+01	0.00E+00				3.30E+01
BaLa-140	<6.09E+01	0.00E+00				6.09E+01
Be-7	1.50E+03	3.77E+02				4.59E+02
K-40	3.19E+03	6.50E+02				5.73E+02
486167	10/1/2018 - 10/1/2018	MIXEDBLV				Mn-54
			Co-58	<3.42E+01	0.00E+00	3.42E+01
			Fe-59	<8.29E+01	0.00E+00	8.29E+01
			Co-60	<4.69E+01	0.00E+00	4.69E+01
			Zn-65	<8.15E+01	0.00E+00	8.15E+01
			Zr-95	<7.62E+01	0.00E+00	7.62E+01
			Nb-95	<3.51E+01	0.00E+00	3.51E+01
			I-131	<3.94E+01	0.00E+00	3.94E+01
			Cs-134	<4.59E+01	0.00E+00	4.59E+01
			Cs-137	<5.21E+01	0.00E+00	5.21E+01
			BaLa-140	<5.98E+01	0.00E+00	5.98E+01
			Be-7	1.84E+03	4.34E+02	4.10E+02
			K-40	3.38E+03	7.87E+02	5.01E+02
			488857	11/5/2018 - 11/5/2018	MIXEDBLV	Mn-54
Co-58	<2.88E+01	0.00E+00				2.88E+01
Fe-59	<7.26E+01	0.00E+00				7.26E+01
Co-60	<4.25E+01	0.00E+00				4.25E+01
Zn-65	<7.39E+01	0.00E+00				7.39E+01
Zr-95	<6.25E+01	0.00E+00				6.25E+01
Nb-95	<3.07E+01	0.00E+00				3.07E+01
I-131	<2.71E+01	0.00E+00				2.71E+01
Cs-134	<4.11E+01	0.00E+00				4.11E+01
Cs-137	<3.00E+01	0.00E+00				3.00E+01
BaLa-140	<3.29E+01	0.00E+00				3.29E+01
Be-7	3.27E+03	5.20E+02				3.40E+02
K-40	3.66E+03	7.08E+02				7.69E+01
490806	12/3/2018 - 12/3/2018	MIXEDBLV				Mn-54
			Co-58	<2.79E+01	0.00E+00	2.79E+01
			Fe-59	<5.83E+01	0.00E+00	5.83E+01
			Co-60	<2.60E+01	0.00E+00	2.60E+01
			Zn-65	<6.87E+01	0.00E+00	6.87E+01
			Zr-95	<4.33E+01	0.00E+00	4.33E+01
			Nb-95	<3.06E+01	0.00E+00	3.06E+01
			I-131	<2.73E+01	0.00E+00	2.73E+01



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 125 [INDICATOR - SW @ 0.38 miles]

Sample ID:	Sample Dates:	MIXEDBLV	Nuclide	Activity	2 Sigma Error	MDA
490806	12/3/2018 - 12/3/2018		Cs-134	<3.04E+01	0.00E+00	3.04E+01
			Cs-137	<3.00E+01	0.00E+00	3.00E+01
			BaLa-140	<2.98E+01	0.00E+00	2.98E+01
			Be-7	9.68E+02	2.54E+02	3.15E+02
			K-40	5.28E+03	7.50E+02	4.42E+02

Sample Point 193 [INDICATOR - N @ 0.19 miles]

Sample ID:	Sample Dates:	MIXEDBLV	Nuclide	Activity	2 Sigma Error	MDA
466002	1/2/2018 - 1/2/2018		Mn-54	<3.36E+01	0.00E+00	3.36E+01
			Co-58	<2.58E+01	0.00E+00	2.58E+01
			Fe-59	<4.47E+01	0.00E+00	4.47E+01
			Co-60	<2.86E+01	0.00E+00	2.86E+01
			Zn-65	<6.38E+01	0.00E+00	6.38E+01
			Zr-95	<4.91E+01	0.00E+00	4.91E+01
			Nb-95	<3.46E+01	0.00E+00	3.46E+01
			I-131	<2.72E+01	0.00E+00	2.72E+01
			Cs-134	<3.73E+01	0.00E+00	3.73E+01
			Cs-137	<3.56E+01	0.00E+00	3.56E+01
			BaLa-140	<3.50E+01	0.00E+00	3.50E+01
			Be-7	9.61E+02	2.73E+02	3.67E+02
			K-40	5.82E+03	7.96E+02	4.99E+02

Sample ID:	Sample Dates:	MIXEDBLV	Nuclide	Activity	2 Sigma Error	MDA
467665	2/5/2018 - 2/5/2018		Mn-54	<2.63E+01	0.00E+00	2.63E+01
			Co-58	<2.99E+01	0.00E+00	2.99E+01
			Fe-59	<3.75E+01	0.00E+00	3.75E+01
			Co-60	<2.87E+01	0.00E+00	2.87E+01
			Zn-65	<3.11E+01	0.00E+00	3.11E+01
			Zr-95	<6.02E+01	0.00E+00	6.02E+01
			Nb-95	<2.10E+01	0.00E+00	2.10E+01
			I-131	<3.64E+01	0.00E+00	3.64E+01
			Cs-134	<3.09E+01	0.00E+00	3.09E+01
			Cs-137	<2.25E+01	0.00E+00	2.25E+01
			BaLa-140	<3.07E+01	0.00E+00	3.07E+01
			Be-7	6.94E+02	2.40E+02	2.82E+02
			K-40	3.22E+03	6.54E+02	4.44E+02

Sample ID:	Sample Dates:	MIXEDBLV	Nuclide	Activity	2 Sigma Error	MDA
470605	3/5/2018 - 3/5/2018		Mn-54	<3.45E+01	0.00E+00	3.45E+01
			Co-58	<2.28E+01	0.00E+00	2.28E+01
			Fe-59	<6.09E+01	0.00E+00	6.09E+01
			Co-60	<2.56E+01	0.00E+00	2.56E+01
			Zn-65	<7.24E+01	0.00E+00	7.24E+01
			Zr-95	<4.93E+01	0.00E+00	4.93E+01
			Nb-95	<2.91E+01	0.00E+00	2.91E+01
			I-131	<3.37E+01	0.00E+00	3.37E+01
			Cs-134	<4.16E+01	0.00E+00	4.16E+01
			Cs-137	<3.93E+01	0.00E+00	3.93E+01
			BaLa-140	<3.39E+01	0.00E+00	3.39E+01
			Be-7	2.08E+03	4.19E+02	3.78E+02
			K-40	4.39E+03	8.09E+02	4.26E+02

Sample ID:	Sample Dates:	MIXEDBLV	Nuclide	Activity	2 Sigma Error	MDA
472989	4/2/2018 - 4/2/2018		Mn-54	<1.66E+01	0.00E+00	1.66E+01
			Co-58	<1.94E+01	0.00E+00	1.94E+01
			Fe-59	<4.98E+01	0.00E+00	4.98E+01
			Co-60	<1.73E+01	0.00E+00	1.73E+01
			Zn-65	<5.10E+01	0.00E+00	5.10E+01
			Zr-95	<2.89E+01	0.00E+00	2.89E+01
			Nb-95	<1.90E+01	0.00E+00	1.90E+01
			I-131	<1.74E+01	0.00E+00	1.74E+01
			Cs-134	<2.42E+01	0.00E+00	2.42E+01
			Cs-137	<1.87E+01	0.00E+00	1.87E+01
			BaLa-140	<1.66E+01	0.00E+00	1.66E+01
			Be-7	5.30E+02	1.87E+02	2.39E+02
			K-40	3.05E+03	5.15E+02	1.80E+02



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 193 [INDICATOR - N @ 0.19 miles]

Sample ID:	Sample Dates:	MIXEDBLV	Nuclide	Activity	2 Sigma Error	MDA
474903	5/7/2018 - 5/7/2018	MIXEDBLV	Mn-54	<2.54E+01	0.00E+00	2.54E+01
			Co-58	<1.82E+01	0.00E+00	1.82E+01
			Fe-59	<4.57E+01	0.00E+00	4.57E+01
			Co-60	<3.34E+01	0.00E+00	3.34E+01
			Zn-65	<5.46E+01	0.00E+00	5.46E+01
			Zr-95	<3.71E+01	0.00E+00	3.71E+01
			Nb-95	<2.45E+01	0.00E+00	2.45E+01
			I-131	<2.53E+01	0.00E+00	2.53E+01
			Cs-134	<3.10E+01	0.00E+00	3.10E+01
			Cs-137	<2.87E+01	0.00E+00	2.87E+01
			BaLa-140	<2.20E+01	0.00E+00	2.20E+01
			Be-7	1.40E+03	2.96E+02	2.53E+02
			K-40	4.81E+03	7.77E+02	2.89E+02
			477389	6/4/2018 - 6/4/2018	MIXEDBLV	Mn-54
Co-58	<2.40E+01	0.00E+00				2.40E+01
Fe-59	<4.45E+01	0.00E+00				4.45E+01
Co-60	<3.37E+01	0.00E+00				3.37E+01
Zn-65	<6.39E+01	0.00E+00				6.39E+01
Zr-95	<4.49E+01	0.00E+00				4.49E+01
Nb-95	<2.12E+01	0.00E+00				2.12E+01
I-131	<2.31E+01	0.00E+00				2.31E+01
Cs-134	<2.71E+01	0.00E+00				2.71E+01
Cs-137	<2.52E+01	0.00E+00				2.52E+01
BaLa-140	<1.98E+01	0.00E+00				1.98E+01
Be-7	9.78E+02	2.45E+02				2.48E+02
K-40	6.70E+03	9.19E+02				5.50E+01
479211	7/2/2018 - 7/2/2018	MIXEDBLV				Mn-54
			Co-58	<2.32E+01	0.00E+00	2.32E+01
			Fe-59	<5.17E+01	0.00E+00	5.17E+01
			Co-60	<3.21E+01	0.00E+00	3.21E+01
			Zn-65	<4.96E+01	0.00E+00	4.96E+01
			Zr-95	<4.49E+01	0.00E+00	4.49E+01
			Nb-95	<2.39E+01	0.00E+00	2.39E+01
			I-131	<4.45E+01	0.00E+00	4.45E+01
			Cs-134	<2.75E+01	0.00E+00	2.75E+01
			Cs-137	<2.25E+01	0.00E+00	2.25E+01
			BaLa-140	<5.18E+01	0.00E+00	5.18E+01
			Be-7	9.32E+02	2.73E+02	3.18E+02
			K-40	4.96E+03	7.80E+02	2.88E+02
			481972	8/6/2018 - 8/6/2018	MIXEDBLV	Mn-54
Co-58	<3.15E+01	0.00E+00				3.15E+01
Fe-59	<6.08E+01	0.00E+00				6.08E+01
Co-60	<3.01E+01	0.00E+00				3.01E+01
Zn-65	<9.45E+01	0.00E+00				9.45E+01
Zr-95	<4.29E+01	0.00E+00				4.29E+01
Nb-95	<3.17E+01	0.00E+00				3.17E+01
I-131	<2.84E+01	0.00E+00				2.84E+01
Cs-134	<3.40E+01	0.00E+00				3.40E+01
Cs-137	<2.86E+01	0.00E+00				2.86E+01
BaLa-140	<3.84E+01	0.00E+00				3.84E+01
Be-7	1.05E+03	3.20E+02				3.77E+02
K-40	4.31E+03	8.08E+02				4.31E+02
484029	9/4/2018 - 9/4/2018	MIXEDBLV				Mn-54
			Co-58	<1.87E+01	0.00E+00	1.87E+01
			Fe-59	<4.95E+01	0.00E+00	4.95E+01
			Co-60	<4.14E+01	0.00E+00	4.14E+01
			Zn-65	<6.71E+01	0.00E+00	6.71E+01
			Zr-95	<6.32E+01	0.00E+00	6.32E+01
			Nb-95	<3.93E+01	0.00E+00	3.93E+01
			I-131	<3.02E+01	0.00E+00	3.02E+01



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 193 [INDICATOR - N @ 0.19 miles]

Sample ID:	Sample Dates:	MIXEDBLV	Nuclide	Activity	2 Sigma Error	MDA
484029	9/4/2018 - 9/4/2018	MIXEDBLV	Cs-134	<3.95E+01	0.00E+00	3.95E+01
			Cs-137	<3.81E+01	0.00E+00	3.81E+01
			BaLa-140	<4.21E+01	0.00E+00	4.21E+01
			Be-7	1.04E+03	3.43E+02	4.27E+02
			K-40	4.38E+03	7.98E+02	7.97E+01
486168	10/1/2018 - 10/1/2018	MIXEDBLV	Mn-54	<3.08E+01	0.00E+00	3.08E+01
			Co-58	<4.03E+01	0.00E+00	4.03E+01
			Fe-59	<6.65E+01	0.00E+00	6.65E+01
			Co-60	<1.90E+01	0.00E+00	1.90E+01
			Zn-65	<9.04E+01	0.00E+00	9.04E+01
			Zr-95	<3.97E+01	0.00E+00	3.97E+01
			Nb-95	<3.28E+01	0.00E+00	3.28E+01
			I-131	<2.38E+01	0.00E+00	2.38E+01
			Cs-134	<4.00E+01	0.00E+00	4.00E+01
			Cs-137	<3.12E+01	0.00E+00	3.12E+01
			BaLa-140	<3.06E+01	0.00E+00	3.06E+01
			Be-7	6.69E+02	2.65E+02	3.50E+02
			K-40	4.97E+03	8.50E+02	4.09E+02
488858	11/5/2018 - 11/5/2018	MIXEDBLV	Mn-54	<2.44E+01	0.00E+00	2.44E+01
			Co-58	<1.60E+01	0.00E+00	1.60E+01
			Fe-59	<4.25E+01	0.00E+00	4.25E+01
			Co-60	<2.57E+01	0.00E+00	2.57E+01
			Zn-65	<3.67E+01	0.00E+00	3.67E+01
			Zr-95	<4.01E+01	0.00E+00	4.01E+01
			Nb-95	<2.22E+01	0.00E+00	2.22E+01
			I-131	<1.88E+01	0.00E+00	1.88E+01
			Cs-134	<2.13E+01	0.00E+00	2.13E+01
			Cs-137	<2.08E+01	0.00E+00	2.08E+01
			BaLa-140	<2.95E+01	0.00E+00	2.95E+01
			Be-7	7.34E+02	2.07E+02	2.17E+02
			K-40	4.30E+03	6.88E+02	2.60E+02
490807	12/3/2018 - 12/3/2018	MIXEDBLV	Mn-54	<2.43E+01	0.00E+00	2.43E+01
			Co-58	<3.17E+01	0.00E+00	3.17E+01
			Fe-59	<8.12E+01	0.00E+00	8.12E+01
			Co-60	<3.05E+01	0.00E+00	3.05E+01
			Zn-65	<7.50E+01	0.00E+00	7.50E+01
			Zr-95	<7.06E+01	0.00E+00	7.06E+01
			Nb-95	<4.23E+01	0.00E+00	4.23E+01
			I-131	<3.42E+01	0.00E+00	3.42E+01
			Cs-134	<3.81E+01	0.00E+00	3.81E+01
			Cs-137	<3.48E+01	0.00E+00	3.48E+01
			BaLa-140	<4.65E+01	0.00E+00	4.65E+01
			Be-7	1.05E+03	3.06E+02	3.03E+02
			K-40	4.95E+03	9.39E+02	5.32E+02



APPENDIX F

**ERRATA TO
PREVIOUS REPORTS**

There are no errata to be appended to the
2018 McGuire Nuclear Station AREOR